



LANDFILL – SOLID WASTE COMMITTEE

MEETING AGENDA MEETING

July 13, 2022 3:00 PM

419 Fulton Street – Room 404

Virtual option available:

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Landfill COMMISSION AGENDAS AND MINUTES ISSUED BY: STEPHEN M. MORRIS, CHAIRMAN

**PUBLIC WORKS DEPARTMENT
3505 N. DRIES LANE, PEORIA IL 61604
309-494-8800**

INTERNET ADDRESS: www.peoriagov.org

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CITY OF PEORIA – LANDFILL – SOLID WASTE COMMITTEE

ATTENDANCE

ANNOUNCEMENTS, ETC.

CITIZENS' OPPORTUNITY TO ADDRESS THE COMMITTEE

ANYONE WISHING TO MAKE A PUBLIC COMMENT CAN DO SO BY SENDING THOSE COMMENTS TO PUBLIC WORKS, BY **12:00 P.M.** ON July 13, 2022. PUBLIC COMMENTS CAN BE SENT TO THE PUBLIC WORKS DEPARTMENT, IN WRITING, AT **PUBLICWORKS@PEORIAGOV.ORG** OR VIA FAX AT 309-494-8855. THE EMAIL OR FAX SHOULD BE LABELED "PUBLIC COMMENT FOR July 13, 2022 PEORIA CITY/COUNTY LANDFILL COMMITTEE MEETING," AND WE ASK THAT YOU INCLUDE YOUR NAME AND ADDRESS.

CITIZENS WISHING TO ADDRESS AN ITEM NOT ON THE AGENDA SHOULD CONTACT A COMMISSION MEMBER PRIOR TO THE MEETING. ALL OTHER PUBLIC INPUT WILL BE HEARD UNDER PUBLIC COMMENT NEAR THE END OF THE COMMITTEE MEETING.

MINUTES

REQUEST FOR APPROVAL OF THE PEORIA CITY/COUNTY LANDFILL

May 25, 2022, MINUTES

AGENDA ITEMS

- ITEM NO. 1** REPORT FROM FOTH INFRASTRUCTION & ENVIRONMENT, LLC
 - A. Monthly Update
 - B. Signature Approvals
 - C. Profiled Waste Approvals
- ITEM NO. 2** REPORT FROM PUBLIC WORKS ADMINISTRATION
 - A. Landfill Monthly Budget Report
- ITEM NO. 3** REPORT FROM WASTE MANAGEMENT
 - A. Monthly Activity Reports
 - B. PCC 2 Well Map
- ITEM NO. 4** REPORT FROM PEORIA COUNTY
 - A. Bobcat Project for Landfill

UNFINISHED BUSINESS

CCR DISCUSSION REQUEST

NEW BUSINESS

NONE

NEXT MEETING

August 24, 2022 at 3 pm

ADJOURNMENT

CITIZENS WISHING TO ADDRESS AN ITEM NOT ON THE AGENDA SHOULD CONTACT A COMMISSION MEMBER PRIOR TO THE MEETING. ALL OTHER PUBLIC INPUT WILL BE HEARD UNDER PUBLIC COMMENT NEAR THE END OF THE COMMITTEE MEETING.

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DRAFT

CITY OF PEORIA – LANDFILL – SOLID WASTE COMMITTEE

ATTENDANCE

Call to order showed the following Landfill Committee Members in attendance:

MEMBERS PRESENT: Rick Fox, Stephen Morris, Lester Bergsten, Sharon Williams, Stephen Van Winkle, Zachary Oyler, Timothy Riggensbach -7

MEMBERS ABSENT: 0

Others in Attendance: Rebecca Cottrell, Ian Johnson, Shawn Schoonover, Brittney Eagan, Josh Gabehart, Tara Van Hoof, Mark Willams, Joyce Blumenshine, Tracey O'Brian ,Alana Romero, Jeannie Cordis Boswell, Maxwell Cekander, Dave Bryant

ANNOUNCEMENTS, ETC.

NONE

CITIZENS' OPPORTUNITY TO ADDRESS THE COMMITTEE

ANYONE WISHING TO MAKE A PUBLIC COMMENT CAN DO SO BY SENDING THOSE COMMENTS TO PUBLIC WORKS, BY **12:00 P.M.** ON May 25, 2022. PUBLIC COMMENTS CAN BE SENT TO THE PUBLIC WORKS DEPARTMENT, IN WRITING, AT **PUBLICWORKS@PEORIAGOV.ORG** OR VIA FAX AT 309-494-8855. THE EMAIL OR FAX SHOULD BE LABELED "PUBLIC COMMENT FOR May 25, 2022 PEORIA CITY/COUNTY LANDFILL COMMITTEE MEETING," AND WE ASK THAT YOU INCLUDE YOUR NAME AND ADDRESS.

CITIZENS WISHING TO ADDRESS AN ITEM NOT ON THE AGENDA SHOULD CONTACT A COMMISSION MEMBER PRIOR TO THE MEETING. ALL OTHER PUBLIC INPUT WILL BE HEARD UNDER PUBLIC COMMENT NEAR THE END OF THE COMMITTEE MEETING.

Public Comment for the Peoria City/County Landfill- Solid Waste Committee, May 25, 2022, at 3 p.m.

To Chairman Morris and Members of the Landfill Committee:

Thank you for the opportunity for this public comment. Today two public sessions are being held by the owners of the E.D. Edwards coal-fired power plant regarding the company plans for closure of their 89 acres, 32-feet deep coal ash pond at the site.

This Landfill Committee public comment deals with three items listed on your meeting agenda: 1) coal combustion residuals; 2) solar; and 3) landfill revenue.

Heart of Illinois Group Sierra Club encourages the Landfill Committee to continue the topic of coal combustion residuals/CCR and meet with GFL regarding consideration of a possible dedicated landfill cell to be constructed at the new Landfill 3 for the purposes of holding CCR.

Federal regulations on coal ash pond closures require coal ash in contact with groundwater to be removed. Illinois EPA has state specific regulations. The bottom ten feet of the Edwards' plant coal ash pond is in contact with groundwater. There is also an estimated 210,000 cubic yards of coal ash remaining outside of the pond. The accumulated coal ash contains a wide range of heavy metals. If efforts to require removal of the ash are successful, the closest landfill will be the Peoria City/County site.

The previous Landfill Committee meeting minutes contained hopeful sounding information on solar at the landfill property. The Landfill Committee is asked to move forward on outreach regarding solar on the landfill property. Currently Ameren is looking for a location for their solar installation set aside for them under the state Climate and Equitable Jobs Act efforts by Rep. Gordon-Booth. It is asked if the Landfill Committee can request Foth contact Ameren to inquire if they have an interest in the site. It would seem Ameren would be adept at the grid connection and other needs for such a project. There could well be other solar companies with projects that could be contacted regarding the landfill location.

Both the possibility of CCR for the landfill and the possibility of a solar installation could bring very helpful revenue to the Landfill Committee budget for years ahead. Landfill Committee is asked to make further attention to these two possibilities a priority.

DRAFT

MINUTES

Motion to approve: Van Winkle motioned to approve April 13, 2022 minutes,
seconded by Williams

Vote taken as a group: 7 yays, 0 nays

REQUEST FOR APPROVAL OF THE PEORIA CITY/COUNTY LANDFILL
APRIL 13, 2022, MINUTES

AGENDA ITEMS

ITEM NO. 1 REPORT FROM FOTH INFRASTRUCTION & ENVIRONMENT, LLC

A. Monthly Update

Gabehart stated billing for March was \$144,350. Two shut downs due to power outages backup systems functioned properly. Gas methane was about 40% Tonnage was over from 2021.

B. Signature Approvals

Seeking approval for Signatures for PCC LF1 – Assessment Summary Report for the Methane Concentration at Gas Monitoring Device (GMD) 3 and 405-CAAPP Forms for Two Flare Shutdowns that Exceeded the One Hour Duration

Motioned to approve by Fox, seconded by Riggerbach

Morris asked if anyone had comments about material needing signatures

Fox asked for commentary on Assessment Summary Report for the Methane Concentration at Gas Monitoring Device.

Gabehart we have UV5 and UV3 which are getting methane in those and been working on pumping wells in the area and reducing the volume to increase the gas level away from there. Recently got the approval from IEPA for UV5 yes what you are doing is working keep doing it and report back in a year. UV3 is along the same lines. We have noticed a correlation when we have issued a flair that's when we start to pick those up from the outside. When have already been pumping again when the lines have been filled with water that produces a kick out that will bring that down.

Fox is there a recause we should be looking at

Mark Williams: We try to watch it. There seems to be a correlation with the flairs. Our best approach is to keep the levels down.

Vote taken as a group: 7 yays, 0 nays

C. Profiled Waste Approvals

Gabehart: stated profiled waste is receive and filed, and requested an approval for signatures for anything that may come up before the next meeting.

Motion approved by Riggerbach, seconded by Van Winkle

Vote taken as a group: 7 yays, 0 nays

Gabehart stated that it is on the agenda to work on solar panel information before the next meeting in reference to public comment from Ms. Blumenshine

ITEM NO. 2 REPORT FROM PUBLIC WORKS ADMINISTRATION

A. Landfill Monthly Budget Report

Schoonover: \$42,012 in revenue, \$107,082 in expenses. -\$65,000 posted 3 months of Foth invoices in April

Year-end totals Revenue\$133,276

Expenses \$147,800 - \$15,000
Ending Balance \$321,995

ITEM NO. 3 REPORT FROM WASTE MANAGEMENT

A. Monthly Activity Reports

Johnson: Asked for signatures that may come up before next meeting

Motion approved by Fox seconded by Oyler

Vote taken as a group: 7 yays, 0 nays

UNFINISHED BUSINESS

CCR DISCUSSION REQUEST

Nothing new to add

NEW BUSINESS

Morris: There was a meeting with GFL Chairman Morris, Foth and the City Manager to delay the opening of Landfill 3 due to a tremendous cost to open Landfill 3. There is an alternative option to use Indian Creek Landfill. Morris stated he wanted GFL to make a proposal on what this would look like before a discussion or decision could be made on this matter. The meeting was left with GFL was asking for something from "us" so send "us" a proposal. Gabehart agreed with Morris summary of meeting. Fox stated from a timing stand point there is a point in time if GFL is going to fulfill the contract as we understand it GFL is going to have to start the work on Landfill 3 at some point soon. So there needs to be a deadline on the decision that is going to be made. Morris agrees that this is appropriate. Morris states that as he reads the agreement it states that the Landfill will be ready to accept waste when it is ready to be sent there. Gabehart states the decision needs to be made by next construction season. Morris states the agreement states that if GFL does not get the siding in time they can exercise their right to us a different site. However they have gotten their siding. The meeting was left with they generically got GFL's ask and now they are waiting on a proposal to make a decision.

Fox: brought up the citizen's convenience for household hazardous waste facility and concerns for the set amount the facility is able to accept. Fox has a fear that the Landfill 3 will hit that limit within 3 to 6 months and what happens when we do.

NEXT MEETING

July 13, 2022 at 3 pm

ADJOURNMENT

There being no further discussion, The Chairman declared the meeting adjourned

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REQUEST FOR DISCUSSION

To: Peoria City/County Landfill Committee Members

From: Mark Williams and Joshua Gabehart, P.E., Foth Infrastructure and Environment, LLC

AGENDA DATE REQUESTED: July 13, 2022

ACTION REQUESTED: Receive and File Monthly Report

BACKGROUND: The following report details engineering items occurring since the last scheduled Committee Meeting.

Financial Information

The attached spreadsheet shows Foth engineering services provided through June 30, 2022. The total amount billed to date is \$185,660. We are currently above planned spend due to effort in the early part of the year to make repairs to landfill operations.

Updates Regarding Compliance Activities, Measures, and Progress

- There have been no shutdowns since the last meeting that require 405 – CAAPP forms.
- Gas methane content at the flare was 45.5% for the month of May and 41.8% for the month of June. These values are within the expected range.
- Since the last meeting, no leachate has been transported off-site to GPSD.
- Monthly tonnages through June are attached. Through May, general MSW was under the 2021 receipts by about 2,323 tons. Total tonnage received was approximately 1,100 tons over the 2021 waste receipts. Through June, general MSW was under the 2021 receipts by about 1,460 tons. Total tonnage received was approximately 2,050 tons over the 2021 waste receipts. There are no recommended changes to plan at this time.
- Utility companies with brownfield solar generation experience have been identified. Ameresco, AES Corp, Wabash Valley Electric Cooperative, and others will be engaged to determine level of interest.

FINANCIAL IMPACT: Through June 30, 2022, the total spend is 55.5% of the January through December 31, 2022 contract, which is over the planned budget spend; however, this is beginning to level out which was anticipated after repairs were made and landfill operations were running more smoothly. The attached monthly engineering services spreadsheet shows budgeted vs actual spends to date.

Phase/ Task	Description	Beginning estimate	Current Budget Estimate	January		February		March		April		May		June	
				Budget	Actual	Budget	Actual	Budget	Actual	Budget	Actual	Budget	Actual	Budget	Actual
Phase 1	General Compliance and Guidance	\$ 118,500	\$ 118,500	\$ 16,026	\$ 17,415	\$ 8,032	\$ 6,552	\$ 10,798	\$ 10,102	\$ 10,798	\$ 16,777	\$ 10,798	\$ 6,395	\$ 8,550	\$ 9,569
Phase 2	Groundwater Support and Data Review	\$ 48,500	\$ 48,500	\$ 7,349	\$ 5,441	\$ 3,283	\$ 1,637	\$ 3,525	\$ 912	\$ 5,386	\$ 4,872	\$ 3,021	\$ 515	\$ 3,263	\$ 2,682
Phase 3	Gas System and Leachate Management Operations	\$ 121,500	\$ 121,500	\$ 14,207	\$ 15,539	\$ 10,508	\$ 16,282	\$ 10,562	\$ 22,163	\$ 9,123	\$ 9,145	\$ 10,508	\$ 7,350	\$ 10,962	\$ 10,588
Phase 4	Landfill No. 1. Construction Engineering	\$ 5,500	\$ 5,500	\$ 1,000	\$ 765	\$ 4,000	\$ 4,492	\$ -	\$ -	\$ 500	\$ -	\$ -	\$ -	\$ -	\$ -
Phase 5	Landfill No. 2 and No. 3 Expansion/Transition	\$ 20,500	\$ 20,500	\$ -	\$ -	\$ 1,864	\$ 721	\$ 1,864	\$ 2,177	\$ 4,000	\$ 3,525	\$ 1,597	\$ 2,098	\$ 1,597	\$ 1,622
Phase 6	Unplanned GCCS Repairs/Emergency	\$ 20,000	\$ 20,000	\$ 500	\$ 270	\$ 500	\$ -	\$ 500	\$ 444	\$ 5,000	\$ 5,119	\$ 1,688	\$ -	\$ 1,688	\$ 492
	Total	\$334,500	\$ 334,500	\$39,083	\$39,431	\$28,187	\$29,683	\$27,249	\$35,797	\$34,807	\$39,439	\$27,611	\$16,357	\$26,059	\$24,953
	% Contract Months Complete			8.3%		16.7%		25.0%		33.3%		41.7%		50.0%	
	% Budget Spent			11.8%		20.7%		31.4%		43.2%		48.0%		55.5%	
	% Planned Budget Spent			11.7%		20.1%		28.3%		38.7%		46.9%		54.7%	

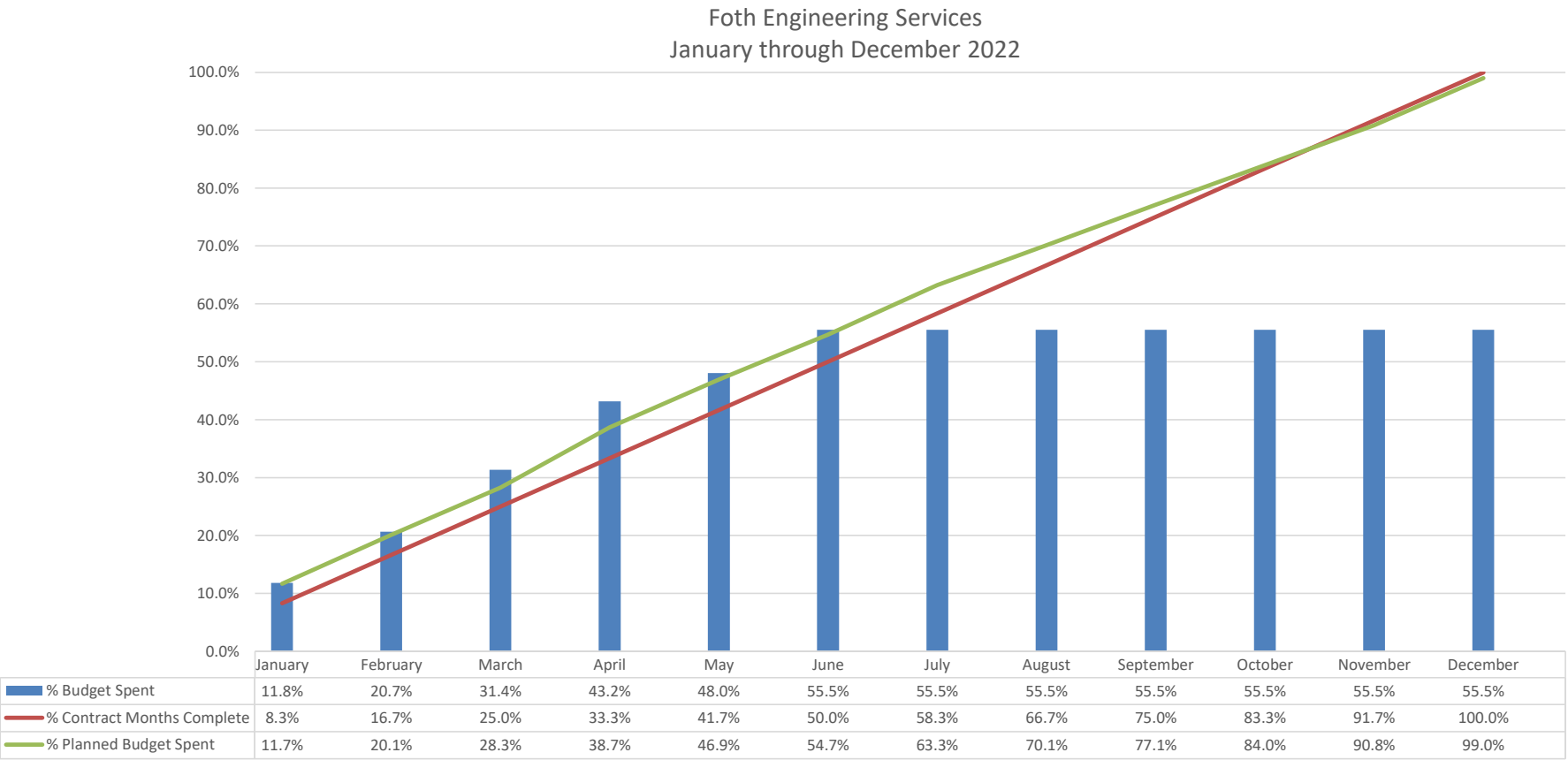
Operational Notes:

January - Phase 1: Worked on Annual Post Closure Cost Estimate to IEPA in January though it's not due until May 1 for internal resourcing purposes. Phase 3: Gas extraction well installation observation and issues with flare.

March - Phase 3: Significant effort to make needed repairs to the landfill operations.

April - Phase 1: CAAPP annual compliance reporting. Dam inspection. Phase 2: Work on annual report. Phase 3: Leachate pump installation and leachate pumping. Flare maintenance and replace thermo couplings. Phase 5: Review of contract terms.

June - Phase 1: Work on lease agreements. Solar research. More than typical waste profiles to review. Dam inspection documentation reporting. Phase 2: Prepared observed increase documentation. Phase 3: Surface emission monitoring. GPSD semi-annual reporting. GMD3 assessment monitoring report preparation. Phase 5: Review of contract terms, specifically transfer station. Phase 6: Pump replacement coordination.



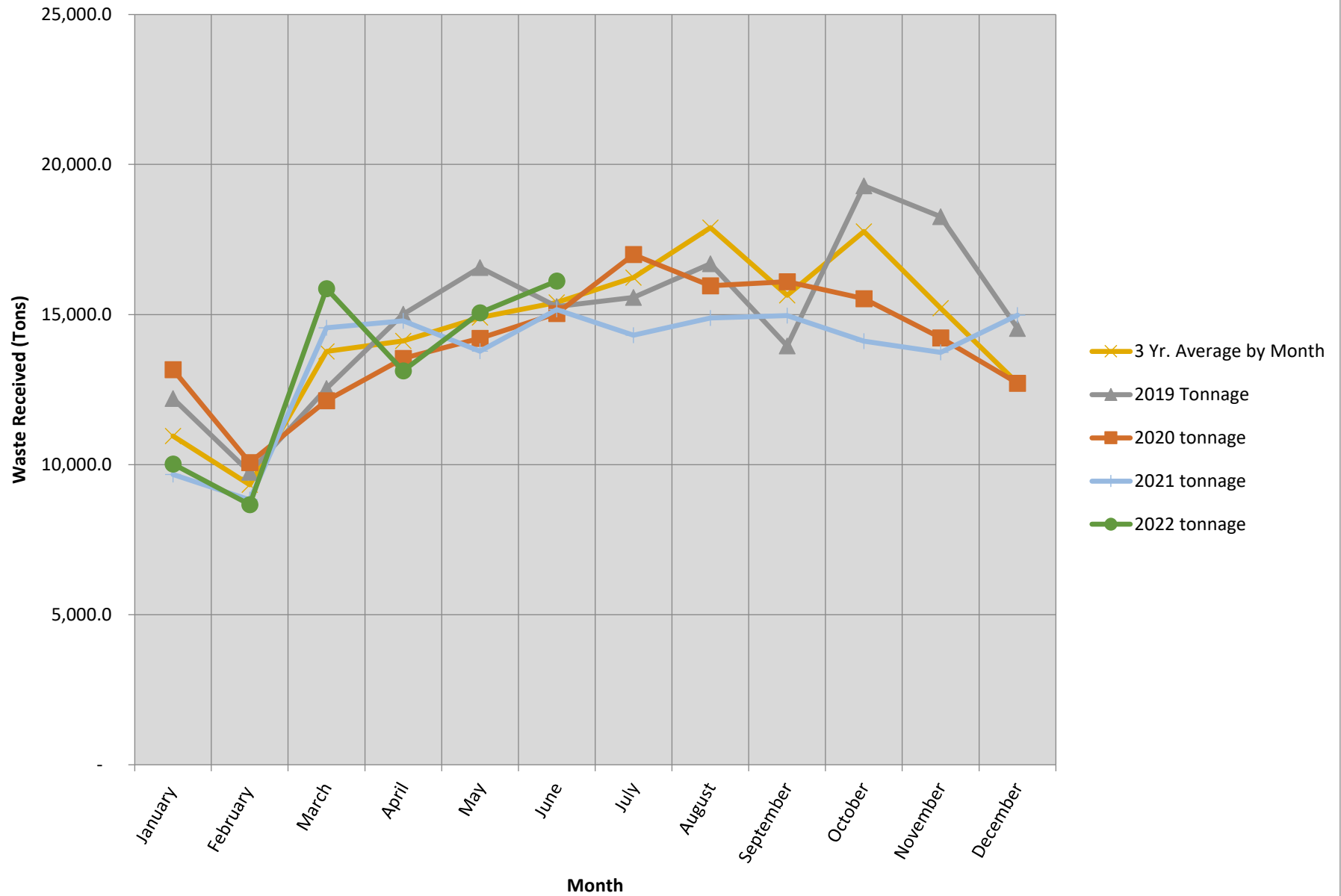
Foth Infrastructure & Environment, LLC
22P300.00 - Engineering Services January - December 2022
Joint City and County of Peoria Landfill Committee

		July		August		September		October		November		December		YTD TOTAL		
Phase/ Task	Description	Budget	Actual	Budget	Actual	Budget	Actual	Budget	Actual	Budget	Actual	Budget	Actual	Budget	Actual	% Complete
Phase 1	General Compliance and Guidance	\$ 12,377	\$ -	\$ 7,550	\$ -	\$ 7,550	\$ -	\$ 7,550	\$ -	\$ 7,550	\$ -	\$ 7,550	\$ -	\$ 118,500	\$ 66,811	56%
Phase 2	Groundwater Support and Data Review	\$ 3,021	\$ -	\$ 3,021	\$ -	\$ 3,263	\$ -	\$ 3,021	\$ -	\$ 3,021	\$ -	\$ 7,328	\$ -	\$ 48,500	\$ 16,058	33%
Phase 3	Gas System and Leachate Management Operations	\$ 9,905	\$ -	\$ 9,123	\$ -	\$ 9,177	\$ -	\$ 9,123	\$ -	\$ 9,123	\$ -	\$ 9,177	\$ -	\$ 121,500	\$ 81,066	67%
Phase 4	Landfill No. 1. Construction Engineering	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 5,500	\$ 5,257	96%
Phase 5	Landfill No. 2 and No. 3 Expansion/Transition	\$ 1,597	\$ -	\$ 1,597	\$ -	\$ 1,597	\$ -	\$ 1,597	\$ -	\$ 1,597	\$ -	\$ 1,597	\$ -	\$ 20,500	\$ 10,143	49%
Phase 6	Unplanned GCCS Repairs/Emergency	\$ 1,688	\$ -	\$ 1,688	\$ -	\$ 1,688	\$ -	\$ 1,688	\$ -	\$ 1,688	\$ -	\$ 1,688	\$ -	\$ 20,000	\$ 6,326	32%
	Total	\$28,587	\$0	\$22,978	\$0	\$23,274	\$0	\$22,978	\$0	\$22,978	\$0	\$27,340	\$0	\$ 334,500	\$ 185,660	56%
	% Contract Months Complete	58.3%		66.7%		75.0%		83.3%		91.7%		100.0%				
	% Budget Spent	55.5%		55.5%		55.5%		55.5%		55.5%		55.5%				
	% Planned Budget Spent	63.3%		70.1%		77.1%		84.0%		90.8%		99.0%				

Waste Received by Month PCCL Landfill No 2

Month	2009 Tonnage	2010 Tonnage	2011 Tonnage	2012 tonnage	2013 tonnage	2014 tonnage	2015 tonnage	2016 Tonnage	2017 Tonnage	2018 Tonnage	2019 Tonnage	2020 tonnage	2021 tonnage	2022 tonnage	5 Yr. Average by Month	3 Yr. Average by Month	2 Yr. Average by Month
January		14,431.52	12,725.65	14,240.62	14,610.96	14,531.08	12,592.84	13,255.78	16,148.43	11,730.59	12,199.76	13,168.18	9,667.53	10,021.13	11,357.4	10,952.3	9,844.3
February		15,894.61	11,801.18	12,687.38	11,401.56	11,689.56	11,134.61	14,992.00	11,959.48	12,244.04	9,746.12	10,070.59	8,832.31	8,670.38	10,253.8	9,329.9	9,191.1
March		18,583.87	16,782.75	15,932.67	15,541.87	17,911.20	16,961.56	15,881.57	14,204.13	14,516.49	12,533.33	12,128.74	14,559.55	15,860.15	13,967.1	13,770.4	14,182.8
April		26,745.51	17,454.25	15,124.74	17,520.91	20,643.72	17,815.96	16,231.71	14,883.60	14,573.51	15,014.76	13,541.53	14,791.33	13,123.26	14,321.3	14,117.7	13,818.7
May	20,133.56	19,407.83	20,487.42	17,240.20	20,317.50	21,031.20	17,917.75	17,708.52	18,306.44	17,568.27	16,560.81	14,209.21	13,779.53	15,056.74	15,913.5	14,901.6	14,348.5
June	20,475.23	21,131.53	24,351.74	17,105.57	18,499.18	20,827.22	19,736.45	17,890.95	19,901.95	16,896.60	15,267.88	15,037.75	15,171.04	16,120.02	16,999.0	15,399.2	15,152.8
July	20,661.46	20,973.17	16,942.32	21,823.32	18,609.20	21,915.44	23,147.79	15,088.31	17,685.91	16,116.44	15,569.30	17,000.88	14,309.57		16,292.2	16,228.9	16,285.1
August	20,340.96	21,409.82	21,819.77	19,446.75	21,574.24	18,623.82	22,247.53	17,744.07	20,548.26	16,445.70	16,690.04	15,963.12	14,881.66		18,716.6	17,894.7	16,567.9
September	25,985.03	19,026.96	18,894.15	15,522.33	19,379.80	17,722.38	16,520.05	18,890.92	18,155.15	14,809.20	13,953.48	16,095.09	14,965.24		16,675.2	15,639.3	14,381.3
October	20,916.49	26,063.78	18,830.50	17,422.79	17,710.37	20,212.83	17,158.59	16,091.54	17,772.77	16,235.75	19,289.83	15,531.79	14,112.35		17,793.6	17,766.1	17,762.8
November	17,819.70	22,795.94	15,497.95	18,059.00	21,043.51	14,511.80	16,349.64	14,459.79	17,273.03	13,895.01	18,263.39	14,222.22	13,741.19		15,792.1	15,209.3	16,079.2
December	16,085.02	18,432.75	15,433.43	13,256.07	32,699.22	14,951.07	16,504.84	13,168.40	12,764.20	12,208.30	14,534.79	12,708.54	14,983.92		14,021.9	12,713.6	13,371.5
Total	162,417.45	244,897.29	211,021.11	197,861.44	228,908.32	214,571.32	208,087.61	191,403.56	199,603.35	177,239.90	179,623.49	169,677.64	163,795.22	78,851.68	182,103.71	173,922.88	170,986.09
General MSW		211,129.29	190,333.16	180,882.84	209,441.95	198,971.42	191,767.47	182,787.68	187,239.69	173,804.02	161,919.10	161,970.42	159,145.96	74,667.64			
Profiled Waste Tons	22,238.00	33,768.00	20,687.95	16,978.60	19,466.37	15,599.90	16,320.14	8,615.88	12,363.66	3,435.88	17,704.39	7,707.22	4,649.26	4,184.04			

Waste Received by Month





REQUEST FOR DISCUSSION

To: Peoria City/County Landfill Committee Members
From: Joshua Gabehart, P.E.; Foth Infrastructure and Environment, LLC

AGENDA DATE REQUESTED: July 13, 2022

ACTION REQUESTED: Approval for Chairman Morris' Signature

- PCC LF1 – Semi-Annual Pretreatment Report to Greater Peoria Sanitary District
- PCC LF1 – Clean Air Act Permit Program (CAAPP) Semi-Annual Startup, Shutdown, and Malfunction Plan (SSMP) Report (January 2022-June 2022)
- PCC LF1 – CAAPP Semi-Annual New Source Performance Standards (NSPS) Report (January 2022-June 2022)
- PCC LF1 – Clean Air Act Permit Program (CAAPP) Semi-Annual Air Monitoring Report (January 2022-June 2022)

BACKGROUND:

The semi-annual Pretreatment report to the Greater Peoria Sanitary District is required as part of the permit to discharge Landfill 1 leachate at the Darst Street Facility. The report includes flow and analytical results for parameters as required by the permit for the time period of January 2022 through June 2022. The semi-annual pretreatment report is due July 20, 2022.

The Clean Air Permit Program requires several reports to be submitted semi-annually with regard to various compliance, monitoring and operational data for the Peoria City/County Landfill. The SSMP, NSPS and CAAPP Semi-Annual Air Monitoring Reports include gas system monitoring, downtime data, surface scan data, flare log and down time, gas well data, cover inspection logs, and data pertaining to Landfill No. 2 provided by Waste Management for the first half of 2022 and are due July 29, 2022.

Foth does not expect other reports requiring Chairman Morris or Director Powers' signatures. However, we respectfully request approval to obtain Chairman Morris' signature should the need arise prior to the next Committee Meeting. If the need does arise, a report will be brought before the board at the next scheduled meeting.

FINANCIAL IMPACT: These submittals are included in the professional services agreement with Foth Infrastructure & Environment, LLC.



REQUEST FOR DISCUSSION

To: Peoria City/County Landfill Committee Members

From: Mark Williams and Joshua Gabehart, P.E.; Foth Infrastructure and Environment, LLC

Agenda Date Requested: July 13, 2022

ACTION REQUESTED: Receive and file, eleven pre-approved waste profiles (607970IL, 632215IL, 632659IL, 632774IL, ASB 25605, ASB 25606, ASB 25607, ASB 25608, 626049IL, 113864IL, 632843IL) and Committee approval is required for two profiles (632608IL and 632939IL).

BACKGROUND: Please see attached memorandum, which reviews and includes information pertaining to these profiles:

1. Profile 607970IL from Linde Inc is a renewal of a previously approved waste profile.
2. Profile 632215IL from Ameren Illinois was pre-approved per the Contaminated Soil and Debris Policy.
3. Profile 632659IL from Marshall County was pre-approved per the Non-Contaminated Soil and Debris Policy.
4. Profile 632774IL from North Tazewell Public Water District was pre-approved per the Sand Blast Grit Policy.
5. Profiles ASB 25605, ASB25606, ASB25607, and ASB25608 from M&O Environmental are renewals of previously approved waste profiles and would be pre-approved per the Asbestos Containing Material Policy.
6. Profile 626049IL from Midwest Generation is a renewal of a previously approved waste profile per the Sand Blast Grit Policy.
7. Profile 113864IL from Midwest Generation was pre-approved per the Contaminated Soil and Debris Policy.
8. Profile 632608IL from EHS Solutions for Non-Hazardous Cosmetics Ingredients requires Landfill Committee Approval.
9. Profile 632939IL from Waste Management of Peoria for Resin Beads and Soil requires Landfill Committee Approval.
10. Profile 632843IL from BP Pipeline was pre-approved per the Non-Contaminated Soil and Debris Policy.

Based on the information provided, Foth has no technical objections for acceptance of the waste streams listed above.

FINANCIAL IMPACT: The waste profiles are expected to generate approximately \$38,626.12 host fees.



Memorandum

Foth Infrastructure & Environment, LLC
2314 West Altorfer Drive
Peoria, IL 61615
(309) 691-5300 • Fax: (309) 691-1892
www.foth.com

July 13, 2022

TO: Joint City of Peoria - County of Peoria Solid Waste Disposal Facility Board

CC: Rick Powers, City of Peoria
Scott Sorrel, Peoria County

FR: Mark Williams, Foth Infrastructure & Environment, LLC

RE: Certified Non-Special and Special Waste Permit Approvals

Waste Management has presented the following waste streams.

1)

Generator/Profile	Waste Stream Info
EHS Solutions 8800 N Allen Rd. Peoria, IL 61615	Cosmetics Ingredients
Application Dated: 05/24/2022 Received: 05/24/2022	Non-Hazardous Cosmetic Ingredients
Source: Peoria County Type: Non-Special Profile #632608IL	<u>Expected</u> Quantity: 25 drums Frequency: one time
Subject to County Fee: Yes Last Tested:	<u>Estimated Host Fee Revenue:</u> < \$10.00

Comments: This waste stream is composed of twenty-five drums of the non-hazardous ingredients that are used in cosmetics. The generator provided safety data sheets (SDS) for the individual ingredients. Foth had no technical objections to the landfill receiving this waste stream based on the information provide to Foth Infrastructure and Environment, LLC (Foth).

2)

Generator/Profile	Waste Stream Info
Waste Management of Peoria 3552 East Washington Street East Peoria, IL 61611	Resin Beads and Soil
Application Dated: 06/21/2022 Received: 06/21/2022	Debris from the cleanup of the container lot at Waste Management lot
Source: Tazewell County Type: Non-Special Profile #632939IL	<u>Expected</u> Quantity: 30 yards Frequency: one time
Subject to County Fee: Yes Last Tested:	<u>Estimated Host Fee Revenue:</u> \$120.60

Comments: This waste stream is composed of resin beads and debris from cleanup at the Waste Management Container Lot. Laboratory analytical data was provided by the generator for the material. Foth had no technical objections to the landfill receiving this waste stream based on the information provide to Foth Infrastructure and Environment, LLC (Foth).

Pre-Approved Waste Streams (No Action is Required. For Information Only)

- Linde Inc, Profile 607970IL
 - o Renewal of a Previously Approved Waste Profile
 - o 20 yards tons, one-time
 - o Estimated Host Fee – \$80.40
- Ameren Illinois, Profile 632215IL
 - o Contaminated Soil and Debris Policy
 - o 1000 tons, repeat
 - o Estimated Host Fee – Was included in Host Fee Total for May
 - o Was Originally Approved at May Committee Meeting the Generator Resubmitted with the Addition of Drilling Fluids.
- Marshall County, Profile 632659IL
 - o Non-Contaminated Soil and Debris Policy
 - o 15 tons, one-time
 - o Estimated Host Fee – \$40.20
- North Tazewell Public Water District, Profile 632774IL
 - o Sand Blast Grit Policy
 - o 44 tons, one-time
 - o Estimated Host Fee – \$117.92

- M & O Environmental, (4) Profiles ASB25605, ASB25606, ASB25607, ASB25608,
 - o Renewal of Previously Approved Waste Profiles and Asbestos Containing Material Policy
 - o 8000 yards, one-time
 - o Estimated Host Fee – \$32,160.00

- Midwest Generation LLC, Profile 626049IL
 - o Renewal of Previously Approved Profile and Sand Blast Grit Policy
 - o 25 tons, one-time
 - o Estimated Host Fee – \$67.00

- Midwest Generation LLC, Profile 113864IL
 - o Pre-Approved per the Contaminated Soil and Debris Policy
 - o 22 Drums, one-time
 - o Estimated Host Fee – \$<10,00

- BP Pipeline, Profile 632843IL
 - o Pre-Approved per the Non-Contaminated Soil and Debris Policy
 - o 1500 yards, repeat
 - o Estimated Host Fee – \$6,030.00

See attached profile sheets, SDSs, and laboratory reports.

Committee approval does not relieve the Generator or Landfill Operator from complying with all applicable laws and regulations. Committee approval is based on information provided by Generator and Landfill Operator.



Requested Facility: Peoria City/County Landfill ☐ Unsure Profile Number: _____
☐ Multiple Generator Locations (Attach Locations) ☒ Request Certificate of Disposal ☐ Renewal? Original Profile Number: 607970IL

A. GENERATOR INFORMATION (MATERIAL ORIGIN)

1. Generator Name: Linde Inc.
2. Generator Site Address: 1225 South Front Street
(City, State, ZIP) Pekin, IL 61554-4063
3. County: Tazewell
4. Contact Name: Gbenga Oduwole
5. Email: Gbenga.Oduwole@Linde.com
6. Phone: 219-344-1660 7. Fax: _____
8. Generator EPA ID: IL0000037788 ☐ N/A
9. State ID: _____ ☐ N/A

C. MATERIAL INFORMATION

1. Common Name: HydroCat – GTS2007 and DURAMAX P – 400
Describe Process(es) Generating Material: ☒ See Attached

HydroCat – GTS2007: Use to absorb Sulfur from CO2 during the purification process
DURAMAX P – 400 : Use as Inert catalyst support and topping material
2. Material Composition and Contaminants: ☐ See Attached

1. <u>See above</u>	100%
2.	
3.	
4.	

Total comp. must be equal to or greater than 100% ≥100%
3. State Waste Codes: _____ ☐ N/A
4. Color: Black
5. Physical State at 70°F: ☒ Solid ☐ Liquid ☐ Other: _____
6. Free Liquid Range Percentage: _____ to _____ ☒ N/A
7. pH: _____ to _____ ☒ N/A
8. Strong Odor: ☐ Yes ☒ No Describe: _____
9. Flash Point: ☐ <140°F ☐ 140°–199°F ☒ ≥200° ☒ N/A

E. ANALYTICAL AND OTHER REPRESENTATIVE INFORMATION

1. Analytical attached ☒ Yes
Please identify applicable samples and/or lab reports:

TCLP - See attached analytical results performed by Pace Analytical Services, LLC
2. Other information attached (such as MSDS)? ☒ Yes

G. GENERATOR CERTIFICATION (PLEASE READ AND CERTIFY BY SIGNATURE)

By signing this EZ Profile™ form, I hereby certify that all information submitted in this and all attached documents contain true and accurate descriptions of this material, and that all relevant information necessary for proper material characterization and to identify known and suspected hazards has been provided. Any analytical data attached was derived from a sample that is representative as defined in 40 CFR 261 – Appendix 1 or by using an equivalent method. All changes occurring in the character of the material (i.e., changes in the process or new analytical) will be identified by the Generator and be disclosed to Waste Management prior to providing the material to Waste Management.

- ☒ I am an Authorized Agent signing on behalf of the Generator, and I have confirmed with the Generator that information contained in this profile, as well as supporting documents provided, are accurate and complete.

Name (Print): Gbenga Oduwole Date: 06/01/2022
Title: SH&E Specialist
Company: Linde Inc.

THINK GREEN®**B. BILLING INFORMATION**☒ SAME AS GENERATOR

1. Billing Name: _____
2. Billing Address: _____
(City, State, ZIP) _____
3. Contact Name: _____
4. Email: _____
5. Phone: _____ 6. Fax: _____
7. WM Hauled? ☒ Yes ☐ No
8. P.O. Number: _____
9. Payment Method: ☐ Credit Account ☐ Cash ☒ Credit Card

D. REGULATORY INFORMATION

1. EPA Hazardous Waste? ☐ Yes* ☒ No
Code: _____
 2. State Hazardous Waste? ☐ Yes ☒ No
Code: _____
 3. Is this material non-hazardous due to Treatment, Delisting, or an Exclusion? ☐ Yes* ☒ No
 4. Contains Underlying Hazardous Constituents? ☐ Yes* ☒ No
 5. From an industry regulated under Benzene NESHAP? ☐ Yes* ☒ No
 6. Facility remediation subject to 40 CFR 63 GGGGG? ☐ Yes* ☒ No
 7. CERCLA or State-mandated clean-up? ☐ Yes* ☒ No
 8. NRC or State-regulated radioactive or NORM waste? ☐ Yes* ☒ No
- *If Yes, see Addendum (page 2) for additional questions and space.**
9. Contains PCBs? → If Yes, answer a, b and c. ☐ Yes ☒ No
a. Regulated by 40 CFR 761? ☐ Yes ☐ No
b. Remediation under 40 CFR 761.61 (a)? ☐ Yes ☐ No
c. Were PCB imported into the US? ☐ Yes ☐ No
 10. Regulated and/or Untreated Medical/Infectious Waste? ☐ Yes ☒ No
 11. Contains Asbestos? ☐ Yes ☒ No
→ If Yes: ☐ Non-Friable ☐ Non-Friable – Regulated ☐ Friable

F. SHIPPING AND DOT INFORMATION

1. ☐ One-Time Event ☒ Repeat Event/Ongoing Business
2. Estimated Quantity/Unit of Measure: 20
☐ Tons ☒ Yards ☐ Drums ☐ Gallons ☐ Other: _____
3. Container Type and Size: Low Boy LINED
4. USDOT Proper Shipping Name: _____ ☒ N/A

Certification Signature



**Profile Addendum: State of Illinois
GENERATOR'S NON-SPECIAL WASTE CERTIFICATION**

F. Additional Waste Stream Information

Profile Number: 607970IL

Generators Name: Linde Inc

Generators SITE Address: 1225 South Front Street Pekin, IL 61554
(The location where the waste is generated)

Waste Name: HydroCat – GTS2007 and DURAMAX P – 400

The Illinois Environmental Protection Act allows a Generator to certify that their pollution control waste or industrial process waste, is not an Illinois Special Waste (Section 3.45). By completing the following questionnaire, you may certify that the waste stream represented by the Waste Management Profile referenced above is not an Illinois Special Waste as defined in the Act.

Is the waste referenced above any of the following:

- | | | |
|--|------------------------------|--|
| 1. A Potentially Infectious Medical Waste (PIMW)? | ☐ Yes | ☒ No |
| 2. A Hazardous Waste as defined in 40 CFR 261 or in 35 IAC 722.111? | ☐ Yes | ☒ No |
| 3. A Liquid Waste (fails the paint filter test as defined in 35 IAC 811.107)? | ☐ Yes | ☒ No |
| 4. A regulated PCB waste as defined in 40 CFR 761? | ☐ Yes | ☒ No |
| 5. A NESHAP regulated asbestos waste other than waste from renovation or demolition? | ☐ Yes | ☒ No |
| 6. A waste resulting from the shredding recyclable metals (auto fluff)? | ☐ Yes | ☒ No |
| 7. A delisted Hazardous Waste or Treated Characteristic Hazardous Waste, subject to LDR requirements under 35 IAC 728.107? | ☐ Yes | ☒ No |

In determining that this waste is not a liquid, I have used knowledge of the processes generating the waste and the attached supporting documentation: ☒ MSDS ☒ Analytical ☐ Other (explain below):

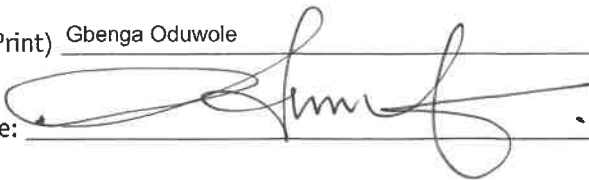
In determining that this waste is not RCRA hazardous, I have used knowledge of the processes generating the waste and the attached supporting documentation: ☒ MSDS ☒ Analytical ☐ Other (explain below):

8. Is the waste represented by this profile sheet exempt from Illinois Solid Waste Management Act fee? ☐ Yes ☒ No
Select option: ☐ Pollution Control Waste ☐ Other

By signing below, I certify my waste is NOT an Illinois Special Waste, and that I understand that a person who knowingly and falsely certifies that a waste is not special waste is subject to the penalties set forth in subdivision (6) of subsection (h) of section 44 of the Illinois Environmental Protection Act.

Name: (Print) Gbenga Oduwole

Title: SH&E Specilaist

Signature: 

Date: 06/01/2022



Requested Facility: Peoria City - County Landfill ☐ Unsure Profile Number: 632215IL
☐ Multiple Generator Locations (Attach Locations) ☐ Request Certificate of Disposal ☐ Renewal? Original Profile Number: _____

A. GENERATOR INFORMATION (MATERIAL ORIGIN)

1. Generator Name: Ameren Illinois
2. Generator Site Address: 1118 Wesley Road
(City, State, ZIP) Marquette Heights IL 61554
3. County: Tazewell
4. Contact Name: Jennifer Spalding
5. Email: jspalding@ameren.com
6. Phone: (314) 554-2210 7. Fax: _____
8. Generator EPA ID: _____ ☒ N/A
9. State ID: _____ ☒ N/A

C. MATERIAL INFORMATION

1. Common Name: Solidified hydroexcavation spoils
Describe Process(es) Generating Material: ☐ See Attached
Solidification/de-watering of hydro-excavation spoils from utility conduit installation
2. Material Composition and Contaminants: ☐ See Attached

1. Soil	80-100 %
2. Corn cob	0-20 %
3. Drilling additives - See SDS attached	0-1 %
4.	

Total comp. must be equal to or greater than 100% ≥100%

3. State Waste Codes: _____ ☒ N/A
4. Color: brown
5. Physical State at 70°F: ☒ Solid ☐ Liquid ☐ Other: _____
6. Free Liquid Range Percentage: _____ to _____ ☒ N/A
7. pH: _____ to _____ ☒ N/A
8. Strong Odor: ☐ Yes ☒ No Describe: _____
9. Flash Point: ☐ <140°F ☐ 140°–199°F ☒ ≥200° ☒ N/A

E. ANALYTICAL AND OTHER REPRESENTATIVE INFORMATION

1. Analytical attached ☐ Yes
Please identify applicable samples and/or lab reports:

2. Other information attached (such as MSDS)? ☒ Yes

G. GENERATOR CERTIFICATION (PLEASE READ AND CERTIFY BY SIGNATURE)

By signing this EZ Profile™ form, I hereby certify that all information submitted in this and all attached documents contain true and accurate descriptions of this material, and that all relevant information necessary for proper material characterization and to identify known and suspected hazards has been provided. Any analytical data attached was derived from a sample that is representative as defined in 40 CFR 261 – Appendix 1 or by using an equivalent method. All changes occurring in the character of the material (i.e., changes in the process or new analytical) will be identified by the Generator and be disclosed to Waste Management prior to providing the material to Waste Management.

☐ I am an Authorized Agent signing on behalf of the Generator, and I have confirmed with the Generator that information contained in this profile, as well as supporting documents provided, are accurate and complete.

Name (Print): Jennifer Spalding Date: 05/31/2022
Title: Consulting Environmental Scientist
Company: Ameren

THINK GREEN.®**QUESTIONS? CALL 800 963 4776 FOR ASSISTANCE** Revised November 06, 2020 © 2020 WM Intellectual Property Holdings, L.L.C.**B. BILLING INFORMATION**☐ SAME AS GENERATOR

1. Billing Name: Minnesota Limited
2. Billing Address: 18640 200th Street
(City, State, ZIP) Big Lake MN 55309
3. Contact Name: Justin Price
4. Email: justin.price@mnlimited.com
5. Phone: (763) 262-7000 6. Fax: _____
7. WM Hauled? ☐ Yes ☒ No
8. P.O. Number: _____
9. Payment Method: ☐ Credit Account ☐ Cash ☐ Credit Card

D. REGULATORY INFORMATION

1. EPA Hazardous Waste? ☐ Yes* ☒ No
Code: _____
2. State Hazardous Waste? ☐ Yes ☒ No
Code: _____
3. Is this material non-hazardous due to Treatment, Delisting, or an Exclusion? ☐ Yes* ☒ No
4. Contains Underlying Hazardous Constituents? ☐ Yes* ☒ No
5. From an industry regulated under Benzene NESHAP? ☐ Yes* ☒ No
6. Facility remediation subject to 40 CFR 63 GGGGG? ☐ Yes* ☒ No
7. CERCLA or State-mandated clean-up? ☐ Yes* ☒ No
8. NRC or State-regulated radioactive or NORM waste? ☐ Yes* ☒ No
***If Yes, see Addendum (page 2) for additional questions and space.**
9. Contains PCBs? → If Yes, answer a, b and c. ☐ Yes ☒ No
a. Regulated by 40 CFR 761? ☐ Yes ☐ No
b. Remediation under 40 CFR 761.61 (a)? ☐ Yes ☐ No
c. Were PCB imported into the US? ☐ Yes ☐ No
10. Regulated and/or Untreated Medical/Infectious Waste? ☐ Yes ☒ No
11. Contains Asbestos? ☐ Yes ☒ No
→ If Yes: ☐ Non-Friable ☐ Non-Friable – Regulated ☐ Friable

F. SHIPPING AND DOT INFORMATION

1. ☐ One-Time Event ☒ Repeat Event/Ongoing Business
2. Estimated Quantity/Unit of Measure: 1000
☒ Tons ☐ Yards ☐ Drums ☐ Gallons ☐ Other: _____
3. Container Type and Size: Rolloff
4. USDOT Proper Shipping Name: _____ ☒ N/A

Certification Signature

97c99d42a0...



**Profile Addendum: State of Illinois
GENERATOR'S NON-SPECIAL WASTE CERTIFICATION**

F. Additional Waste Stream Information

Profile Number: 632215IL

Generators Name: Ameren Illinois

Generators SITE Address: 1118 Wesley Road Marquette Heights IL 61554
(The location where the waste is generated)

Waste Name: Solidified hydroexcavation spoils

The Illinois Environmental Protection Act allows a Generator to certify that their pollution control waste or industrial process waste, is not an Illinois Special Waste (Section 3.45). By completing the following questionnaire, you may certify that the waste stream represented by the Waste Management Profile referenced above is not an Illinois Special Waste as defined in the Act.

Is the waste referenced above any of the following:

- | | | |
|--|------------------------------|--|
| 1. A Potentially Infectious Medical Waste (PIMW)? | ☐ Yes | ☒ No |
| 2. A Hazardous Waste as defined in 40 CFR 261 or in 35 IAC 722.111? | ☐ Yes | ☒ No |
| 3. A Liquid Waste (fails the paint filter test as defined in 35 IAC 811.107)? | ☐ Yes | ☒ No |
| 4. A regulated PCB waste as defined in 40 CFR 761? | ☐ Yes | ☒ No |
| 5. A NESHAP regulated asbestos waste other than waste from renovation or demolition? | ☐ Yes | ☒ No |
| 6. A waste resulting from the shredding recyclable metals (auto fluff)? | ☐ Yes | ☒ No |
| 7. A delisted Hazardous Waste or Treated Characteristic Hazardous Waste, subject to LDR requirements under 35 IAC 728.107? | ☐ Yes | ☒ No |

In determining that this waste is not a liquid, I have used knowledge of the processes generating the waste and the attached supporting documentation: ☐ MSDS ☒ Analytical ☐ Other (explain below):

In determining that this waste is not RCRA hazardous, I have used knowledge of the processes generating the waste and the attached supporting documentation: ☒ MSDS ☐ Analytical ☐ Other (explain below):

8. Is the waste represented by this profile sheet exempt from Illinois Solid Waste Management Act fee? ☐ Yes ☒ No

Select option: ☒ Pollution Control Waste ☐ Other

By signing below, I certify my waste is NOT an Illinois Special Waste, and that I understand that a person who knowingly and falsely certifies that a waste is not special waste is subject to the penalties set forth in subdivision (6) of subsection (h) of section 44 of the Illinois Environmental Protection Act.

Name: (Print) Jennifer Spalding Title: Consulting Environmental Scientist

Signature: Jennifer Spalding Date: 05/31/2022



Profile Amendment Request Form

_____ hereby requests an amendment to WMI profile #: _____
(Contact Name)

to include the following:

Amendment Type: ☐ One Time Only Request (Event) ☐ Permanent Addition to Profile (Base)

☐ Additional Analytical/MSDS to be added to profile (see attached) **Analytical ID #(s): _____

☐ Volume Increase (specify volume) _____ ☐ Tons ☐ Cubic Yards ☐ Drums ☐ Gallons ☐ Other (specify) _____

☐ Constituent(s) to be added and/or modify current range in chemical composition:

Chemicals or constituents to be added/modify	Low	High	Units
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

☐ Change current ranges on profile (specify below)

pH Range _____ to _____ Free Liquid Range _____ to _____

☐ Other (specify) _____

GENERATOR CERTIFICATION

By signing this form, the Generator hereby certifies:

The information provided in this document, the referenced Waste Management Generator's Waste Profile Sheet, and all other referenced documents contain true and accurate descriptions of the waste material. All information regarding known or suspected hazards in the possession of the Generator has been disclosed.

Generator/Customer Signature: _____ Date: _____

Company Name: _____

Name (Print): _____ Title: _____

FOR WASTE MANAGEMENT USE ONLY

Submitted By: _____ Date: _____ Time: _____
(W.M. Initials)

WM Approval: _____ Date: _____

Agency Approval Required: ☐ Yes ☐ No

☐ Profile Extension

☐ Analytical Extension

Original Expiration Date _____

Analytical Due Date _____

Requested Extension _____

Requested Extension _____

New Expiration Date _____

New Analytical Due Date _____

Conditions/Precautions: _____



Requested Facility: Peoria City - County Landfill ☐ Unsure Profile Number: 632608IL
☐ Multiple Generator Locations (Attach Locations) ☐ Request Certificate of Disposal ☐ Renewal? Original Profile Number: _____

A. GENERATOR INFORMATION (MATERIAL ORIGIN)

1. Generator Name: EHS Solutions
2. Generator Site Address: 8800 N Allen Rd.
(City, State, ZIP) Peoria IL 61615
3. County: Peoria
4. Contact Name: Mark Stoller
5. Email: mark.stoller@rheoengineering.com
6. Phone: (309) 282-9121 7. Fax: _____
8. Generator EPA ID: _____ ☒ N/A
9. State ID: _____ ☒ N/A

C. MATERIAL INFORMATION

1. Common Name: Non-Hazardous Cosmetics Ingredients
Describe Process(es) Generating Material: ☐ See Attached
Discard and/or Expired
2. Material Composition and Contaminants: ☐ See Attached

1. non-hazardous cosmetics ingredients	100 %
2.	
3.	
4.	

Total comp. must be equal to or greater than 100% ≥100%

3. State Waste Codes: _____ ☒ N/A
4. Color: white-yellow
5. Physical State at 70°F: ☒ Solid ☐ Liquid ☐ Other: _____
6. Free Liquid Range Percentage: _____ to _____ ☒ N/A
7. pH: 7 to 7 ☐ N/A
8. Strong Odor: ☐ Yes ☒ No Describe: _____
9. Flash Point: ☐ <140°F ☐ 140°–199°F ☒ ≥200° ☒ N/A

E. ANALYTICAL AND OTHER REPRESENTATIVE INFORMATION

1. Analytical attached ☐ Yes
Please identify applicable samples and/or lab reports:

2. Other information attached (such as MSDS)? ☒ Yes

G. GENERATOR CERTIFICATION (PLEASE READ AND CERTIFY BY SIGNATURE)

By signing this EZ Profile™ form, I hereby certify that all information submitted in this and all attached documents contain true and accurate descriptions of this material, and that all relevant information necessary for proper material characterization and to identify known and suspected hazards has been provided. Any analytical data attached was derived from a sample that is representative as defined in 40 CFR 261 – Appendix 1 or by using an equivalent method. All changes occurring in the character of the material (i.e., changes in the process or new analytical) will be identified by the Generator and be disclosed to Waste Management prior to providing the material to Waste Management.

☒ I am an Authorized Agent signing on behalf of the Generator, and I have confirmed with the Generator that information contained in this profile, as well as supporting documents provided, are accurate and complete.

Name (Print): Mark Stoller Date: 05/24/2022
Title: Production Manager
Company: EHS Solutions

THINK GREEN®**QUESTIONS? CALL 800 963 4776 FOR ASSISTANCE** Revised November 06, 2020 © 2020 WM Intellectual Property Holdings, L.L.C.**B. BILLING INFORMATION**☒ SAME AS GENERATOR

1. Billing Name: EHS Solutions
2. Billing Address: 8800 N Allen Rd.
(City, State, ZIP) Peoria IL 61615
3. Contact Name: Mark Stoller
4. Email: mark.stoller@rheoengineering.com
5. Phone: (309) 282-9121 6. Fax: _____
7. WM Hauled? ☐ Yes ☒ No
8. P.O. Number: _____
9. Payment Method: ☒ Credit Account ☐ Cash ☐ Credit Card

D. REGULATORY INFORMATION

1. EPA Hazardous Waste? ☐ Yes* ☒ No
Code: _____
2. State Hazardous Waste? ☐ Yes ☒ No
Code: _____
3. Is this material non-hazardous due to Treatment, Delisting, or an Exclusion? ☐ Yes* ☒ No
4. Contains Underlying Hazardous Constituents? ☐ Yes* ☒ No
5. From an industry regulated under Benzene NESHAP? ☐ Yes* ☒ No
6. Facility remediation subject to 40 CFR 63 GGGGG? ☐ Yes* ☒ No
7. CERCLA or State-mandated clean-up? ☐ Yes* ☒ No
8. NRC or State-regulated radioactive or NORM waste? ☐ Yes* ☒ No
***If Yes, see Addendum (page 2) for additional questions and space.**
9. Contains PCBs? → If Yes, answer a, b and c. ☐ Yes ☒ No
a. Regulated by 40 CFR 761? ☐ Yes ☐ No
b. Remediation under 40 CFR 761.61 (a)? ☐ Yes ☐ No
c. Were PCB imported into the US? ☐ Yes ☐ No
10. Regulated and/or Untreated Medical/Infectious Waste? ☐ Yes ☒ No
11. Contains Asbestos? ☐ Yes ☒ No
→ If Yes: ☐ Non-Friable ☐ Non-Friable – Regulated ☐ Friable

F. SHIPPING AND DOT INFORMATION

1. ☒ One-Time Event ☐ Repeat Event/Ongoing Business
2. Estimated Quantity/Unit of Measure: 25
☐ Tons ☐ Yards ☒ Drums ☐ Gallons ☐ Other: _____
3. Container Type and Size: Fiber Drum / 25-kg per drum
4. USDOT Proper Shipping Name: _____ ☒ N/A

Certification Signature

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**Profile Addendum: State of Illinois
GENERATOR'S NON-SPECIAL WASTE CERTIFICATION**

F. Additional Waste Stream Information

Profile Number: 632608IL

Generators Name: EHS Solutions

Generators SITE Address: 8800 N Allen Rd. Peoria IL 61615
(The location where the waste is generated)

Waste Name: Non-Hazardous Cosmetics Ingredients

The Illinois Environmental Protection Act allows a Generator to certify that their pollution control waste or industrial process waste, is not an Illinois Special Waste (Section 3.45). By completing the following questionnaire, you may certify that the waste stream represented by the Waste Management Profile referenced above is not an Illinois Special Waste as defined in the Act.

Is the waste referenced above any of the following:

- | | | |
|--|------------------------------|--|
| 1. A Potentially Infectious Medical Waste (PIMW)? | ☐ Yes | ☒ No |
| 2. A Hazardous Waste as defined in 40 CFR 261 or in 35 IAC 722.111? | ☐ Yes | ☒ No |
| 3. A Liquid Waste (fails the paint filter test as defined in 35 IAC 811.107)? | ☐ Yes | ☒ No |
| 4. A regulated PCB waste as defined in 40 CFR 761? | ☐ Yes | ☒ No |
| 5. A NESHAP regulated asbestos waste other than waste from renovation or demolition? | ☐ Yes | ☒ No |
| 6. A waste resulting from the shredding recyclable metals (auto fluff)? | ☐ Yes | ☒ No |
| 7. A delisted Hazardous Waste or Treated Characteristic Hazardous Waste, subject to LDR requirements under 35 IAC 728.107? | ☐ Yes | ☒ No |

In determining that this waste is not a liquid, I have used knowledge of the processes generating the waste and the attached supporting documentation: ☒ MSDS ☐ Analytical ☐ Other (explain below):

In determining that this waste is not RCRA hazardous, I have used knowledge of the processes generating the waste and the attached supporting documentation: ☒ MSDS ☐ Analytical ☐ Other (explain below):

8. Is the waste represented by this profile sheet exempt from Illinois Solid Waste Management Act fee? ☐ Yes ☒ No

Select option: ☐ Pollution Control Waste ☐ Other

By signing below, I certify my waste is NOT an Illinois Special Waste, and that I understand that a person who knowingly and falsely certifies that a waste is not special waste is subject to the penalties set forth in subdivision (6) of subsection (h) of section 44 of the Illinois Environmental Protection Act.

Name: (Print) Mark Stoller

Title: Production Manager

Signature: Mark Stoller

Date: 05/24/2022



Requested Facility: Peoria City - County Landfill ☐ Unsure Profile Number: 632659IL
☐ Multiple Generator Locations (Attach Locations) ☐ Request Certificate of Disposal ☐ Renewal? Original Profile Number: _____

A. GENERATOR INFORMATION (MATERIAL ORIGIN)

1. Generator Name: Marshall County
2. Generator Site Address: 122 N. Prairie St.
(City, State, ZIP) Lacon IL 61540
3. County: Marshall
4. Contact Name: Patrick G. Sloan
5. Email: psloan@marshallcountyillinois.gov
6. Phone: (309) 246-6401 7. Fax: (309) 246-3446
8. Generator EPA ID: _____ ☒ N/A
9. State ID: _____ ☒ N/A

C. MATERIAL INFORMATION

1. Common Name: Construction and Demolition Debris
Describe Process(es) Generating Material: ☐ See Attached

Non-contaminated construction and demolition debris from a building, structure, or road. The debris must not be contaminated by a manufacturing process, chemical process, through facility operations or other processes. DOES NOT include

2. Material Composition and Contaminants: ☐ See Attached

1. <u>Construction Debris</u>	<u>100 %</u>
2.	
3.	
4.	

Total comp. must be equal to or greater than 100% ≥100%

3. State Waste Codes: _____ ☒ N/A
4. Color: Various
5. Physical State at 70°F: ☒ Solid ☐ Liquid ☐ Other: _____
6. Free Liquid Range Percentage: _____ to _____ ☒ N/A
7. pH: _____ to _____ ☒ N/A
8. Strong Odor: ☐ Yes ☒ No Describe: _____
9. Flash Point: ☐ <140°F ☐ 140°–199°F ☒ ≥200° ☒ N/A

E. ANALYTICAL AND OTHER REPRESENTATIVE INFORMATION

1. Analytical attached ☐ Yes
Please identify applicable samples and/or lab reports:

2. Other information attached (such as MSDS)? ☐ Yes

G. GENERATOR CERTIFICATION (PLEASE READ AND CERTIFY BY SIGNATURE)

By signing this EZ Profile™ form, I hereby certify that all information submitted in this and all attached documents contain true and accurate descriptions of this material, and that all relevant information necessary for proper material characterization and to identify known and suspected hazards has been provided. Any analytical data attached was derived from a sample that is representative as defined in 40 CFR 261 – Appendix 1 or by using an equivalent method. All changes occurring in the character of the material (i.e., changes in the process or new analytical) will be identified by the Generator and be disclosed to Waste Management prior to providing the material to Waste Management.

☐ I am an Authorized Agent signing on behalf of the Generator, and I have confirmed with the Generator that information contained in this profile, as well as supporting documents provided, are accurate and complete.

Name (Print): Patrick Sloan Date: 05/25/2022
Title: County Engineer
Company: Marshall County

THINK GREEN.®**QUESTIONS? CALL 800 963 4776 FOR ASSISTANCE** Revised November 06, 2020 © 2020 WM Intellectual Property Holdings, L.L.C.**B. BILLING INFORMATION**☒ SAME AS GENERATOR

1. Billing Name: Marshall County
2. Billing Address: 122 N. Prairie St.
(City, State, ZIP) Lacon IL 61540
3. Contact Name: Patrick G. Sloan
4. Email: psloan@marshallcountyillinois.gov
5. Phone: (309) 246-6401 6. Fax: (309) 246-3446
7. WM Hauled? ☐ Yes ☒ No
8. P.O. Number: PGS
9. Payment Method: ☒ Credit Account ☐ Cash ☐ Credit Card

D. REGULATORY INFORMATION

1. EPA Hazardous Waste? ☐ Yes* ☒ No
Code: _____
2. State Hazardous Waste? ☐ Yes ☒ No
Code: _____
3. Is this material non-hazardous due to Treatment, Delisting, or an Exclusion? ☐ Yes* ☒ No
4. Contains Underlying Hazardous Constituents? ☐ Yes* ☒ No
5. From an industry regulated under Benzene NESHAP? ☐ Yes* ☒ No
6. Facility remediation subject to 40 CFR 63 GGGGG? ☐ Yes* ☒ No
7. CERCLA or State-mandated clean-up? ☐ Yes* ☒ No
8. NRC or State-regulated radioactive or NORM waste? ☐ Yes* ☒ No
***If Yes, see Addendum (page 2) for additional questions and space.**
9. Contains PCBs? → If Yes, answer a, b and c. ☐ Yes ☒ No
a. Regulated by 40 CFR 761? ☐ Yes ☐ No
b. Remediation under 40 CFR 761.61 (a)? ☐ Yes ☐ No
c. Were PCB imported into the US? ☐ Yes ☐ No
10. Regulated and/or Untreated Medical/Infectious Waste? ☐ Yes ☒ No
11. Contains Asbestos? ☐ Yes ☒ No
→ If Yes: ☐ Non-Friable ☐ Non-Friable – Regulated ☐ Friable

F. SHIPPING AND DOT INFORMATION

1. ☒ One-Time Event ☐ Repeat Event/Ongoing Business
2. Estimated Quantity/Unit of Measure: 15
☒ Tons ☐ Yards ☐ Drums ☐ Gallons ☐ Other: _____
3. Container Type and Size: Tandem Dump Truck
4. USDOT Proper Shipping Name: _____ ☒ N/A

Certification Signature*Patrick G. Sloan*

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Only complete this Addendum if prompted by responses on EZ Profile™ (page 1) or to provide additional information. Sections and question numbers correspond to EZ Profile™.

Profile Number: 632659IL

C. MATERIAL INFORMATION

Describe Process Generating Material (Continued from page 1):

If more space is needed, please attach additional pages.

lead-based painted debris, liquids, asbestos, fluorescent light bulbs, PCB light ballasts, and PCB containing building materials such as caulk/glaze/mastic/ galbestos.

Material Composition and Contaminants (Continued from page 1):

If more space is needed, please attach additional pages.

5.	
6.	
7.	
8.	
9.	
Total composition must be equal to or greater than 100%	
	≥100%

D. REGULATORY INFORMATION

Only questions with a "Yes" response in Section D on the EZ Profile™ form (page 1) need to be answered here.

1. EPA Hazardous Waste

a. Please list all USEPA listed and characteristic waste code numbers:

b. Is the material subject to the Alternative Debris standards (40 CFR 268.45)?

☐ Yes ☐ No

c. Is the material subject to the Alternative Soil standards (40 CFR 268.49)? → If Yes, complete question 4.

☐ Yes ☐ No

d. Is the material exempt from Subpart CC Controls (40 CFR 264.1083)?

☐ Yes ☐ No

→ If Yes, please check **one** of the following:

☐ Waste meets LDR or treatment exemptions for organics (40 CFR 264.1082(c)(2) or (c)(4))

☐ Waste contains VOCs that average <500 ppmw (CFR 264.1082(c)(1)) – will require annual update.

2. State Hazardous Waste → Please list all state waste codes: _____

3. For material that is Treated, Delisted, or Excluded → Please indicate the category, below:

☐ Delisted Hazardous Waste

☐ Excluded Waste under 40 CFR 261.4 → Specify Exclusion: _____

☐ Treated Hazardous Waste Debris

☐ Treated Characteristic Hazardous Waste → If checked, complete question 4.

4. Underlying Hazardous Constituents → Please list all Underlying Hazardous Constituents:

5. Industries regulated under Benzene NESHAP include petroleum refineries, chemical manufacturing plants, coke by-product recovery plants, and TSDFs.

a. Are you a TSDF? → If yes, please complete Benzene NESHAP questionnaire. If not, continue.

☐ Yes ☐ No

b. Does this material contain benzene?

☐ Yes ☐ No

1. If yes, what is the flow weighted average concentration?

_____ ppmw

c. What is your facility's current total annual benzene quantity in Megagrams?

☐ <1 Mg ☐ 1–9.99 Mg ☐ ≥10 Mg

d. Is this waste soil from a remediation?

☐ Yes ☐ No

1. If yes, what is the benzene concentration in remediation waste?

_____ ppmw

e. Does the waste contain >10% water/moisture?

☐ Yes ☐ No

f. Has material been treated to remove 99% of the benzene or to achieve <10 ppmw?

☐ Yes ☐ No

g. Is material exempt from controls in accordance with 40 CFR 61.342?

☐ Yes ☐ No

→ If yes, specify exemption: _____

h. Based on your knowledge of your waste and the BWON regulations, do you believe that this waste stream is subject to treatment and control requirements at an off-site TSDF?

☐ Yes ☐ No

6. 40 CFR 63 GGGGG → Does the material contain <500 ppmw VOHAPs at the point of determination?

☐ Yes ☐ No

7. CERCLA or State-Mandated clean up → Please submit the Record of Decision or other documentation with process information to assist others in the evaluation for proper disposal. A "Determination of Acceptability" may be needed for CERCLA wastes not going to a CERCLA approved facility.

8. NRC or state regulated radioactive or NORM Waste → Please identify Isotopes and pCi/g: _____



Requested Facility: Peoria City - County Landfill ☐ Unsure Profile Number: 632774IL
☐ Multiple Generator Locations (Attach Locations) ☐ Request Certificate of Disposal ☐ Renewal? Original Profile Number: _____

A. GENERATOR INFORMATION (MATERIAL ORIGIN)

- Generator Name: North Tazewell Public Water District
- Generator Site Address: 2450 Centennial Drive
(City, State, ZIP) Washington IL 61571
- County: Tazewell
- Contact Name: Carter Spoelstra
- Email: kczappa@neumannco.com
- Phone: (715) 333-2282 7. Fax: _____
- Generator EPA ID: _____ ☒ N/A
- State ID: _____ ☒ N/A

C. MATERIAL INFORMATION

- Common Name: Sandblast Grit
Describe Process(es) Generating Material: ☐ See Attached
Interior surface blasting to remove paint/rust from structures
- Material Composition and Contaminants: ☐ See Attached

1. Sandblast media, solids (paint chips/rust)	100 %
2.	
3.	
4.	

Total comp. must be equal to or greater than 100% ≥100%
- State Waste Codes: _____ ☐ N/A
- Color: Various
- Physical State at 70°F: ☒ Solid ☐ Liquid ☐ Other: _____
- Free Liquid Range Percentage: _____ to _____ ☒ N/A
- pH: _____ to _____ ☒ N/A
- Strong Odor: ☐ Yes ☒ No Describe: _____
- Flash Point: ☐ <140°F ☐ 140°–199°F ☒ ≥200° ☒ N/A

E. ANALYTICAL AND OTHER REPRESENTATIVE INFORMATION

- Analytical attached ☒ Yes
Please identify applicable samples and/or lab reports:
Pace Analytical order FE04779
- Other information attached (such as MSDS)? ☐ Yes

G. GENERATOR CERTIFICATION (PLEASE READ AND CERTIFY BY SIGNATURE)

By signing this EZ Profile™ form, I hereby certify that all information submitted in this and all attached documents contain true and accurate descriptions of this material, and that all relevant information necessary for proper material characterization and to identify known and suspected hazards has been provided. Any analytical data attached was derived from a sample that is representative as defined in 40 CFR 261 – Appendix 1 or by using an equivalent method. All changes occurring in the character of the material (i.e., changes in the process or new analytical) will be identified by the Generator and be disclosed to Waste Management prior to providing the material to Waste Management.

- ☒ I am an Authorized Agent signing on behalf of the Generator, and I have confirmed with the Generator that information contained in this profile, as well as supporting documents provided, are accurate and complete.

Name (Print): Katie Czappa Date: 06/06/2022
Title: Office Manager
Company: Neumann Company Contractors, Inc

THINK GREEN®**QUESTIONS? CALL 800 963 4776 FOR ASSISTANCE** Revised November 06, 2020 © 2020 WM Intellectual Property Holdings, L.L.C.**B. BILLING INFORMATION**☒ SAME AS GENERATOR

- Billing Name: Neumann Company Contractors, Inc.
- Billing Address: W9450 State Road 95
(City, State, ZIP) Merrillan WI 54754
- Contact Name: Katie Czappa
- Email: kczappa@neumannco.com
- Phone: (715) 333-2282 6. Fax: _____
- WM Hauled? ☐ Yes ☐ No
- P.O. Number: _____
- Payment Method: ☒ Credit Account ☐ Cash ☐ Credit Card

D. REGULATORY INFORMATION

- EPA Hazardous Waste? ☐ Yes* ☒ No
Code: _____
- State Hazardous Waste? ☐ Yes ☒ No
Code: _____
- Is this material non-hazardous due to Treatment, Delisting, or an Exclusion? ☐ Yes* ☒ No
- Contains Underlying Hazardous Constituents? ☐ Yes* ☒ No
- From an industry regulated under Benzene NESHAP? ☐ Yes* ☒ No
- Facility remediation subject to 40 CFR 63 GGGGG? ☐ Yes* ☒ No
- CERCLA or State-mandated clean-up? ☐ Yes* ☒ No
- NRC or State-regulated radioactive or NORM waste? ☐ Yes* ☒ No
***If Yes, see Addendum (page 2) for additional questions and space.**
- Contains PCBs? → If Yes, answer a, b and c. ☐ Yes ☒ No
 - Regulated by 40 CFR 761? ☐ Yes ☐ No
 - Remediation under 40 CFR 761.61 (a)? ☐ Yes ☐ No
 - Were PCB imported into the US? ☐ Yes ☐ No
- Regulated and/or Untreated Medical/Infectious Waste? ☐ Yes ☒ No
- Contains Asbestos? ☐ Yes ☒ No
→ If Yes: ☐ Non-Friable ☐ Non-Friable – Regulated ☐ Friable

F. SHIPPING AND DOT INFORMATION

- ☒ One-Time Event ☐ Repeat Event/Ongoing Business
- Estimated Quantity/Unit of Measure: 44
☒ Tons ☐ Yards ☐ Drums ☐ Gallons ☐ Other: _____
- Container Type and Size: 20 yard low side
- USDOT Proper Shipping Name: ☒ N/A

Certification Signature



**Profile Addendum: State of Illinois
GENERATOR'S NON-SPECIAL WASTE CERTIFICATION**

F. Additional Waste Stream Information

Profile Number: 632774IL

Generators Name: North Tazewell Public Water District

Generators SITE Address: 2450 Centennial Drive Washington IL 61571
(The location where the waste is generated)

Waste Name: Sandblast Grit

The Illinois Environmental Protection Act allows a Generator to certify that their pollution control waste or industrial process waste, is not an Illinois Special Waste (Section 3.45). By completing the following questionnaire, you may certify that the waste stream represented by the Waste Management Profile referenced above is not an Illinois Special Waste as defined in the Act.

Is the waste referenced above any of the following:

- | | | |
|--|------------------------------|--|
| 1. A Potentially Infectious Medical Waste (PIMW)? | ☐ Yes | ☒ No |
| 2. A Hazardous Waste as defined in 40 CFR 261 or in 35 IAC 722.111? | ☐ Yes | ☒ No |
| 3. A Liquid Waste (fails the paint filter test as defined in 35 IAC 811.107)? | ☐ Yes | ☒ No |
| 4. A regulated PCB waste as defined in 40 CFR 761? | ☐ Yes | ☒ No |
| 5. A NESHAP regulated asbestos waste other than waste from renovation or demolition? | ☐ Yes | ☒ No |
| 6. A waste resulting from the shredding recyclable metals (auto fluff)? | ☐ Yes | ☒ No |
| 7. A delisted Hazardous Waste or Treated Characteristic Hazardous Waste, subject to LDR requirements under 35 IAC 728.107? | ☐ Yes | ☒ No |

In determining that this waste is not a liquid, I have used knowledge of the processes generating the waste and the attached supporting documentation: ☐ MSDS ☒ Analytical ☐ Other (explain below):

In determining that this waste is not RCRA hazardous, I have used knowledge of the processes generating the waste and the attached supporting documentation: ☐ MSDS ☒ Analytical ☐ Other (explain below):

8. Is the waste represented by this profile sheet exempt from Illinois Solid Waste Management Act fee? ☐ Yes ☒ No

Select option: ☒ Pollution Control Waste ☐ Other

By signing below, I certify my waste is NOT an Illinois Special Waste, and that I understand that a person who knowingly and falsely certifies that a waste is not special waste is subject to the penalties set forth in subdivision (6) of subsection (h) of section 44 of the Illinois Environmental Protection Act.

Name: (Print) Katie Czappa Title: Office Manager

Signature: Katie Czappa Date: 06/06/2022



Requested Facility: Peoria City - County Landfill ☐ Unsure Profile Number: ASB25605
☐ Multiple Generator Locations (Attach Locations) ☐ Request Certificate of Disposal ☒ Renewal? Original Profile Number: ASB25605

A. GENERATOR INFORMATION (MATERIAL ORIGIN)

- Generator Name: M&O Environmental
- Generator Site Address: 1625 W Altorfer Dr
(City, State, ZIP) Peoria IL 61615
- County: Peoria
- Contact Name: karen houston
- Email: khouston@mocompany.com
- Phone: (309) 683-1814 7. Fax: _____
- Generator EPA ID: _____ ☒ N/A
- State ID: _____ ☒ N/A

C. MATERIAL INFORMATION

- Common Name: Asbestos-Non-Friable
Describe Process(es) Generating Material: ☐ See Attached

Removal of uncontaminated, non-regulated, non-friable asbestos from Demolition/ renovation - when dry, cannot be crumbled, pulverized or reduced to powder by hand pressure. Specific to gaskets, resilient floor coverings and asphalt roofing
- Material Composition and Contaminants: ☐ See Attached

1. Non-Friable Asbestos (Uncontaminated)	0-100 %
2.	
3.	
4.	
Total comp. must be equal to or greater than 100%	≥100%
- State Waste Codes: _____ ☒ N/A
- Color: Various
- Physical State at 70°F: ☒ Solid ☐ Liquid ☐ Other: _____
- Free Liquid Range Percentage: _____ to _____ ☒ N/A
- pH: _____ to _____ ☒ N/A
- Strong Odor: ☐ Yes ☒ No Describe: _____
- Flash Point: ☐ <140°F ☐ 140°–199°F ☒ ≥200° ☒ N/A

E. ANALYTICAL AND OTHER REPRESENTATIVE INFORMATION

- Analytical attached ☐ Yes
Please identify applicable samples and/or lab reports:
- Other information attached (such as MSDS)? ☐ Yes

G. GENERATOR CERTIFICATION (PLEASE READ AND CERTIFY BY SIGNATURE)

By signing this EZ Profile™ form, I hereby certify that all information submitted in this and all attached documents contain true and accurate descriptions of this material, and that all relevant information necessary for proper material characterization and to identify known and suspected hazards has been provided. Any analytical data attached was derived from a sample that is representative as defined in 40 CFR 261 – Appendix 1 or by using an equivalent method. All changes occurring in the character of the material (i.e., changes in the process or new analytical) will be identified by the Generator and be disclosed to Waste Management prior to providing the material to Waste Management.

- ☒ I am an Authorized Agent signing on behalf of the Generator, and I have confirmed with the Generator that information contained in this profile, as well as supporting documents provided, are accurate and complete.

Name (Print): Karen Houston Date: 05/22/2022
Title: Accounts Payable
Company: M&O

THINK GREEN.®**QUESTIONS? CALL 800 963 4776 FOR ASSISTANCE** Revised November 06, 2020 © 2020 WM Intellectual Property Holdings, L.L.C.**B. BILLING INFORMATION**☒ SAME AS GENERATOR

- Billing Name: M&O Environmental
- Billing Address: 1625 W Altorfer Dr
(City, State, ZIP) Peoria IL 61615
- Contact Name: karen houston
- Email: khouston@mocompany.com
- Phone: (309) 683-1814 6. Fax: _____
- WM Hauled? ☐ Yes ☐ No
- P.O. Number: _____
- Payment Method: ☐ Credit Account ☐ Cash ☐ Credit Card

D. REGULATORY INFORMATION

- EPA Hazardous Waste? ☐ Yes* ☒ No
Code: _____
- State Hazardous Waste? ☐ Yes ☒ No
Code: _____
- Is this material non-hazardous due to Treatment, Delisting, or an Exclusion? ☐ Yes* ☒ No
- Contains Underlying Hazardous Constituents? ☐ Yes* ☒ No
- From an industry regulated under Benzene NESHAP? ☐ Yes* ☒ No
- Facility remediation subject to 40 CFR 63 GGGGG? ☐ Yes* ☒ No
- CERCLA or State-mandated clean-up? ☐ Yes* ☒ No
- NRC or State-regulated radioactive or NORM waste? ☐ Yes* ☒ No
***If Yes, see Addendum (page 2) for additional questions and space.**
- Contains PCBs? → If Yes, answer a, b and c. ☐ Yes ☒ No
 - Regulated by 40 CFR 761? ☐ Yes ☐ No
 - Remediation under 40 CFR 761.61 (a)? ☐ Yes ☐ No
 - Were PCB imported into the US? ☐ Yes ☐ No
- Regulated and/or Untreated Medical/Infectious Waste? ☐ Yes ☒ No
- Contains Asbestos? ☒ Yes ☐ No
→ If Yes: ☒ Non-Friable ☐ Non-Friable – Regulated ☐ Friable

F. SHIPPING AND DOT INFORMATION

- ☐ One-Time Event ☒ Repeat Event/Ongoing Business
- Estimated Quantity/Unit of Measure: 2500
☐ Tons ☒ Yards ☐ Drums ☐ Gallons ☐ Other: _____
- Container Type and Size: 40-yd enclosed
- USDOT Proper Shipping Name: _____ ☒ N/A

Certification Signature*Karen Houston*

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Only complete this Addendum if prompted by responses on EZ Profile™ (page 1) or to provide additional information. Sections and question numbers correspond to EZ Profile™.

Profile Number: ASB25605

C. MATERIAL INFORMATION

Describe Process Generating Material (Continued from page 1):

If more space is needed, please attach additional pages.

products (specify in C.2.) DOES NOT include clean-up wastes, such as, soils that are contaminated with asbestos, lead-based painted debris, liquids and PCB containing building materials such as caulk/glaze/mastic/galbestos.

Material Composition and Contaminants (Continued from page 1):

If more space is needed, please attach additional pages.

5.	
6.	
7.	
8.	
9.	
Total composition must be equal to or greater than 100%	
	≥100%

D. REGULATORY INFORMATION

Only questions with a "Yes" response in Section D on the EZ Profile™ form (page 1) need to be answered here.

1. EPA Hazardous Waste

a. Please list all USEPA listed and characteristic waste code numbers:

b. Is the material subject to the Alternative Debris standards (40 CFR 268.45)?

☐ Yes ☐ No

c. Is the material subject to the Alternative Soil standards (40 CFR 268.49)? → If Yes, complete question 4.

☐ Yes ☐ No

d. Is the material exempt from Subpart CC Controls (40 CFR 264.1083)?

☐ Yes ☐ No

→ If Yes, please check **one** of the following:

☐ Waste meets LDR or treatment exemptions for organics (40 CFR 264.1082(c)(2) or (c)(4))

☐ Waste contains VOCs that average <500 ppmw (CFR 264.1082(c)(1)) – will require annual update.

2. State Hazardous Waste → Please list all state waste codes: _____

3. For material that is Treated, Delisted, or Excluded → Please indicate the category, below:

☐ Delisted Hazardous Waste

☐ Excluded Waste under 40 CFR 261.4 → Specify Exclusion: _____

☐ Treated Hazardous Waste Debris

☐ Treated Characteristic Hazardous Waste → If checked, complete question 4.

4. Underlying Hazardous Constituents → Please list all Underlying Hazardous Constituents:

5. Industries regulated under Benzene NESHAP include petroleum refineries, chemical manufacturing plants, coke by-product recovery plants, and TSDFs.

a. Are you a TSDF? → If yes, please complete Benzene NESHAP questionnaire. If not, continue.

☐ Yes ☐ No

b. Does this material contain benzene?

☐ Yes ☐ No

1. If yes, what is the flow weighted average concentration?

_____ ppmw

c. What is your facility's current total annual benzene quantity in Megagrams?

☐ <1 Mg ☐ 1–9.99 Mg ☐ ≥10 Mg

d. Is this waste soil from a remediation?

☐ Yes ☐ No

1. If yes, what is the benzene concentration in remediation waste?

_____ ppmw

e. Does the waste contain >10% water/moisture?

☐ Yes ☐ No

f. Has material been treated to remove 99% of the benzene or to achieve <10 ppmw?

☐ Yes ☐ No

g. Is material exempt from controls in accordance with 40 CFR 61.342?

☐ Yes ☐ No

→ If yes, specify exemption: _____

h. Based on your knowledge of your waste and the BWON regulations, do you believe that this waste stream is subject to treatment and control requirements at an off-site TSDF?

☐ Yes ☐ No

6. 40 CFR 63 GGGGG → Does the material contain <500 ppmw VOHAPs at the point of determination?

☐ Yes ☐ No

7. CERCLA or State-Mandated clean up → Please submit the Record of Decision or other documentation with process information to assist others in the evaluation for proper disposal. A "Determination of Acceptability" may be needed for CERCLA wastes not going to a CERCLA approved facility.

8. NRC or state regulated radioactive or NORM Waste → Please identify Isotopes and pCi/g: _____



Requested Facility: Peoria City - County Landfill ☐ Unsure Profile Number: ASB25606
☐ Multiple Generator Locations (Attach Locations) ☐ Request Certificate of Disposal ☒ Renewal? Original Profile Number: ASB25606

A. GENERATOR INFORMATION (MATERIAL ORIGIN)

1. Generator Name: M&O Environmental
2. Generator Site Address: 1625 W Altorfer Dr
(City, State, ZIP) Peoria IL 61615
3. County: Peoria
4. Contact Name: karen houston
5. Email: khouston@mocompany.com
6. Phone: (309) 683-1814 7. Fax: _____
8. Generator EPA ID: _____ ☒ N/A
9. State ID: _____ ☒ N/A

C. MATERIAL INFORMATION

1. Common Name: Asbestos-Friable
Describe Process(es) Generating Material: ☐ See Attached

Removal of regulated, uncontaminated friable, or non-friable that has become friable, asbestos containing materials from demolition/dismantling or remediation activities. DOES NOT include clean-up wastes, such as, soils that are

2. Material Composition and Contaminants: ☐ See Attached

1. Demolition debris, asbestos	100 %
2.	
3.	
4.	

Total comp. must be equal to or greater than 100% ≥100%

3. State Waste Codes: _____ ☒ N/A
4. Color: Various
5. Physical State at 70°F: ☒ Solid ☐ Liquid ☐ Other: _____
6. Free Liquid Range Percentage: _____ to _____ ☒ N/A
7. pH: _____ to _____ ☒ N/A
8. Strong Odor: ☐ Yes ☒ No Describe: _____
9. Flash Point: ☐ <140°F ☐ 140°–199°F ☒ ≥200° ☒ N/A

E. ANALYTICAL AND OTHER REPRESENTATIVE INFORMATION

1. Analytical attached ☐ Yes
Please identify applicable samples and/or lab reports:

2. Other information attached (such as MSDS)? ☐ Yes

G. GENERATOR CERTIFICATION (PLEASE READ AND CERTIFY BY SIGNATURE)

By signing this EZ Profile™ form, I hereby certify that all information submitted in this and all attached documents contain true and accurate descriptions of this material, and that all relevant information necessary for proper material characterization and to identify known and suspected hazards has been provided. Any analytical data attached was derived from a sample that is representative as defined in 40 CFR 261 – Appendix 1 or by using an equivalent method. All changes occurring in the character of the material (i.e., changes in the process or new analytical) will be identified by the Generator and be disclosed to Waste Management prior to providing the material to Waste Management.

☒ I am an Authorized Agent signing on behalf of the Generator, and I have confirmed with the Generator that information contained in this profile, as well as supporting documents provided, are accurate and complete.

Name (Print): Karen Houston Date: 05/22/2022
Title: Accounts Payable
Company: M&O

THINK GREEN.®**QUESTIONS? CALL 800 963 4776 FOR ASSISTANCE** Revised November 06, 2020 © 2020 WM Intellectual Property Holdings, L.L.C.**B. BILLING INFORMATION**☒ SAME AS GENERATOR

1. Billing Name: M&O Environmental
2. Billing Address: 1625 W Altorfer Dr
(City, State, ZIP) Peoria IL 61615
3. Contact Name: karen houston
4. Email: khouston@mocompany.com
5. Phone: (309) 683-1814 6. Fax: _____
7. WM Hauled? ☐ Yes ☐ No
8. P.O. Number: _____
9. Payment Method: ☐ Credit Account ☐ Cash ☐ Credit Card

D. REGULATORY INFORMATION

1. EPA Hazardous Waste? ☐ Yes* ☒ No
Code: _____
2. State Hazardous Waste? ☐ Yes ☒ No
Code: _____
3. Is this material non-hazardous due to Treatment, Delisting, or an Exclusion? ☐ Yes* ☒ No
4. Contains Underlying Hazardous Constituents? ☐ Yes* ☒ No
5. From an industry regulated under Benzene NESHAP? ☐ Yes* ☒ No
6. Facility remediation subject to 40 CFR 63 GGGGG? ☐ Yes* ☒ No
7. CERCLA or State-mandated clean-up? ☐ Yes* ☒ No
8. NRC or State-regulated radioactive or NORM waste? ☐ Yes* ☒ No
***If Yes, see Addendum (page 2) for additional questions and space.**
9. Contains PCBs? → If Yes, answer a, b and c. ☐ Yes ☒ No
a. Regulated by 40 CFR 761? ☐ Yes ☐ No
b. Remediation under 40 CFR 761.61 (a)? ☐ Yes ☐ No
c. Were PCB imported into the US? ☐ Yes ☐ No
10. Regulated and/or Untreated Medical/Infectious Waste? ☐ Yes ☒ No
11. Contains Asbestos? ☒ Yes ☐ No
→ If Yes: ☐ Non-Friable ☒ Non-Friable – Regulated ☒ Friable

F. SHIPPING AND DOT INFORMATION

1. ☐ One-Time Event ☒ Repeat Event/Ongoing Business
2. Estimated Quantity/Unit of Measure: 2500
☐ Tons ☒ Yards ☐ Drums ☐ Gallons ☐ Other: _____
3. Container Type and Size: 40-yd enclosed
4. USDOT Proper Shipping Name: _____ ☐ N/A

RQ, NA2212, Asbestos, 9, PG III**Certification Signature***Karen Houston*

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Only complete this Addendum if prompted by responses on EZ Profile™ (page 1) or to provide additional information. Sections and question numbers correspond to EZ Profile™.

Profile Number: ASB25606

C. MATERIAL INFORMATION

Describe Process Generating Material (Continued from page 1):

If more space is needed, please attach additional pages.

contaminated with asbestos, lead-based painted debris, liquids and PCB containing building materials such as caulk/glaze/mastic/galbestos.

Material Composition and Contaminants (Continued from page 1):

If more space is needed, please attach additional pages.

5.	
6.	
7.	
8.	
9.	
Total composition must be equal to or greater than 100%	
	≥100%

D. REGULATORY INFORMATION

Only questions with a "Yes" response in Section D on the EZ Profile™ form (page 1) need to be answered here.

1. EPA Hazardous Waste

a. Please list all USEPA listed and characteristic waste code numbers:

b. Is the material subject to the Alternative Debris standards (40 CFR 268.45)?

☐ Yes ☐ No

c. Is the material subject to the Alternative Soil standards (40 CFR 268.49)? → If Yes, complete question 4.

☐ Yes ☐ No

d. Is the material exempt from Subpart CC Controls (40 CFR 264.1083)?

☐ Yes ☐ No

→ If Yes, please check **one** of the following:

☐ Waste meets LDR or treatment exemptions for organics (40 CFR 264.1082(c)(2) or (c)(4))

☐ Waste contains VOCs that average <500 ppmw (CFR 264.1082(c)(1)) – will require annual update.

2. State Hazardous Waste → Please list all state waste codes: _____

3. For material that is Treated, Delisted, or Excluded → Please indicate the category, below:

☐ Delisted Hazardous Waste

☐ Excluded Waste under 40 CFR 261.4 → Specify Exclusion: _____

☐ Treated Hazardous Waste Debris

☐ Treated Characteristic Hazardous Waste → If checked, complete question 4.

4. Underlying Hazardous Constituents → Please list all Underlying Hazardous Constituents:

5. Industries regulated under Benzene NESHAP include petroleum refineries, chemical manufacturing plants, coke by-product recovery plants, and TSDFs.

a. Are you a TSDF? → If yes, please complete Benzene NESHAP questionnaire. If not, continue.

☐ Yes ☐ No

b. Does this material contain benzene?

☐ Yes ☐ No

1. If yes, what is the flow weighted average concentration?

_____ ppmw

c. What is your facility's current total annual benzene quantity in Megagrams?

☐ <1 Mg ☐ 1–9.99 Mg ☐ ≥10 Mg

d. Is this waste soil from a remediation?

☐ Yes ☐ No

1. If yes, what is the benzene concentration in remediation waste?

_____ ppmw

e. Does the waste contain >10% water/moisture?

☐ Yes ☐ No

f. Has material been treated to remove 99% of the benzene or to achieve <10 ppmw?

☐ Yes ☐ No

g. Is material exempt from controls in accordance with 40 CFR 61.342?

☐ Yes ☐ No

→ If yes, specify exemption: _____

h. Based on your knowledge of your waste and the BWON regulations, do you believe that this waste stream is subject to treatment and control requirements at an off-site TSDF?

☐ Yes ☐ No

6. 40 CFR 63 GGGGG → Does the material contain <500 ppmw VOHAPs at the point of determination?

☐ Yes ☐ No

7. CERCLA or State-Mandated clean up → Please submit the Record of Decision or other documentation with process information to assist others in the evaluation for proper disposal. A "Determination of Acceptability" may be needed for CERCLA wastes not going to a CERCLA approved facility.

8. NRC or state regulated radioactive or NORM Waste → Please identify Isotopes and pCi/g: _____



Requested Facility: Envirofil of IL Landfill, Peoria City - County Landfill, Five Oaks Landfill ☐ Unsure Profile Number: ASB25607
☐ Multiple Generator Locations (Attach Locations) ☐ Request Certificate of Disposal ☒ Renewal? Original Profile Number: ASB25607

A. GENERATOR INFORMATION (MATERIAL ORIGIN)

1. Generator Name: M&O Environmental
2. Generator Site Address: 1625 W Altorfer Dr
(City, State, ZIP) Peoria IL 61615
3. County: Peoria
4. Contact Name: karen houston
5. Email: khouston@mocompany.com
6. Phone: (309) 683-1814 7. Fax: _____
8. Generator EPA ID: _____ ☒ N/A
9. State ID: _____ ☒ N/A

C. MATERIAL INFORMATION

1. Common Name: Asbestos-Friable
Describe Process(es) Generating Material: ☐ See Attached

Removal of regulated, uncontaminated friable, or non-friable that has become friable, asbestos containing materials from demolition/dismantling or remediation activities. DOES NOT include clean-up wastes, such as, soils that are

2. Material Composition and Contaminants: ☐ See Attached

1. Demolition debris, asbestos	100 %
2.	
3.	
4.	

Total comp. must be equal to or greater than 100% ≥100%

3. State Waste Codes: _____ ☒ N/A
4. Color: Various
5. Physical State at 70°F: ☒ Solid ☐ Liquid ☐ Other: _____
6. Free Liquid Range Percentage: _____ to _____ ☒ N/A
7. pH: _____ to _____ ☒ N/A
8. Strong Odor: ☐ Yes ☒ No Describe: _____
9. Flash Point: ☐ <140°F ☐ 140°–199°F ☒ ≥200° ☒ N/A

E. ANALYTICAL AND OTHER REPRESENTATIVE INFORMATION

1. Analytical attached ☐ Yes
Please identify applicable samples and/or lab reports:

2. Other information attached (such as MSDS)? ☐ Yes

G. GENERATOR CERTIFICATION (PLEASE READ AND CERTIFY BY SIGNATURE)

By signing this EZ Profile™ form, I hereby certify that all information submitted in this and all attached documents contain true and accurate descriptions of this material, and that all relevant information necessary for proper material characterization and to identify known and suspected hazards has been provided. Any analytical data attached was derived from a sample that is representative as defined in 40 CFR 261 – Appendix 1 or by using an equivalent method. All changes occurring in the character of the material (i.e., changes in the process or new analytical) will be identified by the Generator and be disclosed to Waste Management prior to providing the material to Waste Management.

☒ I am an Authorized Agent signing on behalf of the Generator, and I have confirmed with the Generator that information contained in this profile, as well as supporting documents provided, are accurate and complete.

Name (Print): Karen Houston Date: 05/19/2022
Title: Accounts Payable
Company: M&O

THINK GREEN.®**QUESTIONS? CALL 800 963 4776 FOR ASSISTANCE** Revised November 06, 2020 © 2020 WM Intellectual Property Holdings, L.L.C.**B. BILLING INFORMATION**☒ SAME AS GENERATOR

1. Billing Name: M&O Environmental
2. Billing Address: 1625 W Altorfer Dr
(City, State, ZIP) Peoria IL 61615
3. Contact Name: karen houston
4. Email: khouston@mocompany.com
5. Phone: (309) 683-1814 6. Fax: _____
7. WM Hauled? ☒ Yes ☐ No
8. P.O. Number: _____
9. Payment Method: ☒ Credit Account ☐ Cash ☐ Credit Card

D. REGULATORY INFORMATION

1. EPA Hazardous Waste? ☐ Yes* ☒ No
Code: _____
2. State Hazardous Waste? ☐ Yes ☒ No
Code: _____
3. Is this material non-hazardous due to Treatment, Delisting, or an Exclusion? ☐ Yes* ☒ No
4. Contains Underlying Hazardous Constituents? ☐ Yes* ☒ No
5. From an industry regulated under Benzene NESHAP? ☐ Yes* ☒ No
6. Facility remediation subject to 40 CFR 63 GGGGG? ☐ Yes* ☒ No
7. CERCLA or State-mandated clean-up? ☐ Yes* ☒ No
8. NRC or State-regulated radioactive or NORM waste? ☐ Yes* ☒ No
***If Yes, see Addendum (page 2) for additional questions and space.**
9. Contains PCBs? → If Yes, answer a, b and c. ☐ Yes ☒ No
a. Regulated by 40 CFR 761? ☐ Yes ☐ No
b. Remediation under 40 CFR 761.61 (a)? ☐ Yes ☐ No
c. Were PCB imported into the US? ☐ Yes ☐ No
10. Regulated and/or Untreated Medical/Infectious Waste? ☐ Yes ☒ No
11. Contains Asbestos? ☒ Yes ☐ No
→ If Yes: ☐ Non-Friable ☒ Non-Friable – Regulated ☒ Friable

F. SHIPPING AND DOT INFORMATION

1. ☐ One-Time Event ☒ Repeat Event/Ongoing Business
2. Estimated Quantity/Unit of Measure: 500
☐ Tons ☒ Yards ☐ Drums ☐ Gallons ☐ Other: _____
3. Container Type and Size: _____
4. USDOT Proper Shipping Name: _____ ☐ N/A

RQ, NA2212, Asbestos, 9, PG III**Certification Signature***Karen Houston*

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Only complete this Addendum if prompted by responses on EZ Profile™ (page 1) or to provide additional information. Sections and question numbers correspond to EZ Profile™.

Profile Number: ASB25607

C. MATERIAL INFORMATION

Describe Process Generating Material (Continued from page 1):

If more space is needed, please attach additional pages.

contaminated with asbestos, lead-based painted debris, liquids and PCB containing building materials such as caulk/glaze/mastic/galbestos.

Material Composition and Contaminants (Continued from page 1):

If more space is needed, please attach additional pages.

5.	
6.	
7.	
8.	
9.	
Total composition must be equal to or greater than 100%	
	≥100%

D. REGULATORY INFORMATION

Only questions with a "Yes" response in Section D on the EZ Profile™ form (page 1) need to be answered here.

1. EPA Hazardous Waste

a. Please list all USEPA listed and characteristic waste code numbers:

b. Is the material subject to the Alternative Debris standards (40 CFR 268.45)?

☐ Yes ☐ No

c. Is the material subject to the Alternative Soil standards (40 CFR 268.49)? → If Yes, complete question 4.

☐ Yes ☐ No

d. Is the material exempt from Subpart CC Controls (40 CFR 264.1083)?

☐ Yes ☐ No

→ If Yes, please check **one** of the following:

☐ Waste meets LDR or treatment exemptions for organics (40 CFR 264.1082(c)(2) or (c)(4))

☐ Waste contains VOCs that average <500 ppmw (CFR 264.1082(c)(1)) – will require annual update.

2. State Hazardous Waste → Please list all state waste codes:

3. For material that is Treated, Delisted, or Excluded → Please indicate the category, below:

☐ Delisted Hazardous Waste

☐ Excluded Waste under 40 CFR 261.4 → Specify Exclusion: _____

☐ Treated Hazardous Waste Debris

☐ Treated Characteristic Hazardous Waste → If checked, complete question 4.

4. Underlying Hazardous Constituents → Please list all Underlying Hazardous Constituents:

5. Industries regulated under Benzene NESHAP include petroleum refineries, chemical manufacturing plants, coke by-product recovery plants, and TSDFs.

a. Are you a TSDF? → If yes, please complete Benzene NESHAP questionnaire. If not, continue.

☐ Yes ☐ No

b. Does this material contain benzene?

☐ Yes ☐ No

1. If yes, what is the flow weighted average concentration?

_____ ppmw

c. What is your facility's current total annual benzene quantity in Megagrams?

☐ <1 Mg ☐ 1–9.99 Mg ☐ ≥10 Mg

d. Is this waste soil from a remediation?

☐ Yes ☐ No

1. If yes, what is the benzene concentration in remediation waste?

_____ ppmw

e. Does the waste contain >10% water/moisture?

☐ Yes ☐ No

f. Has material been treated to remove 99% of the benzene or to achieve <10 ppmw?

☐ Yes ☐ No

g. Is material exempt from controls in accordance with 40 CFR 61.342?

☐ Yes ☐ No

→ If yes, specify exemption: _____

h. Based on your knowledge of your waste and the BWON regulations, do you believe that this waste stream is subject to treatment and control requirements at an off-site TSDF?

☐ Yes ☐ No

6. 40 CFR 63 GGGGG → Does the material contain <500 ppmw VOHAPs at the point of determination?

☐ Yes ☐ No

7. CERCLA or State-Mandated clean up → Please submit the Record of Decision or other documentation with process information to assist others in the evaluation for proper disposal. A "Determination of Acceptability" may be needed for CERCLA wastes not going to a CERCLA approved facility.

8. NRC or state regulated radioactive or NORM Waste → Please identify Isotopes and pCi/g: _____



Requested Facility: Peoria City - County Landfill ☐ Unsure Profile Number: ASB25608
☐ Multiple Generator Locations (Attach Locations) ☐ Request Certificate of Disposal ☒ Renewal? Original Profile Number: ASB25608

A. GENERATOR INFORMATION (MATERIAL ORIGIN)

1. Generator Name: M&O Environmental
2. Generator Site Address: 1625 W Altorfer Dr
(City, State, ZIP) Peoria IL 61615
3. County: Peoria
4. Contact Name: karen houston
5. Email: khouston@mocompany.com
6. Phone: (309) 683-1814 7. Fax: _____
8. Generator EPA ID: _____ ☒ N/A
9. State ID: _____ ☒ N/A

C. MATERIAL INFORMATION

1. Common Name: Asbestos-Non-Friable
Describe Process(es) Generating Material: ☐ See Attached

Removal of uncontaminated, non-regulated, non-friable asbestos from Demolition/ renovation - when dry, cannot be crumbled, pulverized or reduced to powder by hand pressure. Specific to gaskets, resilient floor coverings and asphalt roofing

2. Material Composition and Contaminants: ☐ See Attached

1. Non-Friable Asbestos (Uncontaminated)	0-100 %
2.	
3.	
4.	

Total comp. must be equal to or greater than 100% ≥100%

3. State Waste Codes: _____ ☒ N/A
4. Color: Various
5. Physical State at 70°F: ☒ Solid ☐ Liquid ☐ Other: _____
6. Free Liquid Range Percentage: _____ to _____ ☒ N/A
7. pH: _____ to _____ ☒ N/A
8. Strong Odor: ☐ Yes ☒ No Describe: _____
9. Flash Point: ☐ <140°F ☐ 140°–199°F ☒ ≥200° ☒ N/A

E. ANALYTICAL AND OTHER REPRESENTATIVE INFORMATION

1. Analytical attached ☐ Yes
Please identify applicable samples and/or lab reports:

2. Other information attached (such as MSDS)? ☐ Yes

G. GENERATOR CERTIFICATION (PLEASE READ AND CERTIFY BY SIGNATURE)

By signing this EZ Profile™ form, I hereby certify that all information submitted in this and all attached documents contain true and accurate descriptions of this material, and that all relevant information necessary for proper material characterization and to identify known and suspected hazards has been provided. Any analytical data attached was derived from a sample that is representative as defined in 40 CFR 261 – Appendix 1 or by using an equivalent method. All changes occurring in the character of the material (i.e., changes in the process or new analytical) will be identified by the Generator and be disclosed to Waste Management prior to providing the material to Waste Management.

☒ I am an Authorized Agent signing on behalf of the Generator, and I have confirmed with the Generator that information contained in this profile, as well as supporting documents provided, are accurate and complete.

Name (Print): Karen Houston Date: 05/22/2022
Title: Accounts Payable
Company: M&O

THINK GREEN.®**QUESTIONS? CALL 800 963 4776 FOR ASSISTANCE** Revised November 06, 2020 © 2020 WM Intellectual Property Holdings, L.L.C.**B. BILLING INFORMATION**☒ SAME AS GENERATOR

1. Billing Name: M&O Environmental
2. Billing Address: 1625 W Altorfer Dr
(City, State, ZIP) Peoria IL 61615
3. Contact Name: karen houston
4. Email: khouston@mocompany.com
5. Phone: (309) 683-1814 6. Fax: _____
7. WM Hauled? ☐ Yes ☐ No
8. P.O. Number: _____
9. Payment Method: ☐ Credit Account ☐ Cash ☐ Credit Card

D. REGULATORY INFORMATION

1. EPA Hazardous Waste? ☐ Yes* ☒ No
Code: _____
2. State Hazardous Waste? ☐ Yes ☒ No
Code: _____
3. Is this material non-hazardous due to Treatment, Delisting, or an Exclusion? ☐ Yes* ☒ No
4. Contains Underlying Hazardous Constituents? ☐ Yes* ☒ No
5. From an industry regulated under Benzene NESHAP? ☐ Yes* ☒ No
6. Facility remediation subject to 40 CFR 63 GGGGG? ☐ Yes* ☒ No
7. CERCLA or State-mandated clean-up? ☐ Yes* ☒ No
8. NRC or State-regulated radioactive or NORM waste? ☐ Yes* ☒ No
***If Yes, see Addendum (page 2) for additional questions and space.**
9. Contains PCBs? → If Yes, answer a, b and c. ☐ Yes ☒ No
a. Regulated by 40 CFR 761? ☐ Yes ☐ No
b. Remediation under 40 CFR 761.61 (a)? ☐ Yes ☐ No
c. Were PCB imported into the US? ☐ Yes ☐ No
10. Regulated and/or Untreated Medical/Infectious Waste? ☐ Yes ☒ No
11. Contains Asbestos? ☒ Yes ☐ No
→ If Yes: ☒ Non-Friable ☐ Non-Friable – Regulated ☐ Friable

F. SHIPPING AND DOT INFORMATION

1. ☐ One-Time Event ☒ Repeat Event/Ongoing Business
2. Estimated Quantity/Unit of Measure: 2500
☐ Tons ☒ Yards ☐ Drums ☐ Gallons ☐ Other: _____
3. Container Type and Size: 40-yd enclosed
4. USDOT Proper Shipping Name: _____ ☒ N/A

Certification Signature*Karen Houston*

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Only complete this Addendum if prompted by responses on EZ Profile™ (page 1) or to provide additional information. Sections and question numbers correspond to EZ Profile™.

Profile Number: ASB25608

C. MATERIAL INFORMATION

Describe Process Generating Material (Continued from page 1):

If more space is needed, please attach additional pages.

products (specify in C.2.) DOES NOT include clean-up wastes, such as, soils that are contaminated with asbestos, lead-based painted debris, liquids and PCB containing building materials such as caulk/glaze/mastic/galbestos.

Material Composition and Contaminants (Continued from page 1):

If more space is needed, please attach additional pages.

5.	
6.	
7.	
8.	
9.	
Total composition must be equal to or greater than 100%	
	≥100%

D. REGULATORY INFORMATION

Only questions with a "Yes" response in Section D on the EZ Profile™ form (page 1) need to be answered here.

1. EPA Hazardous Waste

a. Please list all USEPA listed and characteristic waste code numbers:

b. Is the material subject to the Alternative Debris standards (40 CFR 268.45)?

☐ Yes ☐ No

c. Is the material subject to the Alternative Soil standards (40 CFR 268.49)? → If Yes, complete question 4.

☐ Yes ☐ No

d. Is the material exempt from Subpart CC Controls (40 CFR 264.1083)?

☐ Yes ☐ No

→ If Yes, please check **one** of the following:

☐ Waste meets LDR or treatment exemptions for organics (40 CFR 264.1082(c)(2) or (c)(4))

☐ Waste contains VOCs that average <500 ppmw (CFR 264.1082(c)(1)) – will require annual update.

2. State Hazardous Waste → Please list all state waste codes:

3. For material that is Treated, Delisted, or Excluded → Please indicate the category, below:

☐ Delisted Hazardous Waste

☐ Excluded Waste under 40 CFR 261.4 → Specify Exclusion:

☐ Treated Hazardous Waste Debris

☐ Treated Characteristic Hazardous Waste → If checked, complete question 4.

4. Underlying Hazardous Constituents → Please list all Underlying Hazardous Constituents:

5. Industries regulated under Benzene NESHAP include petroleum refineries, chemical manufacturing plants, coke by-product recovery plants, and TSDFs.

a. Are you a TSDF? → If yes, please complete Benzene NESHAP questionnaire. If not, continue.

☐ Yes ☐ No

b. Does this material contain benzene?

☐ Yes ☐ No

1. If yes, what is the flow weighted average concentration?

_____ ppmw

c. What is your facility's current total annual benzene quantity in Megagrams?

☐ <1 Mg ☐ 1–9.99 Mg ☐ ≥10 Mg

d. Is this waste soil from a remediation?

☐ Yes ☐ No

1. If yes, what is the benzene concentration in remediation waste?

_____ ppmw

e. Does the waste contain >10% water/moisture?

☐ Yes ☐ No

f. Has material been treated to remove 99% of the benzene or to achieve <10 ppmw?

☐ Yes ☐ No

g. Is material exempt from controls in accordance with 40 CFR 61.342?

☐ Yes ☐ No

→ If yes, specify exemption:

h. Based on your knowledge of your waste and the BWON regulations, do you believe that this waste stream is subject to treatment and control requirements at an off-site TSDF?

☐ Yes ☐ No

6. 40 CFR 63 GGGGG → Does the material contain <500 ppmw VOHAPs at the point of determination?

☐ Yes ☐ No

7. CERCLA or State-Mandated clean up → Please submit the Record of Decision or other documentation with process information to assist others in the evaluation for proper disposal. A "Determination of Acceptability" may be needed for CERCLA wastes not going to a CERCLA approved facility.

8. NRC or state regulated radioactive or NORM Waste → Please identify Isotopes and pCi/g:



Requested Facility: Peoria City - County Landfill ☐ Unsure Profile Number: 113864IL
☐ Multiple Generator Locations (Attach Locations) ☐ Request Certificate of Disposal ☒ Renewal? Original Profile Number: 113864IL

A. GENERATOR INFORMATION (MATERIAL ORIGIN)

1. Generator Name: Midwest Generation
2. Generator Site Address: 13082 East Manito Road
(City, State, ZIP) Pekin IL 61554
3. County: Tazewell
4. Contact Name: Joseph Kotas
5. Email: joseph.kotas@nrg.com
6. Phone: (309) 477-5216 7. Fax: (309) 477-5268
8. Generator EPA ID: ILD000665471 ☐ N/A
9. State ID: 1798010002 ☐ N/A

C. MATERIAL INFORMATION

1. Common Name: Oil Contaminated Oil Dry and Debris From U5
Describe Process(es) Generating Material: ☐ See Attached
U5 Fan Bay clean up of oil leaks and spills.
2. Material Composition and Contaminants: ☐ See Attached

1. Oil	5-10 %
2. Oil Dry	80-85 %
3. Debris	1-2 %
4. Coal Dust	1-2 %

Total comp. must be equal to or greater than 100% ≥100%
3. State Waste Codes: ☐ N/A
4. Color: Dark Grayish Brown
5. Physical State at 70°F: ☒ Solid ☐ Liquid ☐ Other: _____
6. Free Liquid Range Percentage: _____ to _____ ☒ N/A
7. pH: 4.5 to 8.5 ☐ N/A
8. Strong Odor: ☐ Yes ☒ No Describe: _____
9. Flash Point: ☐ <140°F ☐ 140°–199°F ☒ ≥200° ☐ N/A

E. ANALYTICAL AND OTHER REPRESENTATIVE INFORMATION

1. Analytical attached ☒ Yes
Please identify applicable samples and/or lab reports:
sent separately to April Retzlaff on 6/28/22. Site would not allow an upload.
2. Other information attached (such as MSDS)? ☐ Yes

G. GENERATOR CERTIFICATION (PLEASE READ AND CERTIFY BY SIGNATURE)

By signing this EZ Profile™ form, I hereby certify that all information submitted in this and all attached documents contain true and accurate descriptions of this material, and that all relevant information necessary for proper material characterization and to identify known and suspected hazards has been provided. Any analytical data attached was derived from a sample that is representative as defined in 40 CFR 261 – Appendix 1 or by using an equivalent method. All changes occurring in the character of the material (i.e., changes in the process or new analytical) will be identified by the Generator and be disclosed to Waste Management prior to providing the material to Waste Management.

☐ I am an Authorized Agent signing on behalf of the Generator, and I have confirmed with the Generator that information contained in this profile, as well as supporting documents provided, are accurate and complete.

Name (Print): Joseph Kotas Date: 06/28/2022
Title: Environmental Specialist
Company: NRG Energy, Inc.

B. BILLING INFORMATION☐ SAME AS GENERATOR

1. Billing Name: Midwest Generation
2. Billing Address: 112 Telly Street
(City, State, ZIP) New Roads LA 70760-2521
3. Contact Name: Paula Wolff
4. Email: invoices@nrg.com
5. Phone: (309) 477-5260 6. Fax: (309) 477-5268
7. WM Hauled? ☒ Yes ☐ No
8. P.O. Number: _____
9. Payment Method: ☐ Credit Account ☐ Cash ☐ Credit Card

D. REGULATORY INFORMATION

1. EPA Hazardous Waste? ☐ Yes* ☒ No
Code: _____
2. State Hazardous Waste? ☐ Yes ☒ No
Code: _____
3. Is this material non-hazardous due to Treatment, Delisting, or an Exclusion? ☐ Yes* ☒ No
4. Contains Underlying Hazardous Constituents? ☐ Yes* ☒ No
5. From an industry regulated under Benzene NESHAP? ☐ Yes* ☒ No
6. Facility remediation subject to 40 CFR 63 GGGGG? ☐ Yes* ☒ No
7. CERCLA or State-mandated clean-up? ☐ Yes* ☒ No
8. NRC or State-regulated radioactive or NORM waste? ☐ Yes* ☒ No
***If Yes, see Addendum (page 2) for additional questions and space.**
9. Contains PCBs? → If Yes, answer a, b and c. ☐ Yes ☒ No
a. Regulated by 40 CFR 761? ☐ Yes ☐ No
b. Remediation under 40 CFR 761.61 (a)? ☐ Yes ☐ No
c. Were PCB imported into the US? ☐ Yes ☐ No
10. Regulated and/or Untreated Medical/Infectious Waste? ☐ Yes ☒ No
11. Contains Asbestos? ☐ Yes ☒ No
→ If Yes: ☐ Non-Friable ☐ Non-Friable – Regulated ☐ Friable

F. SHIPPING AND DOT INFORMATION

1. ☐ One-Time Event ☒ Repeat Event/Ongoing Business
2. Estimated Quantity/Unit of Measure: 22
☐ Tons ☐ Yards ☒ Drums ☐ Gallons ☐ Other: _____
3. Container Type and Size: 20 yard
4. USDOT Proper Shipping Name: _____ ☐ N/A
NON RCRA HAZARDOUS WASTE SOLID, Oil Absorbents and Debris

Certification Signature
Joseph Kotas
d8581dcfb0...



Only complete this Addendum if prompted by responses on EZ Profile™ (page 1) or to provide additional information. Sections and question numbers correspond to EZ Profile™.

Profile Number: 113864IL

C. MATERIAL INFORMATION

Describe Process Generating Material (Continued from page 1):

If more space is needed, please attach additional pages.

Material Composition and Contaminants (Continued from page 1):

If more space is needed, please attach additional pages.

5. Coal Ash	1-2 %	
6. Soil / White Rock	1-2 %	
7.		
8.		
9.		
Total composition must be equal to or greater than 100%		≥100%

D. REGULATORY INFORMATION

Only questions with a "Yes" response in Section D on the EZ Profile™ form (page 1) need to be answered here.

1. EPA Hazardous Waste

a. Please list all USEPA listed and characteristic waste code numbers:

b. Is the material subject to the Alternative Debris standards (40 CFR 268.45)?

☐ Yes ☐ No

c. Is the material subject to the Alternative Soil standards (40 CFR 268.49)? → If Yes, complete question 4.

☐ Yes ☐ No

d. Is the material exempt from Subpart CC Controls (40 CFR 264.1083)?

☐ Yes ☐ No

→ If Yes, please check **one** of the following:

☐ Waste meets LDR or treatment exemptions for organics (40 CFR 264.1082(c)(2) or (c)(4))

☐ Waste contains VOCs that average <500 ppmw (CFR 264.1082(c)(1)) – will require annual update.

2. State Hazardous Waste → Please list all state waste codes:

3. For material that is Treated, Delisted, or Excluded → Please indicate the category, below:

☐ Delisted Hazardous Waste

☐ Excluded Waste under 40 CFR 261.4 → Specify Exclusion: _____

☐ Treated Hazardous Waste Debris

☐ Treated Characteristic Hazardous Waste → If checked, complete question 4.

4. Underlying Hazardous Constituents → Please list all Underlying Hazardous Constituents:

5. Industries regulated under Benzene NESHAP include petroleum refineries, chemical manufacturing plants, coke by-product recovery plants, and TSDFs.

a. Are you a TSDF? → If yes, please complete Benzene NESHAP questionnaire. If not, continue.

☐ Yes ☐ No

b. Does this material contain benzene?

☐ Yes ☐ No

1. If yes, what is the flow weighted average concentration?

_____ ppmw

c. What is your facility's current total annual benzene quantity in Megagrams?

☐ <1 Mg ☐ 1–9.99 Mg ☐ ≥10 Mg

d. Is this waste soil from a remediation?

☐ Yes ☐ No

1. If yes, what is the benzene concentration in remediation waste?

_____ ppmw

e. Does the waste contain >10% water/moisture?

☐ Yes ☐ No

f. Has material been treated to remove 99% of the benzene or to achieve <10 ppmw?

☐ Yes ☐ No

g. Is material exempt from controls in accordance with 40 CFR 61.342?

☐ Yes ☐ No

→ If yes, specify exemption: _____

h. Based on your knowledge of your waste and the BWON regulations, do you believe that this waste stream is subject to treatment and control requirements at an off-site TSDF?

☐ Yes ☐ No

6. 40 CFR 63 GGGGG → Does the material contain <500 ppmw VOHAPs at the point of determination?

☐ Yes ☐ No

7. CERCLA or State-Mandated clean up → Please submit the Record of Decision or other documentation with process information to assist others in the evaluation for proper disposal. A "Determination of Acceptability" may be needed for CERCLA wastes not going to a CERCLA approved facility.

8. NRC or state regulated radioactive or NORM Waste → Please identify Isotopes and pCi/g: _____



**Profile Addendum: State of Illinois
GENERATOR'S NON-SPECIAL WASTE CERTIFICATION**

F. Additional Waste Stream Information

Profile Number: 113864IL

Generators Name: Midwest Generation

Generators SITE Address: 13082 East Manito Road Pekin IL 61554
(The location where the waste is generated)

Waste Name: Oil Contaminated Oil Dry and Debris

The Illinois Environmental Protection Act allows a Generator to certify that their pollution control waste or industrial process waste, is not an Illinois Special Waste (Section 3.45). By completing the following questionnaire, you may certify that the waste stream represented by the Waste Management Profile referenced above is not an Illinois Special Waste as defined in the Act.

Is the waste referenced above any of the following:

- | | | |
|--|------------------------------|--|
| 1. A Potentially Infectious Medical Waste (PIMW)? | ☐ Yes | ☒ No |
| 2. A Hazardous Waste as defined in 40 CFR 261 or in 35 IAC 722.111? | ☐ Yes | ☒ No |
| 3. A Liquid Waste (fails the paint filter test as defined in 35 IAC 811.107)? | ☐ Yes | ☒ No |
| 4. A regulated PCB waste as defined in 40 CFR 761? | ☐ Yes | ☒ No |
| 5. A NESHAP regulated asbestos waste other than waste from renovation or demolition? | ☐ Yes | ☒ No |
| 6. A waste resulting from the shredding recyclable metals (auto fluff)? | ☐ Yes | ☒ No |
| 7. A delisted Hazardous Waste or Treated Characteristic Hazardous Waste, subject to LDR requirements under 35 IAC 728.107? | ☐ Yes | ☒ No |

In determining that this waste is not a liquid, I have used knowledge of the processes generating the waste and the attached supporting documentation: ☐ MSDS ☒ Analytical ☐ Other (explain below):

General Knowledge / Lab Analysis J44679-1 UDS Lvl 2 Final Rpt U5.pdf

In determining that this waste is not RCRA hazardous, I have used knowledge of the processes generating the waste and the attached supporting documentation: ☐ MSDS ☐ Analytical ☒ Other (explain below):

General Knowledge / Lab Analysis J44679-1 UDS Lvl 2 Final Rpt U5.pdf

8. Is the waste represented by this profile sheet exempt from Illinois Solid Waste Management Act fee? ☐ Yes ☒ No

Select option: ☒ Pollution Control Waste ☐ Other

By signing below, I certify my waste is NOT an Illinois Special Waste, and that I understand that a person who knowingly and falsely certifies that a waste is not special waste is subject to the penalties set forth in subdivision (6) of subsection (h) of section 44 of the Illinois Environmental Protection Act.

Name: (Print) Joseph Kotas Title: Environmental Specialist

Signature: Joseph Kotas Date: 06/28/2022



Profile Number: 626049IL
Material Name: Sandblast Grit
Generator Name: Midwest Generation LLC
WM Management Facility: Peoria City - County Landfill

1. Does the previous waste characterization continue to be representative of the material described by this profile?

☒ Yes ☐ No (If No, please complete and submit a new EZ Profile™.)

Please attach any updated analytical or other documents (e.g., revised Safety Data Sheets) that are representative of the waste and you would like WM to include with the profile in WMSolutions. Use the box below to provide any additional description or details regarding the attachments (e.g., applicable sample IDs).

TCLP Metals

RECERTIFICATION STATEMENT

By signing this EZ Profile™ Renewal Form, I hereby certify that:

- All information included in this and any attached document is true, accurate and complete;
- All changes in the character of the material will be disclosed prior to providing the material to WM;
- If I am an agent signing on behalf of the Generator, I have the authority to do so.

Name (Print): Joseph Kotas Date: 06/28/2022
Title: Environmental Specialist
Company: NRG Energy, Inc.

Certification Signature

Joseph Kotas

d8581dcfb0...



Requested Facility: Peoria City - County Landfill ☐ Unsure Profile Number: 632939IL
☐ Multiple Generator Locations (Attach Locations) ☐ Request Certificate of Disposal ☐ Renewal? Original Profile Number: _____

A. GENERATOR INFORMATION (MATERIAL ORIGIN)

1. Generator Name: WM of Peoria
2. Generator Site Address: 3552 East Washington Street
(City, State, ZIP) East Peoria IL 61611
3. County: Tazewell
4. Contact Name: Dan Erni
5. Email: derni@wm.com
6. Phone: (217) 824-3942 x103 7. Fax: _____
8. Generator EPA ID: ILD075604553 ☐ N/A
9. State ID: 1790200018 ☐ N/A

C. MATERIAL INFORMATION

1. Common Name: Resin Beads and Soil
Describe Process(es) Generating Material: ☐ See Attached
Cleanup of container lot at WM of Peoria
2. Material Composition and Contaminants: ☒ See Attached

1. <u>Resin beads and soil</u>	<u>100 %</u>
2.	
3.	
4.	

Total comp. must be equal to or greater than 100% ≥100%

3. State Waste Codes: _____ ☒ N/A
4. Color: Brown
5. Physical State at 70°F: ☒ Solid ☐ Liquid ☐ Other: _____
6. Free Liquid Range Percentage: _____ to _____ ☒ N/A
7. pH: 3 to 4 ☐ N/A
8. Strong Odor: ☐ Yes ☒ No Describe: _____
9. Flash Point: ☐ <140°F ☐ 140°–199°F ☒ ≥200° ☐ N/A

E. ANALYTICAL AND OTHER REPRESENTATIVE INFORMATION

1. Analytical attached ☒ Yes
Please identify applicable samples and/or lab reports:
Code R analysis of composite sample provided. WK 22060526
2. Other information attached (such as MSDS)? ☐ Yes

G. GENERATOR CERTIFICATION (PLEASE READ AND CERTIFY BY SIGNATURE)

By signing this EZ Profile™ form, I hereby certify that all information submitted in this and all attached documents contain true and accurate descriptions of this material, and that all relevant information necessary for proper material characterization and to identify known and suspected hazards has been provided. Any analytical data attached was derived from a sample that is representative as defined in 40 CFR 261 – Appendix 1 or by using an equivalent method. All changes occurring in the character of the material (i.e., changes in the process or new analytical) will be identified by the Generator and be disclosed to Waste Management prior to providing the material to Waste Management.

☒ I am an Authorized Agent signing on behalf of the Generator, and I have confirmed with the Generator that information contained in this profile, as well as supporting documents provided, are accurate and complete.

Name (Print): Dan Erni Date: 06/21/2022
Title: Environmental Engineer
Company: Waste Management

THINK GREEN®**QUESTIONS? CALL 800 963 4776 FOR ASSISTANCE** Revised November 06, 2020 © 2020 WM Intellectual Property Holdings, L.L.C.**B. BILLING INFORMATION**☒ SAME AS GENERATOR

1. Billing Name: WM of Peoria
2. Billing Address: 3552 East Washington Street
(City, State, ZIP) East Peoria IL 61611
3. Contact Name: Dan Erni
4. Email: derni@wm.com
5. Phone: (217) 824-3942 x103 6. Fax: _____
7. WM Hauled? ☒ Yes ☐ No
8. P.O. Number: _____
9. Payment Method: ☐ Credit Account ☐ Cash ☐ Credit Card

D. REGULATORY INFORMATION

1. EPA Hazardous Waste? ☐ Yes* ☒ No
Code: _____
2. State Hazardous Waste? ☐ Yes ☒ No
Code: _____
3. Is this material non-hazardous due to Treatment, Delisting, or an Exclusion? ☐ Yes* ☒ No
4. Contains Underlying Hazardous Constituents? ☐ Yes* ☒ No
5. From an industry regulated under Benzene NESHAP? ☐ Yes* ☒ No
6. Facility remediation subject to 40 CFR 63 GGGGG? ☐ Yes* ☒ No
7. CERCLA or State-mandated clean-up? ☐ Yes* ☒ No
8. NRC or State-regulated radioactive or NORM waste? ☐ Yes* ☒ No
***If Yes, see Addendum (page 2) for additional questions and space.**
9. Contains PCBs? → If Yes, answer a, b and c. ☒ Yes ☐ No
a. Regulated by 40 CFR 761? ☐ Yes ☒ No
b. Remediation under 40 CFR 761.61 (a)? ☐ Yes ☒ No
c. Were PCB imported into the US? ☐ Yes ☒ No
10. Regulated and/or Untreated Medical/Infectious Waste? ☐ Yes ☒ No
11. Contains Asbestos? ☐ Yes ☒ No
→ If Yes: ☐ Non-Friable ☐ Non-Friable – Regulated ☐ Friable

F. SHIPPING AND DOT INFORMATION

1. ☒ One-Time Event ☐ Repeat Event/Ongoing Business
2. Estimated Quantity/Unit of Measure: 30
☐ Tons ☒ Yards ☐ Drums ☐ Gallons ☐ Other: _____
3. Container Type and Size: Roll off
4. USDOT Proper Shipping Name: ☒ N/A

Certification Signature



**Profile Addendum: State of Illinois
GENERATOR'S NON-SPECIAL WASTE CERTIFICATION**

F. Additional Waste Stream Information

Profile Number: 632939IL

Generators Name: WM of Peoria

Generators SITE Address: 3552 East Washington Street East Peoria IL 61611
(The location where the waste is generated)

Waste Name: Resin Beads and Soil

The Illinois Environmental Protection Act allows a Generator to certify that their pollution control waste or industrial process waste, is not an Illinois Special Waste (Section 3.45). By completing the following questionnaire, you may certify that the waste stream represented by the Waste Management Profile referenced above is not an Illinois Special Waste as defined in the Act.

Is the waste referenced above any of the following:

- | | | |
|--|------------------------------|--|
| 1. A Potentially Infectious Medical Waste (PIMW)? | ☐ Yes | ☒ No |
| 2. A Hazardous Waste as defined in 40 CFR 261 or in 35 IAC 722.111? | ☐ Yes | ☒ No |
| 3. A Liquid Waste (fails the paint filter test as defined in 35 IAC 811.107)? | ☐ Yes | ☒ No |
| 4. A regulated PCB waste as defined in 40 CFR 761? | ☐ Yes | ☒ No |
| 5. A NESHAP regulated asbestos waste other than waste from renovation or demolition? | ☐ Yes | ☒ No |
| 6. A waste resulting from the shredding recyclable metals (auto fluff)? | ☐ Yes | ☒ No |
| 7. A delisted Hazardous Waste or Treated Characteristic Hazardous Waste, subject to LDR requirements under 35 IAC 728.107? | ☐ Yes | ☒ No |

In determining that this waste is not a liquid, I have used knowledge of the processes generating the waste and the attached supporting documentation: ☐ MSDS ☐ Analytical ☒ Other (explain below):

Generator Knowledge

In determining that this waste is not RCRA hazardous, I have used knowledge of the processes generating the waste and the attached supporting documentation: ☐ MSDS ☒ Analytical ☐ Other (explain below):

8. Is the waste represented by this profile sheet exempt from Illinois Solid Waste Management Act fee? ☒ Yes ☐ No

Select option: ☒ Pollution Control Waste ☐ Other

By signing below, I certify my waste is NOT an Illinois Special Waste, and that I understand that a person who knowingly and falsely certifies that a waste is not special waste is subject to the penalties set forth in subdivision (6) of subsection (h) of section 44 of the Illinois Environmental Protection Act.

Name: (Print) Dan Emi

Title: Environmental Engineer

Signature: 

Date: 06/21/2022



Requested Facility: Peoria City - County Landfill, Laraway Landfill ☐ Unsure Profile Number: 632843IL
☐ Multiple Generator Locations (Attach Locations) ☐ Request Certificate of Disposal ☐ Renewal? Original Profile Number: _____

A. GENERATOR INFORMATION (MATERIAL ORIGIN)

- Generator Name: BP Pipeline
- Generator Site Address: 18824 North Route 78
(City, State, ZIP) Laura IL 61451
- County: Peoria
- Contact Name: Joy Barrett
- Email: joy.barrett@bp.com
- Phone: (219) 775-8403 7. Fax: _____
- Generator EPA ID: _____ ☒ N/A
- State ID: _____ ☒ N/A

C. MATERIAL INFORMATION

- Common Name: Non Hazardous Soil (HDD Drill Cuttings)
Describe Process(es) Generating Material: ☐ See Attached

Soil generated during new underground pipeline installation. Material should be solid and pass paint filter. The minimal amount of liquid should be absorbed into the soil but in event it may require minimal solidification at which point a
- Material Composition and Contaminants: ☒ See Attached

1. Soil/rock	98 %
2. absorbent/power pellets	5 %
3. Super absorbent polymer	1 %
4. KLA-GARD	1 %
Total comp. must be equal to or greater than 100%	≥100%
- State Waste Codes: _____ ☒ N/A
- Color: Brown/Grey
- Physical State at 70°F: ☒ Solid ☐ Liquid ☐ Other: _____
- Free Liquid Range Percentage: _____ to _____ ☒ N/A
- pH: _____ to _____ ☒ N/A
- Strong Odor: ☐ Yes ☒ No Describe: _____
- Flash Point: ☐ <140°F ☐ 140°–199°F ☒ ≥200° ☒ N/A

E. ANALYTICAL AND OTHER REPRESENTATIVE INFORMATION

- Analytical attached ☒ Yes
Please identify applicable samples and/or lab reports:

Revised ETA data report--Job ID-500-216983-1. This updated report reflects the PCB's data as dry weight as requested by WM.
- Other information attached (such as MSDS)? ☐ Yes

G. GENERATOR CERTIFICATION (PLEASE READ AND CERTIFY BY SIGNATURE)

By signing this EZ Profile™ form, I hereby certify that all information submitted in this and all attached documents contain true and accurate descriptions of this material, and that all relevant information necessary for proper material characterization and to identify known and suspected hazards has been provided. Any analytical data attached was derived from a sample that is representative as defined in 40 CFR 261 – Appendix 1 or by using an equivalent method. All changes occurring in the character of the material (i.e., changes in the process or new analytical) will be identified by the Generator and be disclosed to Waste Management prior to providing the material to Waste Management.

- ☒ I am an Authorized Agent signing on behalf of the Generator, and I have confirmed with the Generator that information contained in this profile, as well as supporting documents provided, are accurate and complete.

Name (Print): Joy Barrett Date: 06/29/2022
Title: Env. Coordinator
Company: bp Terminals and Pipelines

THINK GREEN®**QUESTIONS? CALL 800 963 4776 FOR ASSISTANCE** Revised November 06, 2020 © 2020 WM Intellectual Property Holdings, L.L.C.**B. BILLING INFORMATION**☐ SAME AS GENERATOR

- Billing Name: Heritage Environmental
- Billing Address: 15330 Canal Bank Road
(City, State, ZIP) Lemont IL 60439
- Contact Name: Wally Bromberek
- Email: wally.bromberek@heritage-enviro.com
- Phone: (630) 739-1151 6. Fax: (630) 739-9491
- WM Hauled? ☐ Yes ☒ No
- P.O. Number: _____
- Payment Method: ☒ Credit Account ☐ Cash ☐ Credit Card

D. REGULATORY INFORMATION

- EPA Hazardous Waste? ☐ Yes* ☒ No
Code: _____
 - State Hazardous Waste? ☐ Yes ☒ No
Code: _____
 - Is this material non-hazardous due to Treatment, Delisting, or an Exclusion? ☐ Yes* ☒ No
 - Contains Underlying Hazardous Constituents? ☐ Yes* ☒ No
 - From an industry regulated under Benzene NESHAP? ☐ Yes* ☒ No
 - Facility remediation subject to 40 CFR 63 GGGGG? ☐ Yes* ☒ No
 - CERCLA or State-mandated clean-up? ☐ Yes* ☒ No
 - NRC or State-regulated radioactive or NORM waste? ☐ Yes* ☒ No
- *If Yes, see Addendum (page 2) for additional questions and space.**
- Contains PCBs? → If Yes, answer a, b and c. ☐ Yes ☒ No
 - Regulated by 40 CFR 761? ☐ Yes ☐ No
 - Remediation under 40 CFR 761.61 (a)? ☐ Yes ☐ No
 - Were PCB imported into the US? ☐ Yes ☐ No
 - Regulated and/or Untreated Medical/Infectious Waste? ☐ Yes ☒ No
 - Contains Asbestos? ☐ Yes ☒ No
→ If Yes: ☐ Non-Friable ☐ Non-Friable – Regulated ☐ Friable

F. SHIPPING AND DOT INFORMATION

- ☐ One-Time Event ☒ Repeat Event/Ongoing Business
- Estimated Quantity/Unit of Measure: 1,500
☐ Tons ☒ Yards ☐ Drums ☐ Gallons ☐ Other: _____
- Container Type and Size: 25 yard roll off boxes
- USDOT Proper Shipping Name: _____ ☒ N/A

Certification Signature

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Only complete this Addendum if prompted by responses on EZ Profile™ (page 1) or to provide additional information. Sections and question numbers correspond to EZ Profile™.

Profile Number: 6328431L

C. MATERIAL INFORMATION

Describe Process Generating Material (Continued from page 1):

If more space is needed, please attach additional pages.

small amount of pellets (see SDS) may be required. Also, we would like to set up Peoria Co landfill as the primary disposal site and have Laraway as 2nd disposal option. The estimated amount of solid material that will be shipped from this site will be 2-3 roll off boxes (20 yards per box) a day. Total amount of boxes overall to be determined.

Material Composition and Contaminants (Continued from page 1):

If more space is needed, please attach additional pages.

5. Max Gel	1 %
6.	
7.	
8.	
9.	
Total composition must be equal to or greater than 100%	
	≥100%

D. REGULATORY INFORMATION

Only questions with a "Yes" response in Section D on the EZ Profile™ form (page 1) need to be answered here.

1. EPA Hazardous Waste

a. Please list all USEPA listed and characteristic waste code numbers:

b. Is the material subject to the Alternative Debris standards (40 CFR 268.45)?

☐ Yes ☐ No

c. Is the material subject to the Alternative Soil standards (40 CFR 268.49)? → If Yes, complete question 4.

☐ Yes ☐ No

d. Is the material exempt from Subpart CC Controls (40 CFR 264.1083)?

☐ Yes ☐ No

→ If Yes, please check **one** of the following:

☐ Waste meets LDR or treatment exemptions for organics (40 CFR 264.1082(c)(2) or (c)(4))

☐ Waste contains VOCs that average <500 ppmw (CFR 264.1082(c)(1)) – will require annual update.

2. State Hazardous Waste → Please list all state waste codes:

3. For material that is Treated, Delisted, or Excluded → Please indicate the category, below:

☐ Delisted Hazardous Waste

☐ Excluded Waste under 40 CFR 261.4 → Specify Exclusion: _____

☐ Treated Hazardous Waste Debris

☐ Treated Characteristic Hazardous Waste → If checked, complete question 4.

4. Underlying Hazardous Constituents → Please list all Underlying Hazardous Constituents:

5. Industries regulated under Benzene NESHAP include petroleum refineries, chemical manufacturing plants, coke by-product recovery plants, and TSDFs.

a. Are you a TSDF? → If yes, please complete Benzene NESHAP questionnaire. If not, continue.

☐ Yes ☐ No

b. Does this material contain benzene?

☐ Yes ☐ No

1. If yes, what is the flow weighted average concentration?

_____ ppmw

c. What is your facility's current total annual benzene quantity in Megagrams?

☐ <1 Mg ☐ 1–9.99 Mg ☐ ≥10 Mg

d. Is this waste soil from a remediation?

☐ Yes ☐ No

1. If yes, what is the benzene concentration in remediation waste?

_____ ppmw

e. Does the waste contain >10% water/moisture?

☐ Yes ☐ No

f. Has material been treated to remove 99% of the benzene or to achieve <10 ppmw?

☐ Yes ☐ No

g. Is material exempt from controls in accordance with 40 CFR 61.342?

☐ Yes ☐ No

→ If yes, specify exemption: _____

h. Based on your knowledge of your waste and the BWON regulations, do you believe that this waste stream is subject to treatment and control requirements at an off-site TSDF?

☐ Yes ☐ No

6. 40 CFR 63 GGGGG → Does the material contain <500 ppmw VOHAPs at the point of determination?

☐ Yes ☐ No

7. CERCLA or State-Mandated clean up → Please submit the Record of Decision or other documentation with process information to assist others in the evaluation for proper disposal. A "Determination of Acceptability" may be needed for CERCLA wastes not going to a CERCLA approved facility.

8. NRC or state regulated radioactive or NORM Waste → Please identify Isotopes and pCi/g: _____



**Profile Addendum: State of Illinois
GENERATOR'S NON-SPECIAL WASTE CERTIFICATION**

F. Additional Waste Stream Information

Profile Number: 632843IL

Generators Name: BP Pipeline

Generators SITE Address: 18824 North Route 78 Laura IL 61451
(The location where the waste is generated)

Waste Name: Non Hazardous Soil (HDD Drill Cuttings)

The Illinois Environmental Protection Act allows a Generator to certify that their pollution control waste or industrial process waste, is not an Illinois Special Waste (Section 3.45). By completing the following questionnaire, you may certify that the waste stream represented by the Waste Management Profile referenced above is not an Illinois Special Waste as defined in the Act.

Is the waste referenced above any of the following:

- | | | |
|--|------------------------------|--|
| 1. A Potentially Infectious Medical Waste (PIMW)? | ☐ Yes | ☒ No |
| 2. A Hazardous Waste as defined in 40 CFR 261 or in 35 IAC 722.111? | ☐ Yes | ☒ No |
| 3. A Liquid Waste (fails the paint filter test as defined in 35 IAC 811.107)? | ☐ Yes | ☒ No |
| 4. A regulated PCB waste as defined in 40 CFR 761? | ☐ Yes | ☒ No |
| 5. A NESHAP regulated asbestos waste other than waste from renovation or demolition? | ☐ Yes | ☒ No |
| 6. A waste resulting from the shredding recyclable metals (auto fluff)? | ☐ Yes | ☒ No |
| 7. A delisted Hazardous Waste or Treated Characteristic Hazardous Waste, subject to LDR requirements under 35 IAC 728.107? | ☐ Yes | ☒ No |

In determining that this waste is not a liquid, I have used knowledge of the processes generating the waste and the attached supporting documentation: ☐ MSDS ☒ Analytical ☐ Other (explain below):

In determining that this waste is not RCRA hazardous, I have used knowledge of the processes generating the waste and the attached supporting documentation: ☐ MSDS ☒ Analytical ☐ Other (explain below):

8. Is the waste represented by this profile sheet exempt from Illinois Solid Waste Management Act fee? ☒ Yes ☐ No

Select option: ☒ Pollution Control Waste ☐ Other

By signing below, I certify my waste is NOT an Illinois Special Waste, and that I understand that a person who knowingly and falsely certifies that a waste is not special waste is subject to the penalties set forth in subdivision (6) of subsection (h) of section 44 of the Illinois Environmental Protection Act.

Name: (Print) Joy Barrett Title: Env. Coordinator

Signature: Joy Barrett Date: 06/29/2022

Waste Profile 607970IL SDSs and Lab Data

SAFETY DATA SHEET

DURAMAX P-400



1 IDENTIFICATION

PRODUCT IDENTIFIER

Product Names: DURAMAX P-400

RECOMMENDED USE AND RESTRICTIONS OF USE

Recommended Use: Inert catalyst support and topping material

Restrictions of Use: none known

NAME, ADDRESS, AND TELEPHONE NUMBER OF THE RESPONSIBLE PARTY

Company: M Chemical Company, Inc.

Address: 825 Colorado Boulevard, Suite 214
Los Angeles, CA 90041 USA

Telephone: (323) 254-3600

EMERGENCY TELEPHONE NUMBER

CHEMTREC: 1 (800) 424-9300 [Contract number 225543]
Contact only in the event of chemical emergencies involving spill, leak, exposure, or accident involving this chemical.

2 HAZARD(S) IDENTIFICATION

CLASSIFICATION OF THE SUBSTANCE

This product is supplied as an article and is not regulated under the 2012 OSHA Hazard Communication Standard (29 CFR §1910.1200). This product is not classified as hazardous under GHS criteria.

Hazard(s): Not applicable (N/A)

SIGNAL WORD, HAZARD STATEMENTS, SYMBOLS, & PRECAUTIONARY STATEMENTS

Signal Word: Not applicable (N/A)

Hazard Statement(s): Not applicable (N/A)

Hazard Pictogram(s): Not applicable (N/A)

Precautionary Statements: Not applicable (N/A)

HAZARDS NOT OTHERWISE CLASSIFIED (HNOC)

None known

3 COMPOSITION / INFORMATION ON INGREDIENTS

This product is not classified as hazardous to health according to the 2012 OSHA Hazard Communication Standard (29 CFR §1910.1200) and/or GHS criteria.

Non-Hazardous Components

Chemical Name	CAS No.	Wt. %
Ceramic materials and wares, chemicals	66402-68-4	100

SAFETY DATA SHEET

DURAMAX P-400

Additional Composition Information

This product is a ceramic material, which is defined as a crystalline or partially crystalline, inorganic, non-metallic, usually opaque substance consisting principally of combinations of inorganic oxides of aluminum, calcium, chromium, iron, magnesium, silicon, titanium, or zirconium which conventionally is formed first by fusion or sintering at very high temperatures, then by cooling, generally resulting in a rigid, brittle mono-phase or multi-phase structure. This category consists of chemical substances other than by-products or impurities, which are formed during the production of various ceramics and concurrently incorporated into a ceramic mixture. Its composition may contain any one or a combination of these substances. Trace amounts of oxides and other substances may be present.

This ceramic product is produced from the following raw materials:

Fused silica (CAS No. 60676-86-0), 55-65%

Aluminum oxide (CAS No. 1344-28-1), 10-30%

Quartz (CAS No. 14808-60-7), 10-15%

Potassium oxide (CAS No. 12136-45-7), 1-5%

Iron oxide (CAS No. 1309-37-1), 0.5-1.5%

Sodium oxide (CAS No. 1313-59-3), 0.5-1.5%

Titanium dioxide (CAS No. 13463-67-7), 0.1-1%

4 FIRST AID MEASURES

DESCRIPTION OF NECESSARY MEASURES

Eyes	In case of contact with eyes, rinse immediately with water for several minutes. Remove contact lenses if present and easy to do so. Continue rinsing. Get medical attention if irritation occurs.
Inhalation	Remove to fresh air and keep comfortable for breathing. If not breathing, give artificial respiration. Get medical attention if respiratory irritation occurs.
Skin	Wash immediately with plenty of water. Get medical attention if irritation or rash occurs.
Ingestion	Rinse mouth. Do not induce vomiting. If vomiting occurs naturally, have person lean forward to reduce the risk of aspiration. Get medical attention immediately.

MOST IMPORTANT SYMPTOMS / EFFECTS, ACUTE AND DELAYED

Eyes	May cause eye irritation.
Inhalation	Dust may be harmful if inhaled and may cause respiratory irritation. Repeated or prolonged inhalation of dust may be harmful.
Skin	May cause skin irritation.
Ingestion	May be harmful if swallowed.

INDICATION OF IMMEDIATE MEDICAL ATTENTION AND SPECIAL TREATMENT NEEDED, IF NECESSARY

Notes to Physician: no information available

5 FIRE FIGHTING MEASURES

SUITABLE (AND UNSUITABLE) EXTINGUISHING MEDIA

Suitable	Use extinguishing media appropriate for the surrounding fire.
Unsuitable	None known

SPECIFIC HAZARDS ARISING FROM THE CHEMICAL

Non-flammable material.

SAFETY DATA SHEET

DURAMAX P-400

SPECIAL PROTECTIVE EQUIPMENT AND PRECAUTIONS FOR FIREFIGHTERS

Standard protective equipment for fighting chemical fires should be used, including self contained breathing apparatus (SCBA) and full fire fighting turn-out gear.

6 ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS, PROTECTIVE EQUIPMENT, AND EMERGENCY PROCEDURES

Do not breathe dust. Avoid personal contact. Wear personal protective equipment (See Section 8: Exposure Controls / Personal Protection). Isolate the hazard area and deny entry to unnecessary and unprotected personnel.

ENVIRONMENTAL PRECAUTIONS

Avoid release to the environment.

METHODS AND MATERIALS FOR CONTAINMENT AND CLEANING UP

Sweep up and collect material into suitable containers for reuse or disposal (See Section 13: Disposal Considerations).

7 HANDLING AND STORAGE

PRECAUTIONS FOR SAFE HANDLING

Do not breathe dust and avoid personal contact. Wear personal protective equipment (See Section 8: Exposure Controls / Personal Protection). Use only with adequate ventilation. Do not eat, drink, or use tobacco products while working.

CONDITIONS FOR SAFE STORAGE, INCLUDING ANY INCOMPATIBILITIES

Keep container tightly closed in a cool, dry, and well-ventilated place.

8 EXPOSURE CONTROLS / PERSONAL PROTECTION

EXPOSURE CONTROL LIMITS

Ceramic materials and wares, chemicals CAS No. 66402-68-4	ACGIH	TLV®: 10 mg/m ³ TWA (inhalable fraction) 3 mg/m ³ TWA (respirable fraction) Particulates Not Otherwise Specified
	OSHA	PEL: 15 mg/m ³ TWA (total dust), 5 mg/m ³ TWA (respirable fraction) Particulates Not Otherwise Regulated (PNOR) Table Z-1, 29 CFR §1910.1000

APPROPRIATE ENGINEERING CONTROLS

Work in well ventilated areas. The use of local exhaust ventilation is recommended to control air contaminants. Provide mechanical ventilation for confined spaces. Use mechanical handling to reduce human contact with materials.

INDIVIDUAL PROTECTIVE MEASURES, SUCH AS PERSONAL PROTECTIVE EQUIPMENT

General Hygiene	Do not breathe dust. Avoid contact with eyes and skin. Wash thoroughly after handling and before eating, drinking, or using tobacco products.
Eye/Face Protection	Wear safety glasses with side shields or safety goggles.

SAFETY DATA SHEET

DURAMAX P-400

Skin Protection	Wear protective gloves impervious to the conditions of use and protective clothing. Recommended materials for protective gloves include PVC, rubber, and other plastics.
Respiratory Protection	Wear NIOSH-approved respiratory protection if exposure to airborne dust is possible and in non-routine or emergency situations.

9 PHYSICAL AND CHEMICAL PROPERTIES

Appearance	ivory colored spheres, rings, or disks
Odor	no information available
Odor Threshold	no information available
Physical State	solid
pH value	no information available
Melting Point	no information available
Boiling Point	no information available
Flash Point	no information available
Evaporation Rate	no information available
Flammability	no information available
Upper Flammability Limit	no information available
Lower Flammability Limit	no information available
Vapor Pressure	no information available
Vapor Density	no information available
Specific Gravity	no information available
Solubility in water	no information available
Partition Coefficient (octanol/water)	no information available
Autoignition Temperature	no information available
Decomposition Temperature	no information available
Viscosity	not applicable (N/A)

10 STABILITY AND REACTIVITY

REACTIVITY

No reactivity hazards are known under normal conditions of storage and use.

CHEMICAL STABILITY

This substance is expected to be stable under normal conditions of storage and use.

POSSIBILITY OF HAZARDOUS REACTIONS

None known

CONDITIONS TO AVOID

Formation of small particles (dust)

INCOMPATIBLE MATERIALS

Strong acids, strong bases, strong oxidizing agents, strong reducing agents

HAZARDOUS DECOMPOSITION PRODUCTS

None known

11 TOXICOLOGICAL INFORMATION

SAFETY DATA SHEET

DURAMAX P-400

SIGNS AND SYMPTOMS OF OVEREXPOSURE, ACUTE AND DELAYED

Eyes	May cause eye irritation.
Inhalation	Dust may be harmful if inhaled and may cause respiratory irritation. Repeated or prolonged inhalation of dust may be harmful.
Skin	May cause skin irritation.
Ingestion	May be harmful if swallowed.
Target Organ Effects	no information available
Chronic Effects	no information available

ACUTE TOXICITY

Oral	no information available
Inhalation	no information available
Dermal	no information available

Not expected to be acutely toxic based on composition.

SKIN CORROSION / IRRITATION

no information available.

EYE DAMAGE / IRRITATION

no information available

SENSITIZATION

Respiratory Sensitization	no information available
Skin Sensitization	no information available

GERM CELL MUTAGENICITY

no information available

CARCINOGENICITY

Not classifiable due to lack of data. This product is manufactured from the following raw material(s) that are listed by IARC or NTP as carcinogens: *Quartz, CAS No. 14808-60-7.*

REPRODUCTIVE TOXICITY

no information available

TARGET ORGAN TOXICITY

Single Exposure	no information available
Repeat/Prolonged Exposure	no information available

ASPIRATION HAZARD

no information available

12 ECOLOGICAL INFORMATION

ECOTOXICITY

Acute toxicity - fish	no information available
Acute toxicity - algae	no information available
Acute toxicity - invertebrates	no information available
Acute toxicity - bacteria	no information available

PERSISTENCE AND DEGRADABILITY

no information available

BIOACCUMULATIVE POTENTIAL

no information available

SAFETY DATA SHEET

DURAMAX P-400

MOBILITY IN SOIL

no information available

OTHER ADVERSE EFFECTS

no information available

13 DISPOSAL CONSIDERATIONS

Recover or recycle if possible.

Disposal of product and contaminated packaging should be in accordance with applicable local, regional, national, and international laws and regulations. Local regulations may be more stringent than regional or national requirements.

14 TRANSPORT INFORMATION

UN NUMBER

no information available

UN PROPER SHIPPING NAME

no information available

TRANSPORT HAZARD CLASS(ES)

no information available

PACKING GROUP

no information available

ENVIRONMENTAL HAZARD(S)

no information available

TRANSPORT IN BULK

no information available

15 REGULATORY INFORMATION

no information available

16 OTHER INFORMATION

REVISION DATE

February 2, 2021

REASONS FOR REVISION

Compliance with 29 CFR §1910.1200 (GHS)

M Chemical Company Inc. provides the information contained herein in good faith but makes no representation as to its comprehensiveness or accuracy. This document is intended only as a guide to the appropriate precautionary handling of the material by a properly trained person using this product. Individuals receiving the information must exercise their independent judgment in determining its appropriateness for a particular purpose. M CHEMICAL COMPANY INC. MAKES NO REPRESENTATIONS OR WARRANTIES, EITHER EXPRESS OR IMPLIED, INCLUDING WITHOUT LIMITATION ANY WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE WITH RESPECT TO THE INFORMATION SET FORTH HEREIN OR THE PRODUCT TO WHICH THE INFORMATION REFERS. ACCORDINGLY, M CHEMICAL COMPANY INC. WILL NOT BE RESPONSIBLE FOR DAMAGES RESULTING FROM USE OF OR RELIANCE UPON THIS.

SAFETY DATA SHEET

DURAMAX P-400

End of SDS

MATERIAL SAFETY DATA SHEET

I - IDENTIFICATION			
CHEMICAL NAME HydroCat™ – GTS2007	CHEMICAL FORMULA Trade Secret	MOLECULAR WEIGHT N/A	
MANUFACTURER'S NAME HydroCat Industries		ADDRESS 1734 Clarkson Road, #208, Chesterfield, MO 63017, USA	
EMERGENCY AND INFORMATION NUMBER (636) 536 - 2416	DOT IDENTIFICATION NO. Not Regulated	HMIS RATING Health – 1, Flammability – 0, Reactivity – 0, Personal Protection - E	
II – PRODUCT AND COMPONENT DATA			
COMPONENT(S) CHEMICAL NAME Mixed Zinc and Other Metal Oxides on Inert Substrates	CAS REGISTRY NO. Proprietary	% (Approx) N/A	ACGIH TLV-TWA See Section VI
III – PHYSICAL DATA			
APPEARANCE AND ODOR Odorless Multicolored Granular Solid	SPECIFIC GRAVITY @ 60°F (H ₂ O = 1) Approximately 1.1		
BOILING POINT N/A	VAPOR DENSITY IN AIR (Air – 1) N/A		
VAPOR PRESSURE N/A	% VOLATILE, BY VOLUME N/A		
EVAPORATION RATE N/A	SOLUBILITY IN WATER Insoluble		
IV – REACTIVITY DATA			
STABILITY Stable	CONDITIONS TO AVOID Contact with powerful oxidizers such as strong acids and open flames.		
INCOMPATIBILITY (Materials to avoid)		Powerful oxidizers such as strong acids and strong oxidizers.	
HAZARDOUS DECOMPOSITION PRODUCTS		None Known	
HAZARDOUS POLYMERIZATION		Will Not occur	
V – FIRE AND EXPLOSION HAZARD DATA			
FLASH POINT (Method used)	Not Flammable	FLAMMABLE LIMITS IN AIR	N/A
EXTINGUISHING AGENTS Water spray, dry chemicals, sand, or universal type foam, or use extinguishing agent most suitable for type of surrounding fire.			
UNUSUAL FIRE AND EXPLOSION HAZARDS Dust can present fire and explosion hazards when exposed to powerful oxidizers.			
VI – TOXICITY AND FIRST AID			
EXPOSURE LIMITS – 8-Hour Time Weighted Average (When exposed to this product and other chemicals is concurrent, the TLV must be defined in the workplace.)			
	OSHA	ACGIH	
Metal Oxide	5mg/m ³	10mg/m ³	
Effects described in this section are believed not to occur if exposures are maintained at or below appropriate TLVs. Because of the wide variation in individual susceptibility, TLVs may not be applicable to all persons and those with medical conditions listed below.			
MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE Inhaling respirable dust may aggravate existing respiratory system disease(s) and/or dysfunctions. Exposure to dust may aggravate existing skin and/or eye conditions.			
ACUTE TOXICITY	Primary route(s) of exposure: Inhalation Ingestion Exposure to dust may irritate respiratory system, eyes, and skin.		
FIRST AID <u>Dust in eyes:</u> Flush eyes with running water for 15 minutes. Contact a physician if irritation persists. <u>Dust on skin:</u> Wash with soap and water. Contact a physician if a previously existing irritation is aggravated. <u>Dust inhalation:</u> Remove to fresh air. Dust in throat and nasal passages should clear spontaneously. Contact a physician if irritation persists.			

CHRONIC TOXICITY Chronic exposure to respirable dust in excess of appropriate TLVs has caused pneumoconiosis (Dusty Lung). To the best of our knowledge this product is not listed as a carcinogen on the NTP, IARC, or OSHA lists of carcinogens or contains no levels of listed substances, which the state of California has found to cause cancer, birth defects, or other reproductive effects.	
VII – PERSONAL PROTECTION AND CONTROLS	
RESPIRATORY PROTECTION NIOSH-MSHA approved dust respirators for conditions where dust levels exceed or are likely to exceed appropriate exposure limits. Respirator use must comply with applicable MSHA or OSHA standards, which include provisions for a user training program, respirator repair and cleaning, respirator fit testing, and other requirements.	
VENTILATION Local exhaust or general ventilation adequate to maintain exposures below appropriate TLVs.	
SKIN PROTECTION See “Hygiene” section below. Not absorbed through skin.	
EYE PROTECTION Safety glasses with side shields should be worn as minimum protection. Dust goggles should be worn when excessively (visible) dusty conditions are present or are anticipated.	
HYGIENE Wash dust-exposed skin with soap and water. Wash work clothes after each use.	
OTHER CONTROL MEASURES Use good housekeeping practices to keep dust to a minimum. Dust levels in excess of appropriate TLVs should be reduced by all feasible engineering controls, including (but not limited to) wet suppression, ventilation, process enclosure, and enclosed employee work stations.	
VIII – STORAGE AND HANDLING PRECAUTIONS	
Product should be stored at ambient temperature in closed containers avoiding exposure to excessive moisture. Respirable dust may be generated during processing, handling, and storage. The controls identified in Section VII of the MSDS should be applied as appropriate.	
IX – SPILL LEAK AND DISPOSAL PRACTICES	
STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED Spilled materials, where dust can be generated, may overexpose cleanup personnel to respirable dust. Wetting of spilled material and/or use of respiratory protective equipment may be necessary.	
WASTE DISPOSAL METHOD Pickup and reuse clean materials. Dispose of waste materials only in accordance with applicable federal, state, and local laws and regulations.	
X - TRANSPORTATION	
DOT HAZARD CLASSIFICATION	None – Ship as Class 50
PLACARD REQUIRED	None
LABEL REQUIRED	Label as required by applicable state and local regulations.
XI - REGULATORY INFORMATION DISPOSAL: This product is not hazardous waste per 40 CFR 261.24 or 261.3. However consult with the state environmental regulatory agency before disposing of this material, as state regulations may be stricter than federal regulations. SPILL REPORTING This product is not a CERCLA hazardous substance, per 40 CFR 302.4. It contains nothing on the list of hazardous substances under the Clean Water Act (40 CFR 116 and 40 CFR 117), nor are they included on the list of Extremely Hazardous Substances under SARA, 40 CFR 355 Appendix A. Thus, there are no Federal reporting requirements in the event of release of this material. SARA REPORTING: This product is not subject to the reporting requirements of Section 304 of SARA, since it contains nothing on the list of Extremely Hazardous Substances. In addition, This product is not subject to the reporting requirements of Section 313 of SARA. CALIFORNIA PROPOSITION 65 - To the best of our knowledge this product contains no levels of listed substances, which the state of California has found to cause cancer, birth defects, or other reproductive effects. CARCINOGENIC - To the best of our knowledge this product is not listed as a carcinogen on the NTP, IARC, or OSHA lists of carcinogens.	
DATE OF PREPARATION: September 27, 2011	

NOTICE: HydroCat Industries believes that the information contained on this Material Safety Data Sheet is accurate. The suggested procedures are based on experience as of the date of publication. They are not necessarily all-inclusive nor fully adequate in every circumstance. Also, the suggestions should not be confused with nor followed in notation of applicable laws, regulations, rules or insurance requirements.

NO WARRANTY, EXPRESS OR IMPLIED, OF MERCHANTABILITY, FITNESS OR OTHERWISE IS MADE.

MSDS HC – GTS2007



Pace Analytical Services, LLC
2231 W. Altorfer Drive
Peoria, IL 61615
(800)752-6651

May 27, 2022

Gbenga Oduwola
Praxair - Pekin
1225 S. Front Street
Pekin, IL 61554

RE: Praxair Disposal Testing

Dear Gbenga Oduwola:

Please find enclosed the **revised** analytical results for the **1** sample(s) the laboratory received on **4/26/22 11:40 am** and logged in under work order **FD04476**. All testing is performed according to our current TNI accreditations unless otherwise noted. This report cannot be reproduced, except in full, without the written permission of Pace Analytical Services, LLC.

If you have any questions regarding your report, please contact your project manager. Quality and timely data is of the utmost importance to us.

Pace Analytical Services appreciates the opportunity to provide you with analytical expertise. We are always trying to improve our customer service and we welcome you to contact the Director of Client Services, Lisa Grant, with any feedback you have about your experience with our laboratory at 309-683-1764 or lisa.grant@pacelabs.com.

A handwritten signature in black ink that reads "Erin Lane". The signature is written in a cursive, flowing style.

Erin Lane
Project Manager
(309)683-1767
erin.lane@pacelabs.com

**SAMPLE RECEIPT CHECK LIST**

Items not applicable will be marked as in compliance

Work Order FD04476

YES	Samples received within temperature compliance when applicable
YES	COC present upon sample receipt
YES	COC completed & legible
YES	Sampler name & signature present
YES	Unique sample IDs assigned
YES	Sample collection location recorded
YES	Date & time collected recorded on COC
YES	Relinquished by client signature on COC
YES	COC & labels match
YES	Sample labels are legible
YES	Appropriate bottle(s) received
YES	Sufficient sample volume received
YES	Sample containers received undamaged
NO	Zero headspace, <6 mm present in VOA vials
NO	Trip blank(s) received
YES	All non-field analyses received within holding times
NO	Short hold time analysis
YES	Current PDC COC submitted
YES	Case narrative provided



Pace Analytical Services, LLC

2231 W. Altorfer Drive

Peoria, IL 61615

(800)752-6651

Case Narrative

05/12/22 - Added Reactive Sulfide, Total Sulfate and Flashpoint at clients request.



ANALYTICAL RESULTS

Sample: FD04476-01

Name: Hyrdro Cat

Matrix: Solid - Grab

Sampled: 04/26/22 10:21

Received: 04/26/22 11:40

Parameter	Result	Unit	Qualifier	Prepared	Dilution	MRL	Analyzed	Analyst	Method
Anions - PIA									
Sulfate	4300	mg/kg		05/20/22 09:13	50	500	05/20/22 09:13	CJP	EPA 9056A
General Chemistry - PIA									
Flashpoint closed	>150	°F		05/19/22 13:58	1	50	05/19/22 13:58	TTH	EPA 1020B
Solids - total solids (TS)	91	%	H	05/24/22 17:00	1	0.050	05/24/22 18:38	CWW/CG L	SM 2540G
Reactive Sulfide	< 20	mg/kg	H, Q3	05/23/22 12:00	1	20	05/23/22 13:30	nwt	EPA 9034 & 7.3.4.1 MOD
Semivolatile Organics - TCLP - PIA									
Pyridine	< 0.10	mg/L		04/29/22 07:42	1	0.10	05/03/22 22:14	KAF	EPA 8270C
2-Methylphenol	< 0.10	mg/L		04/29/22 07:42	1	0.10	05/03/22 22:14	KAF	EPA 8270C
3- & 4-Methylphenol	< 0.10	mg/L		04/29/22 07:42	1	0.10	05/03/22 22:14	KAF	EPA 8270C
Hexachloroethane	< 0.10	mg/L		04/29/22 07:42	1	0.10	05/03/22 22:14	KAF	EPA 8270C
Nitrobenzene	< 0.10	mg/L		04/29/22 07:42	1	0.10	05/03/22 22:14	KAF	EPA 8270C
Hexachlorobutadiene	< 0.10	mg/L		04/29/22 07:42	1	0.10	05/03/22 22:14	KAF	EPA 8270C
2,4,6-Trichlorophenol	< 0.50	mg/L		04/29/22 07:42	1	0.50	05/03/22 22:14	KAF	EPA 8270C
2,4,5-Trichlorophenol	< 0.50	mg/L		04/29/22 07:42	1	0.50	05/03/22 22:14	KAF	EPA 8270C
2,4-Dinitrotoluene	< 0.10	mg/L		04/29/22 07:42	1	0.10	05/03/22 22:14	KAF	EPA 8270C
Hexachlorobenzene	< 0.10	mg/L		04/29/22 07:42	1	0.10	05/03/22 22:14	KAF	EPA 8270C
Pentachlorophenol	< 0.50	mg/L		04/29/22 07:42	1	0.50	05/03/22 22:14	KAF	EPA 8270C
TCLP Metals - PIA									
Final pH	5.34	pH Units		04/28/22 09:30	1		04/28/22 09:45	CWW	EPA 1311
Final pH	5.34	pH Units		04/28/22 09:30	1		04/28/22 09:45	CWW	EPA 1311
Arsenic	< 0.040	mg/L		04/28/22 09:47	20	0.040	04/28/22 11:44	JMW	EPA 6020A
Barium	< 2.0	mg/L		04/28/22 09:47	20	2.0	04/28/22 11:44	JMW	EPA 6020A
Cadmium	< 0.0040	mg/L		04/28/22 09:47	20	0.0040	04/28/22 11:44	JMW	EPA 6020A
Chromium	< 0.016	mg/L		04/28/22 09:47	20	0.016	04/28/22 11:44	JMW	EPA 6020A
Lead	< 0.020	mg/L		04/28/22 09:47	20	0.020	04/28/22 11:44	JMW	EPA 6020A
Selenium	< 0.010	mg/L		04/28/22 09:47	20	0.010	04/28/22 11:44	JMW	EPA 6020A
Silver	< 0.020	mg/L		04/28/22 09:47	20	0.020	04/28/22 11:44	JMW	EPA 6020A
Mercury	< 0.0020	mg/L		04/28/22 09:47	20	0.0020	04/28/22 11:44	JMW	EPA 6020A

Volatile Organics - TCLP - PIA



ANALYTICAL RESULTS

Sample: FD04476-01

Name: Hyrdro Cat

Matrix: Solid - Grab

Sampled: 04/26/22 10:21

Received: 04/26/22 11:40

Parameter	Result	Unit	Qualifier	Prepared	Dilution	MRL	Analyzed	Analyst	Method
1,1-Dichloroethene	< 0.005	mg/L		04/28/22 09:15	1	0.005	04/28/22 15:41	SEB	EPA 8260B
1,2-Dichloroethane	< 0.005	mg/L		04/28/22 09:15	1	0.005	04/28/22 15:41	SEB	EPA 8260B
1,4-Dichlorobenzene	< 0.005	mg/L		04/28/22 09:15	1	0.005	04/28/22 15:41	SEB	EPA 8260B
2-Butanone	< 0.010	mg/L		04/28/22 09:15	1	0.010	04/28/22 15:41	SEB	EPA 8260B
Benzene	< 0.005	mg/L		04/28/22 09:15	1	0.005	04/28/22 15:41	SEB	EPA 8260B
Carbon tetrachloride	< 0.005	mg/L		04/28/22 09:15	1	0.005	04/28/22 15:41	SEB	EPA 8260B
Chlorobenzene	< 0.005	mg/L		04/28/22 09:15	1	0.005	04/28/22 15:41	SEB	EPA 8260B
Chloroform	< 0.005	mg/L		04/28/22 09:15	1	0.005	04/28/22 15:41	SEB	EPA 8260B
Tetrachloroethene	< 0.005	mg/L		04/28/22 09:15	1	0.005	04/28/22 15:41	SEB	EPA 8260B
Trichloroethene	< 0.005	mg/L		04/28/22 09:15	1	0.005	04/28/22 15:41	SEB	EPA 8260B
Vinyl chloride	< 0.005	mg/L		04/28/22 09:15	1	0.005	04/28/22 15:41	SEB	EPA 8260B



NOTES

Specifications regarding method revisions, method modifications, and calculations used for analysis are available upon request. Please contact your project manager.

* Not a TNI accredited analyte

Certifications

CHI - McHenry, IL - 4314-A W. Crystal Lake Road, McHenry, IL 60050

TNI Accreditation for Drinking Water and Wastewater Fields of Testing through IL EPA Accreditation No. 100279

Illinois Department of Public Health Bacterial Analysis in Drinking Water Approved Laboratory Registry No. 17556

PIA - Peoria, IL - 2231 W. Altorfer Drive, Peoria, IL 61615

TNI Accreditation for Drinking Water, Wastewater, Solid and Hazardous Material Fields of Testing through IL EPA Accreditation No. 100230

Illinois Department of Public Health Bacterial Analysis in Drinking Water Approved Laboratory Registry No. 17553

Drinking Water Certifications/Accreditations: Iowa (240); Kansas (E-10338); Missouri (870)

Wastewater Certifications/Accreditations: Arkansas (88-0677); Iowa (240); Kansas (E-10338)

Solid and Hazardous Material Certifications/Accreditations: Arkansas (88-0677); Iowa (240); Kansas (E-10338)

SPMO - Springfield, MO - 1805 W Sunset Street, Springfield, MO 65807

USEPA DMR-QA Program

STL - Hazelwood, MO - 944 Anglum Rd, Hazelwood, MO 63042

TNI Accreditation for Wastewater, Solid and Hazardous Material Fields of Testing through KS KDHE Certification No. E-10389

TNI Accreditation for Wastewater, Solid and Hazardous Material Fields of Testing through IL EPA Accreditation No. - 200080

Illinois Department of Public Health Bacterial Analysis in Drinking Water Approved Laboratory, Registry No. 171050

Missouri Department of Natural Resources - Certificate of Approval for Microbiological Laboratory Service - No. 1050

Qualifiers

H Test performed after the expiration of the appropriate regulatory/advisory maximum allowable hold time.

Q3 Matrix Spike/Matrix Spike Duplicate both failed % recovery acceptance limits. The associated blank spike recovery was acceptable.

Certified by: Erin Lane, Project Manager



Page 7 of 7

Waste Profile 632215IL SDSs



SAFETY DATA SHEET

HDD-Defense

Section: 1. PRODUCT AND COMPANY IDENTIFICATION

Product name : HDD-Defense

Other means of identification : Not applicable.

Recommended use : As a fluid loss control agent for drilling fluids.

Restrictions on use : None Known.

Company : Drillchem Drilling Solutions, LLC
PO Box 13107
Spring, TX 77393 USA
Office: (281) 713-8941

Emergency telephone : (800) 424-9300 (24 Hours) CHEMTREC
number

Issuing date : 02/15/2018

Section: 2. HAZARDS IDENTIFICATION

GHS Classification

Physical Hazards : Not classified.

Health Hazards : Not classified.

Environmental Hazards : Not classified.

OSHA Defined Hazards : Not classified

Supplemental Information : Not Applicable

GHS Label element

Hazard pictograms : None

Signal Word : None

Hazard Statements : This product does not meet the criteria for classification.

Precautionary Statements : **Prevention:** Observe good industrial hygiene practices
Response: Wash hands after handling.
Storage: Store away from incompatible materials
Disposal: Dispose of waste and residues in accordance with local authorities requirements.

Other hazards : None known.

Section: 3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	Mixtures Common name and synonyms	CAS Number	%
Natural Plant Fibers	Cellulose Powder, Cellulose	9004-34-6	40 - < 70
Bentonite	Smectite, Clay	1302-78-9	15 - < 35
Other components below reportable levels			0 - < 5

Section: 4. FIRST AID MEASURES

SAFETY DATA SHEET

HDD-Defense

In case of eye contact	: Do not rub eyes. Rinse with water. Get medical attention if irritation develops and persists.
In case of skin contact	: Wash off with soap and water. Get medical attention if irritation develops and persists.
If swallowed	: Rinse Mouth. Get medical attention if symptoms occur.
If inhaled	: Move to fresh air. Call a physician if symptoms develop or persist.
Protection of first-aiders	: In event of emergency assess the danger before taking action. Do not put yourself at risk of injury. If in doubt, contact emergency responders. Use personal protective equipment as required.
Notes to physician	: Provide general supportive measures and treat symptomatically. Keep victim under observation. Symptoms may be delayed.
Most important symptoms and effects, both acute and delayed	: Dusts may irritate the respiratory tract, skin and eyes. Prolonged exposure may cause chronic effects.

Section: 5. FIREFIGHTING MEASURES

Suitable extinguishing media	: Water fog. Foam. Dry chemical powder. Carbon dioxide (CO ₂).
Unsuitable extinguishing media	: Do not use water jet as an extinguisher, as this will spread the fire.
Specific hazards during firefighting	: During fire, gases hazardous to health may be formed.
Hazardous combustion products	: Not applicable.
Special protective equipment for firefighters	: Material can be slippery when wet. se personal protective equipment.
Specific extinguishing methods	: Use water spray to cool unopened containers. Use standard firefighting procedures and consider the hazards of other involved materials.

Section: 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures	: Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Material can be slippery when wet. Wear appropriate protective equipment and clothing during clean-up. Do not breathe dust. Use a NIOSH/MSHA approved respirator if there is a risk of exposure to dust/fume at levels exceeding the exposure limits. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.
Environmental precautions	: Avoid discharge into drains, water courses or onto the ground.
Methods and materials for containment and cleaning up	: Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Cover with plastic sheet to prevent spreading.

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Absorb in vermiculite, dry sand or earth and place into containers. Following product recovery, flush area with water.
Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination.
Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS

Section: 7. HANDLING AND STORAGE

- Advice on safe handling : Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Minimize dust generation and accumulation. Provide appropriate exhaust ventilation at places where dust is formed. Do not breathe dust. Avoid prolonged exposure. Should be handled in closed systems, if possible. Wear appropriate personal protective equipment. Observe good industrial hygiene practices.
- Conditions for safe storage : Store locked up. Store in original tightly closed container. Store in a well-ventilated place. Store away from incompatible materials (see Section 10 of the SDS).
- Suitable material : Not determined.
- Unsuitable material : Not determined.

Section: 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Occupational Exposure Limits

US OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Components	Type	Value	Form
Inert or Nuisance Dust	TWA	5 mg/m ³	Respirable fraction
		15 mg/m ³	Total Dust.
		50 mppcf	Total Dust.
		15 mppcf	Respirable Fraction.

- Engineering measures : Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. If engineering measures are not sufficient to maintain concentrations of dust particulates below the Occupational Exposure Limit (OEL), suitable respiratory protection must be worn. If material is ground, cut, or used in any operation which may generate dusts, use appropriate local exhaust ventilation to keep exposures below the recommended exposure limits.

Personal protective equipment

- Eye protection : Chemical respirator with organic vapor cartridge, full facepiece, dust and mist filter.
- Hand protection : Wear appropriate chemical resistant gloves. Suitable gloves can be recommended by the glove supplier.

SAFETY DATA SHEET

HDD-Defense

Skin protection	: Use of an impervious apron is recommended.
Respiratory protection	: Use a NIOSH/MSHA approved respirator if there is a risk of exposure to dust/fume at levels exceeding the exposure limits. Chemical respirator with organic vapor cartridge, full facepiece, dust and mist filter.
Hygiene measures	: Use a NIOSH/MSHA approved respirator if there is a risk of exposure to dust/fume at levels exceeding the exposure limits. Chemical respirator with organic vapor cartridge, full facepiece, dust and mist filter.

Section: 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	: Powder, solid
Colour	: Tan to Gray
Odour	: None
Flash point	: No data available.
pH	: Not data available.
Odour Threshold	: No data available.
Melting point/freezing point	: No data available.
Initial boiling point and boiling range	: No data available.
Evaporation rate	: No data available.
Flammability (solid, gas)	: No data available.
Upper explosion limit	: No data available.
Lower explosion limit	: No data available.
Vapour pressure	: No data available.
Relative vapour density	: No data available.
Relative density	: No data available.
Density	: 1.74 g/cm ³ (estimated)
Water solubility	: No data available.
Solubility in other solvents	: No data available.
Partition coefficient: n-octanol/water	: No data available.
Auto-ignition temperature	: No data available.
Thermal decomposition temperature	: No data available.
Viscosity, dynamic	: No data available.
Viscosity, kinematic	: No data available.
Molecular weight	: No data available.
VOC	: No data available.

Section: 10. STABILITY AND REACTIVITY

SAFETY DATA SHEET

HDD-Defense

Chemical stability	:	Material is stable under normal conditions.
Possibility of hazardous reactions	:	No dangerous reaction known under conditions of normal use.
Conditions to avoid	:	Contact with incompatible materials.
Incompatible materials	:	Powerful oxidizers. Chlorine.
Hazardous decomposition products	:	No hazardous decomposition products are known.

Section: 11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure : Inhalation, Eye contact, Skin contact, Ingestion

Potential Health Effects

Eyes	:	Dust may irritate the eyes.
Skin	:	Dust or powder may irritate the skin.
Ingestion	:	Expected to be a low ingestion hazard.
Inhalation	:	Dust may irritate respiratory system. Prolonged inhalation may be harmful.
Chronic Exposure	:	Prolonged inhalation may be harmful.

Experience with human exposure

Eye contact	:	Direct contact with eyes may cause temporary irritation
Skin contact	:	No adverse effects due to skin contact are expected
Ingestion	:	Expected to be a low ingestion hazard
Inhalation	:	Prolonged inhalation may be harmful

Toxicity

Product

Acute oral toxicity	:	No data available.
Acute inhalation toxicity	:	No data available.
Acute dermal toxicity	:	No data available.
Skin corrosion/irritation	:	No data available.
Serious eye damage/eye irritation	:	No data available.
Respiratory or skin sensitization	:	No data available.

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HDD-Defense

Information on toxicological Effects : No data available.

Carcinogenicity : In June 2003, SCOEL (the EU Scientific Committee on Occupational Exposure Limits) concluded that the main effect in humans of the inhalation of respirable crystalline silica dust is silicosis. "There is sufficient information to conclude that the relative risk of lung cancer is increased in persons with silicosis (and, apparently, not in employees without silicosis exposed to silica dust in quarries and in the ceramic industry). Therefore, preventing the onset of silicosis will also reduce the cancer risk..." (SCOEL SUM Doc 94-final, June 2003) According to the current state of the art, worker protection against silicosis can be consistently assured by respecting the existing regulatory occupational exposure limits. Occupational exposure to respirable dust and respirable crystalline silica should be monitored and controlled. The product does not meet the criteria for classification as hazardous according to EC Regulation 1272/2008 and Directive 67/548/EC as amended. The product contains less than 1% w/w RCS (respirable crystalline silica).

OSHA : Not listed

Reproductive effects : This product is not expected to cause reproductive or developmental effects.

Germ cell mutagenicity : No data available

Teratogenicity : No data available

STOT - single exposure : No data available

STOT - repeated exposure : No data available.

Aspiration toxicity : Not an aspiration hazard.

Section: 12. ECOLOGICAL INFORMATION

Ecotoxicity : The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment

Persistence and degradability : No data is available on the degradability of this product.

Mobility : No data available

Bioaccumulative potential : No data available.

Other information : No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

Section: 13. DISPOSAL CONSIDERATIONS

Disposal methods : Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Dispose of contents/container in accordance with local/regional/national/international regulations. Dispose in accordance with all applicable regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner.

SAFETY DATA SHEET

HDD-Defense

Disposal considerations : Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.

Section: 14. TRANSPORT INFORMATION

Land transport (DOT)

Not regulated as dangerous goods.

Air transport (IATA)

Not regulated as dangerous goods.

Sea transport (IMDG/IMO)

Not regulated as dangerous goods.

Section: 15. REGULATORY INFORMATION

TSCA List : Not Regulated

EPCRA - Emergency Planning and Community Right-to-Know Act

CERCLA Reportable Quantity

Not listed.

SARA 304 Extremely Hazardous Substances Reportable Quantity

Not Regulated

SARA 311/312 Hazards : No Chemicals listed.

SARA 302 : No Chemicals listed.

SARA 313 : No Chemicals listed.

Superfund Amendments and Reauthorization Act of 1986 (SARA) : Immediate Hazard: No
Delayed Hazard: No
Fire Hazard: No
Pressure Hazard: No
Reactivity Hazard: No

US. Toxic Substances Control Act (TSCA) Section 12(b) Export Notification (40 CFR 707, Subpart D):

The following components are listed: None

US. California. Candidate Chemicals List. Safer Consumer Products Regulations (Cal. Code Regs, tit. 22, 69502.3, subd. (a)):

Not Listed

US New Jersey Worker and Community Right-to-Know Act:

Not regulated

US Massachusetts RTK – Substance List:

Not regulated

SAFETY DATA SHEET

HDD-Defense

US Pennsylvania Worker and Community Right-to-Know Law: Gypsum (calcium Sulphate) (CAS 13397-24-5)
Not listed

US Rhode Island RTK:
Not regulated.

US. California Proposition 65

California safe drinking water and Toxic Enforcement Act of 1986 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins.

INTERNATIONAL CHEMICAL CONTROL LAWS :

United States TSCA Inventory
Not on inventory.

Canadian Domestic Substances List (DSL)
Not on inventory.

Australia. Industrial Chemical (Notification and Assessment) Act
Not on inventory.

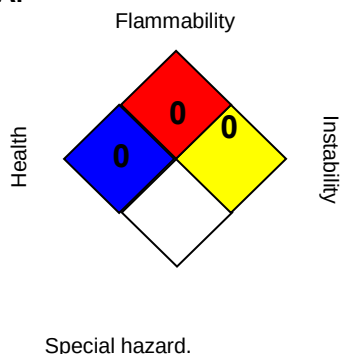
New Zealand. Inventory of Chemicals (NZIoC), as published by ERMA New Zealand
Not on inventory.

China Inventory of Existing Chemical Substances
Not on inventory.

Korea Existing Chemicals List (ECL)
Not on inventory.

Section: 16. OTHER INFORMATION

NFPA:



HMIS III:

HEALTH	0
FLAMMABILITY	0
PHYSICAL HAZARD	0

0 = not significant, 1 = Slight,
2 = Moderate, 3 = High
4 = Extreme, * = Chronic

Issuing Date : 02/15/2018
Version Number : 1.0

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

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1. Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product Identity	Lube Force
Alternate Names	BioDegradable Drilling Lubricant

1.2. Relevant identified uses of the substance or mixture and uses advised against

Intended use	Downhole Drilling Lubricant.
Application Method	See Technical Data Sheet.

1.3. Details of the supplier of the safety data sheet

Company Name	Right Turn Supply P.O. Box 840 Pella, IA 50219, USA
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Emergency	
CHEMTREC (USA)	(800) 424-9300
24 hour Emergency Telephone No.	International +1-703-527-3887
Customer Service: Right Turn Supply	(641-780-1953)

2. Hazard identification of the product

2.1. Classification of the substance or mixture

No applicable GHS categories.

2.2. Label elements

Using the Toxicity Data listed in section 11 and 12 the product is labeled as follows.

No applicable GHS categories.

[Prevention]:

No GHS prevention statements

[Response]:

No GHS response statements

[Storage]:

No GHS storage statements

[Disposal]:

No GHS disposal statements

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3. Composition/information on ingredients

This product contains the following substances that present a hazard within the meaning of the relevant State and Federal Hazardous Substances regulations.

Ingredient/Chemical Designations	Weight %	GHS Classification	Notes
Fatty acid CAS Number: 0061790-12-3	40-60%	Not Classified	[1]
Proprietary-Trade Secret CAS Number: 0090622-46-1	30-60%	Asp. Tox. 1;H304	[1]

[1] Substance classified with a health or environmental hazard.

[2] Substance with a workplace exposure limit.

[3] PBT-substance or vPvB-substance.

*The full texts of the phrases are shown in Section 16.

4. First aid measures

4.1. Description of first aid measures

General	In all cases of doubt, or when symptoms persist, seek medical attention. Never give anything by mouth to an unconscious person.
Inhalation	Remove to fresh air, keep patient warm and at rest. If breathing is irregular or stopped, give artificial respiration. If unconscious place in the recovery position and obtain immediate medical attention. Give nothing by mouth.
Eyes	Irrigate copiously with clean water for at least 15 minutes, holding the eyelids apart and seek medical attention.
Skin	Remove contaminated clothing. Wash skin thoroughly with soap and water or use a recognized skin cleanser.
Ingestion	Get Medical attention immediately. If swallowed, do not induce vomiting. If person is fully conscious, give water to drink. Never give anything by mouth to an unconscious person. If vomiting occurs, keep head lower than hips to help prevent aspiration.

4.2. Most important symptoms and effects, both acute and delayed

Overview	Inhalation: Liquid, no dust is generated in normal use. Skin: May be irritating to the skin with prolonged contact. Eye: May cause irritation to the eyes and could cause prolonged impairment of vision. Ingestion: Not anticipated route of exposure. If ingested may be irritating to mouth, throat and stomach. Exposure to solvent vapor concentrations from the component solvents in excess of the stated occupational exposure limits may result in adverse health effects such as mucous membrane and respiratory system irritation and adverse effects on the kidneys, liver and central nervous system. Symptoms include headache, nausea, dizziness, fatigue, muscular weakness, drowsiness and in extreme cases, loss of consciousness. Repeated or prolonged contact with the preparation may cause removal of natural fat from the skin resulting in dryness, irritation and possible non-allergic contact dermatitis. Solvents may also be absorbed through the skin. Splashes of liquid in the eyes may cause irritation and soreness with possible reversible damage. See section 2 for further details.
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5. Fire-fighting measures

5.1. Extinguishing media

Dry chemical, foam, carbon dioxide and water fog.

5.2. Special hazards arising from the substance or mixture

Hazardous decomposition: High temperatures and fires may produce such toxic substances as carbon monoxide and carbon dioxide.

5.3. Advice for fire-fighters

Cool closed containers exposed to fire by spraying them with water. Do not allow run off water and contaminants from fire fighting to enter drains or water ways.

ERG Guide No. ----

6. Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Remove sources of ignition, do not turn lights or unprotected electrical equipment on or off. In case of a major spill or spillage in a confined space evacuate the area and check that solvent vapor levels are below the Lower Explosive Limit before re-entering.

6.2. Environmental precautions

Use good personal hygiene practices. Wash hands before eating, drinking, smoking or using toilet. Promptly remove soiled clothing and wash thoroughly before reuse.

6.3. Methods and material for containment and cleaning up

Collect and place in suitable container for reuse or disposal.

7. Handling and storage

7.1. Precautions for safe handling

See section 2 for further details. - [Prevention]:

7.2. Conditions for safe storage, including any incompatibilities

Keep from freezing, store in a cool dry place.

Handle containers carefully to prevent damage and spillage or accumulation of dust.

Incompatible materials: Strong oxidizing agents and acids.

See section 2 for further details. - [Storage]:

7.3. Specific end use(s)

No data available.

8. Exposure controls and personal protection

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8.1. Control parameters

Exposure

CAS No.	Ingredient	Source	Value
0061790-12-3	Fatty acid	OSHA	No Established Limit
		ACGIH	No Established Limit
		NIOSH	No Established Limit
		Supplier	No Established Limit
0090622-46-1 ACGIH NIOSH Supplier	Proprietary-Trade Secret	OSHA	No Established Limit
			No Established Limit
			No Established Limit
			No Established Limit

Carcinogen Data

CAS No.	Ingredient	Source	Value
0061790-12-3	Fatty acid	OSHA	Select Carcinogen: No
		NTP	Known: No; Suspected: No
		IARC	Group 1: No; Group 2a: No; Group 2b: No; Group 3: No; Group 4: No;
0090622-46-1	Proprietary-Trade Secret	OSHA	Select Carcinogen: No
		NTP	Known: No; Suspected: No
		IARC	Group 1: No; Group 2a: No; Group 2b: No; Group 3: No; Group 4: No;

8.2. Exposure controls

Respiratory

If workers are exposed to concentrations above the exposure limit they must use the appropriate, certified respirators.

Eyes

Wear safety glasses or goggles with side shields. Maintain eye wash station in work area.

Skin

Overalls which cover the body, arms and legs should be worn. Skin should not be exposed. All parts of the body should be washed after contact.

Engineering Controls

Provide adequate ventilation. Where reasonably practicable this should be achieved by the use of local exhaust ventilation and good general extraction. If these are not sufficient to maintain concentrations of particulates and any vapor below occupational exposure limits suitable respiratory protection must be worn.

Other Work Practices

Use good personal hygiene practices. Wash hands before eating, drinking, smoking or using toilet. Promptly remove soiled clothing and wash thoroughly before reuse.

See section 2 for further details. - [Prevention]:

9. Physical and chemical properties

Appearance

Brown/Black Liquid

Odor

None

Odor threshold

Not Measured

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pH	6.7
Melting point / freezing point	Not Measured
Initial boiling point and boiling range	> 212F
Flash Point	> 600F
Evaporation rate (Ether = 1)	Not Applicable
Flammability (solid, gas)	Not Applicable
Upper/lower flammability or explosive limits	Lower Explosive Limit: Not Measured Upper Explosive Limit: Not Measured
Vapor pressure (Pa)	Not Measured
Vapor Density	Not Applicable
Specific Gravity	0.9005-0.9305 g/cm3
Solubility in Water	Appreciable
Partition coefficient n-octanol/water (Log Kow)	Not Measured
Auto-ignition temperature	Not Measured
Decomposition temperature	Not Measured
Viscosity (cSt)	Not Measured

9.2. Other information

No other relevant information.

10. Stability and reactivity

10.1. Reactivity

Hazardous Polymerization will not occur.

10.2. Chemical stability

Stable under normal circumstances.

10.3. Possibility of hazardous reactions

No data available.

10.4. Conditions to avoid

Excessive heat and open flame.

10.5. Incompatible materials

Strong oxidizing agents and acids.

10.6. Hazardous decomposition products

High temperatures and fires may produce such toxic substances as carbon monoxide and carbon dioxide.

11. Toxicological information

Acute toxicity

Exposure to solvent vapor concentrations from the component solvents in excess of the stated occupational exposure limits may result in adverse health effects such as mucous membrane and respiratory system irritation and adverse

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effects on the kidneys, liver and central nervous system. Symptoms include headache, nausea, dizziness, fatigue, muscular weakness, drowsiness and in extreme cases, loss of consciousness.

Repeated or prolonged contact with the preparation may cause removal of natural fat from the skin resulting in dryness, irritation and possible non-allergic contact dermatitis. Solvents may also be absorbed through the skin. Splashes of liquid in the eyes may cause irritation and soreness with possible reversible damage.

Ingredient	Oral LD50, mg/kg	Skin LD50, mg/kg	Inhalation Vapor LD50, mg/L/4hr	Inhalation Dust/Mist LD50, mg/L/4hr	Inhalation Gas LD50, ppm
Fatty acid - (61790-12-3)	3,200.00, Rat - Category: 5	No data available	No data available	No data available	No data available
Proprietary (90622-46-1) Trade Secret	No data available	No data available	No data available	No data available	No data available

Note: When no route specific LD50 data is available for an acute toxin, the converted acute toxicity point estimate was used in the calculation of the product's ATE (Acute Toxicity Estimate).

Classification	Category	Hazard Description
Acute toxicity (oral)	---	Not Applicable
Acute toxicity (dermal)	---	Not Applicable
Acute toxicity (inhalation)	---	Not Applicable
Skin corrosion/irritation	---	Not Applicable
Serious eye damage/irritation	---	Not Applicable
Respiratory sensitization	---	Not Applicable
Skin sensitization	---	Not Applicable
Germ cell mutagenicity	---	Not Applicable
Carcinogenicity	---	Not Applicable
Reproductive toxicity	---	Not Applicable
STOT-single exposure	---	Not Applicable
STOT-repeated exposure	---	Not Applicable
Aspiration hazard	---	Not Applicable

12. Ecological information

12.1. Toxicity

No additional information provided for this product. See Section 3 for chemical specific data.

Aquatic Ecotoxicity

Ingredient	Americamysis bahia (Mysid Shrimp)	Microtox Threshold Level	ErC50 algae, mg/l
Fatty acid - (61790-12-3)	894,200 ppm	.Not Available	Not Available

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Proprietary (90622-46-1) Trade Secret

Not Available

Not Available

Not Available

12.2. Persistence and degradability

This product is readily BioDegradable. 81% in 28 days

12.3. Bioaccumulative potential

Not Measured

12.4. Mobility in soil

No data available.

12.5. Results of PBT and vPvB assessment

This product contains no PBT/vPvB chemicals.

12.6. Other adverse effects

No data available.

13. Disposal considerations

13.1. Waste treatment methods

Observe all federal, state and local regulations when disposing of this substance.

14. Transport information

	DOT (Domestic Surface Transportation)	IMO / IMDG (Ocean Transportation)	ICAO/IATA
14.1. UN number	Not Applicable	Not Regulated	Not Regulated
14.2. UN proper shipping name	Not Regulated	Not Regulated	Not Regulated
14.3. Transport hazard class(es)	DOT Hazard Class: Not Applicable DOT Label: ---	IMDG: Not Applicable Sub Class: Not Applicable	Air Class: Not Applicable
14.4. Packing group	Not Applicable	Not Applicable	Not Applicable
14.5. Environmental hazards			
IMDG	Marine Pollutant: No		
14.6. Special precautions for user	No further information		

15. Regulatory information

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Regulatory Overview The regulatory data in Section 15 is not intended to be all-inclusive, only selected regulations are represented.

Toxic Substance Control Act (TSCA) All components of this material are either listed or exempt from listing on the TSCA Inventory.

WHMIS Classification Not Regulated

US EPA Tier II Hazards

Fire: No

Sudden Release of Pressure: No

Reactive: No

Immediate (Acute): No

Delayed (Chronic): No

EPCRA 311/312 Chemicals and RQs:

To the best of our knowledge, there are no chemicals at levels which require reporting under this statute.

EPCRA 302 Extremely Hazardous :

To the best of our knowledge, there are no chemicals at levels which require reporting under this statute.

EPCRA 313 Toxic Chemicals:

To the best of our knowledge, there are no chemicals at levels which require reporting under this statute.

Proposition 65 - Carcinogens (>0.0%):

To the best of our knowledge, there are no chemicals at levels which require reporting under this statute.

Proposition 65 - Developmental Toxins (>0.0%):

To the best of our knowledge, there are no chemicals at levels which require reporting under this statute.

Proposition 65 - Female Repro Toxins (>0.0%):

To the best of our knowledge, there are no chemicals at levels which require reporting under this statute.

Proposition 65 - Male Repro Toxins (>0.0%):

To the best of our knowledge, there are no chemicals at levels which require reporting under this statute.

N.J. RTK Substances (>1%) :

To the best of our knowledge, there are no chemicals at levels which require reporting under this statute.

Penn RTK Substances (>1%):

Edible oil

16. Other information

The information and recommendations contained herein are based upon data believed to be correct. However, no guarantee or warranty of any kind, expressed or implied, is made with respect to the information contained herein. We accept no responsibility and disclaim all liability for any harmful effects which may be caused by exposure to our products. Customers/users of this product must comply with all applicable health and safety laws, regulations, and orders.

The full text of the phrases appearing in section 3 is:

H304 May be harmful if swallowed and enters airways.

This is the first version in the GHS SDS format. Listings of changes from previous versions in other formats are not applicable.

The information and data herein are believed to be accurate and have been compiled from sources believed to be reliable. It is offered for your consideration, investigation and verification. Buyer assumes all risk of use, storage and

Safety Data Sheet

Lube Force

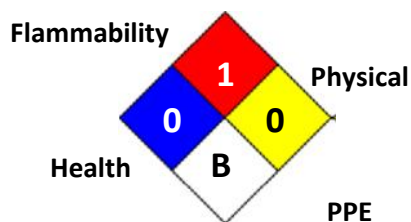
SDS Revision Date: 02/21/2020

handling of the product in compliance with applicable Federal, State and local law and regulations. Right Turn Supply makes no warranty of any kind, express or implied, concerning the accuracy or completeness of the information and data herein. The implied warranties of merchantability and fitness for a particular purpose are specifically excluded. Right Turn Supply will not be liable for claims relating to any use of this product.

Emergency Overview:

Risk Classification System:

HEALTH	0
FLAMMABILITY	1
PHYSICAL	0
PPE	B



End of Document

Lost Circulation Specialists, Inc.

Lost Circulation Specialists, Inc.

Effective Date: January 1, 2010

Section 1

Product Identification

Product Name:

Magma Fiber

Generic Name:

Mineral Fiber

Primary Components: Vitreous fiber made from blast furnace slug and/or basalt (mixture)

Section 2

Ingredients (Not specification values)

Materials	PEL	TLV	CAS#
Mineral Fiber	15 mg/M3 (total)	10 mg/M3 (total)	None Assigned
	5 mg/M3 (respirable)	5 mg/M3 (respirable)	

Section 3

Physical Data

Melting Point (F): 2400

Vapour Pressure: N/A

Specific Gravity: 2.6

Physical State: Solid

Colour and Odor: White-Gray/Tan Fiber, Low Odor

Vap Density (Air=1): N/A

Solubility in Water: Not

% Volatile by Vol: None

Section 4

Fire and Explosion Hazard Data

Flash Point (C): Non-Combustible (ASTME84)

Flammable Limits: N/A

Extinguishing Media: Non-Combustible

Fire and Explosion Hazard: None

Section 5

Reactivity Data

Stability: Stable

Conditions to Avoid: None

Incompatability: Acids (Gives off H2S under certain conditions)

Decomposition: None

Polymerization: Will not occur

Section 6

Health Hazard Data

Oral Ingestion	N/A
Eye Contact	Mineral fiber may cause transitory (temporary) mechanical irritation to eyes
Skin Contact	Skin contact may cause transitory skin irritation and possible irritation to eyes and upper respiratory tract
Skin Absorption	N/A
Inhalation	May cause transitory irritation to upper respiratory tract when handling this product, wear a NIOSH approved dust mask or respirator, avoid creating excessive dust IARC Group 3- Not Classifiable as carcinogenicity in humans NTP- Not Classified ACGIH- Not Classified
Over Exposure Effect	Mineral fiber may cause transitory mechanical irritation to eyes, skin or upper respiratory tract

First Aid Procedure

Eyes	Flush with water and see a physician if irritation continues
Skin	Wash fiber from skin with soap and water
Ingestion	Call a physician

Section 7

Special Protection

Ventilation	Local exhaust or mechanical ventilation to keep below TLV
Respiratory	Niosh approved 3M 8710 or equivalent dust respirator is recommended
Clothing	Gloves if dust is irritating, tight fitting goggles in dusty environment, wear long sleeved, loose fitting clothing closed at neck and wrists to minimize skin exposure, wash clothes separately from underwear
Eye Protection	To avoid eye irritation wear safety glasses or goggles

Section 8

Spill or Leak Procedure

Steps to be taken: Normal clean-up procedures, avoid creating excessive dust

Disposal method: To landfill in accordance with local, provincial and federal regulations

Section 9

Special precautions or other comments

TDG Shipping Name: Non-hazardous

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Safety data sheet number PID1046

Version 4

Revision date 28/Oct/2016

Supersedes date 14/Feb/2016



Safety Data Sheet MAX GEL*

1. Identification of the substance/preparation and of the Company/undertaking

1.1 Product identifier

Product name MAX GEL*
Product code PID1046

1.2 Relevant identified uses of the substance or mixture and uses advised against

Recommended Use Viscosifier.

Uses advised against Consumer use

1.3 Details of the supplier of the safety data sheet

Supplier

M-I Drilling Fluids UK Limited
C/O Schlumberger
Enterprise Drive
Westhill Industrial Estate
Westhill, AB32 6TQ
Scotland UK
+47 51577424

MISDS@slb.com

1.4 Emergency Telephone Number

Emergency telephone - (24 Hour) Australia +61 2801 44558, Asia Pacific +65 3158 1074, China +86 10 5100 3039, Europe +44 (0) 1235 239 670, Middle East and Africa +44 (0) 1235 239 671, New Zealand +64 9929 1483, USA 001 281 561 1600

Norway	Poison information centre: +47 22 59 13 00
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2. Hazards identification

2.1 Classification of the substance or mixture

Regulation (EC) No. 1272/2008

Health hazards Not classified

Environmental hazards Not classified

Physical Hazards Not classified

2.2 Label elements

Signal word

None

Hazard statements

This product is not classified as hazardous therefore no (H) hazard statements assigned.

Precautionary Statements - EU (§28, 1272/2008)

This product is not classified as hazardous therefore has no (P) precautionary statements assigned.

Contains

Crystalline silica (impurity)

Silica - crystalline, tridymite

2.3 Other data

Not classified as PBT/vPvB by current EU criteria

Australian statement of hazardous/dangerous nature

Classified as Non-Hazardous according to the criteria of NOHSC.
NON-HAZARDOUS SUBSTANCE. NON-DANGEROUS GOODS.

3. Composition/information on ingredients

3.1 Substances

Component	EC-No.	CAS-No	Weight % - range	Classification (67/548)	Classification (Reg. 1272/2008)	REACH registration number
Crystalline silica (impurity)	238-878-4	14808-60-7	1-5	Xn; R48/20	STOT Rep. 2 - H373	Exempt
Silica - crystalline, tridymite	239-487-1	15468-32-3	0-1	Xn; R48/20	STOT RE 2 (H373)	No data available

3.2 Mixtures

Not Applicable

Comments

Naturally occurring mineral.

The product contains other ingredients which do not contribute to the overall classification.

This product contains a small quantity of quartz, crystalline silica. Prolonged and repeated exposure to concentrations of crystalline silica exceeding the workplace exposure limit (WEL) may lead to chronic lung disease such as silicosis. IARC Monographs, Vol. 68, 1997, concludes that there is sufficient evidence that inhaled crystalline silica in the form of quartz or cristobalite from occupational sources causes cancer in humans. IARC Classification Group I.

4. First aid measures

4.1 First Aid

Inhalation	If inhaled, remove from area to fresh air. Get medical attention if respiratory irritation develops or if breathing becomes difficult.
Ingestion	Rinse mouth. Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person. Get medical attention if symptoms occur.
Skin contact	Wash skin thoroughly with soap and water. Get medical attention if irritation persists.
Eye contact	Promptly wash eyes with lots of water while lifting eye lids. Remove contact lenses. Get medical attention if any discomfort continues.

4.2 Most important symptoms and effects, both acute and delayed

General advice	The severity of the symptoms described will vary dependant of the concentration and the length of exposure. If adverse symptoms develop, the casualty should be transferred to hospital as soon as possible.
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Main symptoms

Inhalation	Please see Section 11. Toxicological Information for further information.
Ingestion	Please see Section 11. Toxicological Information for further information.
Skin contact	Please see Section 11. Toxicological Information for further information.
Eye contact	Please see Section 11. Toxicological Information for further information.

4.3 Indication of any immediate medical attention and special treatment needed

Notes to physician	Treat symptomatically.
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5. Fire-fighting measures

5.1 Extinguishing media

Suitable extinguishing media

Use extinguishing media appropriate for surrounding material.

Extinguishing media which shall not be used for safety reasons

None known.

5.2 Special hazards arising from the substance or mixture

Unusual fire and explosion hazards

None known.

Hazardous combustion products

Thermal decomposition can lead to release of irritating gases and vapours

5.3 Advice for firefighters

Special protective equipment for fire-fighters

As in any fire, wear self-contained breathing apparatus and full protective gear.

Special Fire-Fighting Procedures

Containers close to fire should be removed immediately or cooled with water.

6. Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Use personal protective equipment. See also section 8.

6.2 Environmental precautions

Disposal should be in accordance with applicable regional, national and local laws and regulations. Large spills released to the environment may disturb the natural chemical balance of soil/fresh water.

Environmental exposure controls

Avoid release to the environment. Local authorities should be advised if significant spillages cannot be contained.

6.3 Methods and materials for containment and cleaning up

Methods for containment

Prevent further leakage or spillage if safe to do so. Cover powder spill with plastic sheet or tarp to minimise spreading.

Methods for cleaning up

Sweep up and shovel into suitable containers for disposal. After cleaning, flush away traces with water.

6.4 Reference to other sections

See section 13 for more information.

7. Handling and storage

7.1 Precautions for safe handling

Handling

Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin and eyes. Avoid dust formation.

Hygiene measures

Use good work and personal hygiene practices to avoid exposure. When using do not smoke, eat or drink. Wash hands and face before breaks and immediately after handling the product. Remove contaminated clothing.

7.2 Conditions for safe storage, including any incompatibilities

Technical measures/precautions	Ensure adequate ventilation. Keep airborne concentrations below exposure limits.
Storage precautions	Keep containers tightly closed in a dry, cool and well-ventilated place. Protect from moisture.
Storage class	Chemical storage.
Packaging material	Use specially constructed containers only.

7.3 Specific end uses

See Section 1.2.

8. Exposure controls/personal protection

8.1 Control parameters

Exposure Limits No biological limit allocated

Component	EU OEL - Third List	Austria	Australia	Denmark
Crystalline silica (impurity)	Not determined	0.15 mg/m ³ TWA alveolar dust, respirable fraction	0.1mg/m ³ TWArespirable dust	0.1mg/m ³
Silica - crystalline, tridymite	Not determined	0.15 mg/m ³ TWA alveolar dust, respirable fraction	0.1mg/m ³ TWArespirable dust	0.15 mg/m ³ TWA 0.05 mg/m ³ TWA K
Component	Malaysia	France	Germany	Hungary
Crystalline silica (impurity)	0.1 mg/m ³ TWA	0.1 mg/m ³ TWA	Not determined	0.15mg/m ³ TWA
Silica - crystalline, tridymite	0.05 mg/m ³ TWA	0.05 mg/m ³ TWA	Not determined	0.15mg/m ³ TWA
Component	New Zealand	Italy	Netherlands	Norway
Crystalline silica (impurity)	0.2 mg/m ³ TWA Known or presumed human carcinogen	Not determined	0.075 mg/m ³	0.3 mg/m ³ TWA total dust 0.1 mg/m ³ TWA respirable dust 0.3 mg/m ³ STEL total dust 0.1 mg/m ³ STEL respirable dust Carcinogen
Silica - crystalline, tridymite	0.1 mg/m ³ TWA Known or presumed human carcinogen	Not determined	0.075 mg/m ³	0.15 mg/m ³ TWA total dust 0.05 mg/m ³ TWA respirable dust 0.45 mg/m ³ STEL total dust 0.15 mg/m ³ STEL respirable dust Carcinogen
Component	Poland	Portugal	Romania	Russia
Crystalline silica (impurity)	2 mg/m ³ TWA NDS >50% free crystalline silica 0.3 mg/m ³ TWA NDS >50% free crystalline silica 4.0 mg/m ³ TWA NDS 2% to 50% free crystalline silica 1.0 mg/m ³ TWA NDS 2% to 50% free crystalline silica	0.025 mg/m ³ TWA respirable fraction	0.1mg/m ³ TWArespirable fraction, dust	3 mg/m ³ STEL 1123 disintegration aerosol, total mass of aerosols 3 mg/m ³ STEL 1124 total mass of aerosols 1 mg/m ³ TWA 1123 1 mg/m ³ TWA 1124 Fibrogenic substance glass;regulated under Quartz 1123, 1124
Silica - crystalline, tridymite	2 mg/m ³ TWA NDS >50% free crystalline silica 0.3 mg/m ³ TWA NDS >50% free crystalline silica 4.0 mg/m ³ TWA NDS 2% to 50% free crystalline silica 1.0 mg/m ³ TWA NDS 2% to 50% free crystalline silica	Not determined	0.05mg/m ³ TWArespirabl e fraction, dust	3 mg/m ³ STEL 1124 total mass of aerosols 1 mg/m ³ TWA 1124 Fibrogenic substance 1124
Component	Spain	Switzerland	Turkey	UK

Crystalline silica (impurity)	0.05 mg/m ³ TWA VLA-ED	0.15 mg/m ³ TWA MAK	Not determined	Not determined
Silica - crystalline, tridymite	Not determined	0.15 mg/m ³ TWA MAK	Not determined	Not determined

8.2 Exposure controls

All chemical Personal Protective Equipment (PPE) should be selected based on an assessment of both the chemical hazard present and the risk of exposure to those hazards. The PPE recommendations below are based on an assessment of the chemical hazards associated with this product. Where this product is used in a mixture with other products or fluids, additional hazards may be created and as such further assessment of risk may be required. The risk of exposure and need of respiratory protection will vary from workplace to workplace and should be assessed by the user in each situation.

Engineering measures to reduce exposure

Ensure adequate ventilation. Mechanical ventilation or local exhaust ventilation is required.

Personal protective equipment

Eye protection

Safety glasses with side-shields. Tightly fitting safety goggles.

Hand protection

Repeated or prolonged contact: Use protective gloves made of: Neoprene, Nitrile, Frequent change is advisable.

Respiratory protection

No personal respiratory protective equipment normally required, In case of insufficient ventilation wear suitable respiratory equipment, Suitable mask with particle filter P3 (European Norm 143), At work in confined or poorly ventilated spaces, respiratory protection with air supply must be used.

Skin and body protection

Wear suitable protective clothing, Eye wash and emergency shower must be available at the work place.

Hygiene measures

Wash hands before eating, drinking or smoking, Remove and wash contaminated clothing before re-use.



9. Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical state	Solid
Appearance	Powder
Odour	Odourless
Colour	Tan - Grey
Odour threshold	Not applicable

Property	Values	Remarks
pH	No information available	
pH @ dilution	No information available	
Melting/freezing point	No information available	
Boiling point/range	No information available	
Flash point	No information available	
Evaporation rate	No information available	

Flammability (solid, gas)	Not Applicable	
Flammability Limits in Air		Not applicable
Upper flammability limit	Not applicable	
Lower flammability limit	Not applicable	
Vapour pressure	No information available	
Vapour density	No information available	
Specific gravity	No information available	
Bulk density	No information available	
Relative density	2.3 - 2.5 sg	@ 20 °C.
Water solubility	Insoluble in water	
Solubility in other solvents	No information available	
Autoignition temperature	No information available	
Decomposition temperature	No information available	
Kinematic viscosity	No information available	
Dynamic viscosity	No information available	
Log Pow	No information available	
Explosive properties	Not Applicable	
Oxidising properties	None known	
9.2 Other information		
Pour point	No information available	
Molecular weight	No information available	
VOC content(%)	None	
Density	No information available	

10. Stability and reactivity

10.1 Reactivity

No specific reactivity hazards associated with this product.

10.2 Chemical stability

Stable under normal temperature conditions and recommended use.

10.3 Possibility of Hazardous Reactions

Hazardous polymerisation

Hazardous polymerisation does not occur.

10.4 Conditions to avoid

Avoid dust formation. Protect from moisture.

10.5 Incompatible materials

No materials to be especially mentioned.

10.6 Hazardous decomposition products

See Section 5.

11. Toxicological information

11.1 Information on toxicological effects

Acute toxicity

Product information	This product contains a small quantity of quartz, crystalline silica. Prolonged and repeated exposure to concentrations of crystalline silica exceeding the workplace exposure limit (WEL) may lead to chronic lung disease such as silicosis.
Inhalation	Inhalation of dust in high concentration may cause irritation of respiratory system.
Eye contact	Dust may cause mechanical irritation.
Skin contact	Prolonged contact may cause redness and irritation.
Ingestion	Ingestion may cause stomach discomfort.
Unknown acute toxicity	Not Applicable.

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
Crystalline silica (impurity)	= 500 mg/kg (Rat)	No data available	No data available
Silica - crystalline, tridymite	No data available	No data available	No data available

Sensitisation	This product does not contain any components suspected to be sensitizing.
Mutagenic effects	This product does not contain any known or suspected mutagens.
Carcinogenicity	Crystalline silica dust is listed by IARC in Group 1 as known to cause lung cancer in humans, if inhaled.
Reproductive toxicity	This product does not contain any known or suspected reproductive hazards.
Routes of exposure	Inhalation.
Routes of entry	Inhalation.
Specific target organ toxicity (single exposure)	Not classified
Specific target organ toxicity (repeated exposure)	Not classified.
Aspiration hazard	Not Applicable.

12. Ecological information

12.1 Toxicity

The product component(s) are not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment. Listed on PLONOR list of OSPAR

Toxicity to algae

This product is not considered toxic to algae.

Toxicity to fish

This product is not considered toxic to fish.

Toxicity to daphnia and other aquatic invertebrates

This product is not considered toxic to invertebrates.

Component	Toxicity to fish	Toxicity to algae	Toxicity to daphnia and other aquatic invertebrates
Crystalline silica (impurity)	No information available	No information available	No information available
Silica - crystalline, tridymite	No information available	No information available	No information available

12.2 Persistence and degradability

Not Applicable - Inorganic chemical.

12.3 Bioaccumulative potential

Not Applicable - Inorganic chemical.

12.4 Mobility in soil

Mobility

Insoluble in water.

12.5 Results of PBT and vPvB assessment

Not classified as PBT/vPvB by current EU criteria.

12.6 Other adverse effects.

None known.

13. Disposal considerations

13.1 Waste treatment methods

Waste from residues / unused products	Dispose of in accordance with local regulations.
Contaminated packaging	Empty containers should be transported/delivered using a registered waste carrier for local recycling or waste disposal.
EWC waste disposal No.	According to the European Waste Catalogue, Waste Codes are not product specific, but application specific. Waste codes should be assigned by the user based on the application for which the product was used. The following Waste Codes are only suggestions: EWC waste disposal No: 01 05 99 - wastes not otherwise specified

14. Transport information

14.1 UN number

Not regulated

14.2 Proper shipping name

The product is not covered by international regulation on the transport of dangerous goods

14.3. Hazard class(es)

ADR/RID/ADN/ADG Hazard class	Not regulated
IMDG Hazard class	Not regulated
ICAO Hazard class/division	Not regulated

14.4 Packing group

ADR/RID/ADN/ADG Packing Group	Not regulated
IMDG Packing group	Not regulated
ICAO Packing group	Not regulated

14.5 Environmental hazard

No

14.6 Special precautions

Not Applicable

14.7 Transport in bulk according to Annex I/II of MARPOL 73/78 and the IBC Code

Please contact MISDS@slb.com for info regarding transport in Bulk.

15. Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

Germany, Water Endangering Classes (VwVwS)	Water endangering class = 1
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Australian Standard for the Uniform Scheduling of Drugs and Poisons
No Poisons Schedule number allocated

New Zealand hazard classification Not classified.

HSNO approval no. Not required.

Group number Not required.

Commission Regulation (EU) No 453/2010 of 20 May 2010 amending Regulation (EC) No 1907/2006 of the European Parliament and of the Council on the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH). Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), establishing a European Chemicals Agency, amending Directive 1999/EC and repealing Council Regulation (EEC) No 793/93 and Commission Regulation (EC) No 1488/94 as well as Council Directive 76/769/EEC and Commission Directives 91/155/EEC, 93/67/EEC, 93/105/EC and 2000/21/EC, including amendments.

This safety data sheet complies with the requirements of Regulation (EC) No. 1272/2008.

National Code of Practice for the Preparation of Material Safety Data Sheets 2nd Edition [NOHSC: 2011 (2003)].

National Occupational Health and Safety Commission's Approved Criteria for Classifying Hazardous Substances [NOHSC:1008 (2004) 3rd Edition].

National Occupational Health and Safety Commission's Exposure Standards for Atmospheric Contaminants in the occupational Environment [NOHSC:1003 (1995)].

Safe Work Australia.

Standard for the Uniform Scheduling of Drugs and Poisons (SUSDP).

Not classified as Dangerous Goods by the criteria of the Australian Dangerous Goods Code (ADG Code) for transport by road or rail.

International inventories

USA, Toxic Substances Control Act inventory (TSCA)	Complies
European Union - EINECS and ELINCS	Complies
Canada (DSL)	Complies.
Philippines (PICCS)	Complies
Inventory - Japan - Existing and New Chemicals list	Complies
China (IECSC)	Complies
Australia (AICS)	Complies
Korea (KECL)	Complies
Inventory - New Zealand - Inventory of Chemicals (NZIoC)	Complies

Contact REACH@miswaco.slb.com for REACH information.

15.2 Chemical Safety Report

No information available

16. Other information

Prepared by	Global Regulatory Compliance - Chemicals (GRC - Chemicals) , Anne Karin (Anka) Fosse
Supersedes date	14/Feb/2016
Revision date	28/Oct/2016
Version	4
The following sections have been revised:	3,, 5,, 6,, 7,, 9,, 10,, 11,, 16, No changes with regard to classification have been made.

Text of R phrases mentioned in Section 3

R48/20 - Harmful: danger of serious damage to health by prolonged exposure through inhalation

Full text of H-Statements referred to under sections 2 and 3

This product is not classified as hazardous therefore no (H) hazard statements assigned.

H373 - May cause damage to organs through prolonged or repeated exposure if inhaled

*A mark of M-I L.L.C., a Schlumberger Company

Disclaimer

The information contained herein is considered in good faith as reliable of the date issued and is based upon on measurements, tests or data derived from supplier's own study or furnished by others. In providing this SDS information, Supplier makes no express or implied warranties as to the information or product; merchantability or fitness of purpose; any express or implied warranty; or non-infringement of intellectual property rights; and supplier assumes no responsibility for any direct, special or consequential damages, results obtained, or the activities of others. To the maximum extent permitted by law, supplier's warranty obligations and buyer's sole remedies are as stated in separate agreement between the parties.

SAFETY DATA SHEET

Product Trade Name: PENETROL® DRY

Revision Date: 11-Sep-2018

Revision Number: 4

1. Identification

1.1. Product Identifier

Product Trade Name: PENETROL® DRY
Synonyms None
Chemical Family: Polymer
Internal ID Code HM008514

1.2 Recommended use and restrictions on use

Application: Surfactant
Uses advised against Consumer use

1.3 Manufacturer's Name and Contact Details

Manufacturer/Supplier

Baroid Industrial Drilling Products
Product Service Line of Halliburton Energy Services, Inc.
P.O. Box 1675
Houston, TX 77251
Telephone: (281) 871-4613 or 1-877-379-7412

Baroid Industrial Drilling Products
645 - 7th Ave SW Suite 1800
Calgary, AB
T2P 4G8
Canada
Telephone: 1-403-231-9300

Prepared By Chemical Stewardship
Telephone: 1-281-871-6107
e-mail: fdunexchem@halliburton.com

1.4. Emergency telephone number:

Emergency Telephone Number 1-866-519-4752 or 1-760-476-3962
Global Incident Response Access Code: 334305
Contract Number: 14012

2. Hazards Identification

2.1 Classification in accordance with paragraph (d) of §1910.1200

As adopted by the competent authority, this product does not require an SDS or hazard warning label.

Not classified

2.2. Label Elements

Hazard Pictograms

Signal Word: Not Classified

Hazard Statements Not Hazardous

Precautionary Statements

Prevention	None
Response	None
Storage	None
Disposal	None

2.3 Hazards not otherwise classified

None known

3. Composition/information on Ingredients

Substances	CAS Number	PERCENT (w/w)	GHS Classification - US
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	60 - 100%	Not classified

The exact percentage (concentration) of the composition has been withheld as proprietary.

4. First Aid Measures

4.1. Description of first aid measures

Inhalation	If inhaled, remove from area to fresh air. Get medical attention if respiratory irritation develops or if breathing becomes difficult.
Eyes	In case of contact, immediately flush eyes with plenty of water for at least 15 minutes and get medical attention if irritation persists.
Skin	Wash with soap and water. Get medical attention if irritation persists.
Ingestion	Rinse mouth with water many times. Get medical attention, if symptoms occur

4.2 Most important symptoms/effects, acute and delayed

No significant hazards expected.

4.3. Indication of any immediate medical attention and special treatment needed

Notes to Physician	Treat symptomatically.
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5. Fire-fighting measures

5.1. Extinguishing media

Suitable Extinguishing Media

Water fog, carbon dioxide, foam, dry chemical.

Extinguishing media which must not be used for safety reasons

None known.

5.2 Specific hazards arising from the substance or mixture

Special exposure hazards in a fire

Decomposition in fire may produce harmful gases.

5.3 Special protective equipment and precautions for fire-fighters

Special protective equipment for firefighters

Full protective clothing and approved self-contained breathing apparatus required for fire fighting personnel.

6. Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Use appropriate protective equipment. Use only competent persons for cleanup. Ensure adequate ventilation. Avoid contact with skin, eyes and clothing. Avoid creating and breathing dust. Remove sources of ignition. See Section 8 for additional information

6.2. Environmental precautions

None known.

6.3. Methods and material for containment and cleaning up

Scoop up and remove. Remove ignition sources and work with non-sparking tools. Cover powder spill with plastic sheet or tarp to minimize spreading

7. Handling and storage

7.1. Precautions for safe handling

Handling Precautions

Avoid contact with eyes, skin, or clothing. Avoid creating or inhaling dust. Avoid dust accumulations. Remove sources of ignition. Ensure adequate ventilation. Use appropriate protective equipment.

Hygiene Measures

Handle in accordance with good industrial hygiene and safety practice.

7.2. Conditions for safe storage, including any incompatibilities

Storage Information

Store in a well ventilated area. Use good housekeeping in storage and work areas to prevent accumulation of dust. Close container when not in use. Keep from heat, sparks, and open flames.

8. Exposure Controls/Personal Protection

8.1 Occupational Exposure Limits

Substances	CAS Number	OSHA PEL-TWA	ACGIH TLV-TWA
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	Not applicable	Not applicable

8.2 Appropriate engineering controls

Engineering Controls

Use approved industrial ventilation and local exhaust as required to maintain exposures below applicable exposure limits. Ensure adequate ventilation, especially in confined areas

8.3 Individual protection measures, such as personal protective equipment

Personal Protective Equipment

If engineering controls and work practices cannot prevent excessive exposures, the selection and proper use of personal protective equipment should be determined by an industrial hygienist or other qualified professional based on the specific application of this product.

Respiratory Protection

If engineering controls and work practices cannot keep exposure below occupational exposure limits or if exposure is unknown, wear a NIOSH certified, European Standard EN 149, AS/NZS 1715:2009, or equivalent respirator when using this product. Selection of and instruction on using all personal protective equipment, including respirators, should be performed by an Industrial Hygienist or other qualified professional.

Hand Protection

Use gloves which are suitable for the chemicals present in this product as well as

Skin Protection	other environmental factors in the workplace. Wear clothing appropriate for the work environment. Dusty clothing should be laundered before reuse. Use precautionary measures to avoid creating dust when removing or laundering clothing.
Eye Protection	Safety glasses with side-shields. If splashes are likely to occur, wear: Goggles, Face-shield.
Other Precautions	None known.

9. Physical and Chemical Properties

9.1. Information on basic physical and chemical properties

Physical State: Pellet	Color	White to off white
Odor: Odorless	Odor Threshold:	No information available

<u>Property</u>	<u>Values</u>
Remarks/ - Method	
pH:	5 - 7.5
Freezing Point / Range	No data available
Melting Point / Range	58 °C / 136 °F
Boiling Point / Range	No data available
Flash Point	No data available
Flammability (solid, gas)	No data available
Upper flammability limit	No data available
Lower flammability limit	No data available
Evaporation rate	No data available
Vapor Pressure	No data available
Vapor Density	No data available
Specific Gravity	1.06
Water Solubility	Soluble in water
Solubility in other solvents	No data available
Partition coefficient: n-octanol/water	No data available
Autoignition Temperature	No data available
Decomposition Temperature	No data available
Viscosity	No data available
Explosive Properties	No information available
Oxidizing Properties	No information available

9.2. Other information

VOC Content (%)	No data available
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10. Stability and Reactivity

10.1. Reactivity

Not expected to be reactive.

10.2. Chemical stability

Stable

10.3. Possibility of hazardous reactions

Will Not Occur

10.4. Conditions to avoid

Keep away from heat, sparks and flame.

10.5. Incompatible materials

Strong oxidizers. Strong acids. Strong bases.

10.6. Hazardous decomposition products

Carbon oxides. Oxides of sulfur. Oxides of nitrogen.

11. Toxicological Information**11.1 Information on likely routes of exposure****Principle Route of Exposure** Ingestion. Skin contact. Eye contact. Inhalation.**11.2 Symptoms related to the physical, chemical and toxicological characteristics****Acute Toxicity**

Inhalation	May cause mild respiratory irritation.
Eye Contact	May cause mechanical irritation to eye.
Skin Contact	None known.
Ingestion	May cause abdominal pain, vomiting, nausea, and diarrhea.

Chronic Effects/Carcinogenicity No data available to indicate product or components present at greater than 0.1% are chronic health hazards.**11.3 Toxicity data****Toxicology data for the components**

Substances	CAS Number	LD50 Oral	LD50 Dermal	LC50 Inhalation
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	No data available	No data available	No data available

12. Ecological Information**12.1. Toxicity****Ecotoxicity effects**

Product is not classified as hazardous to the environment.

Substance Ecotoxicity Data

Substances	CAS Number	Toxicity to Algae	Toxicity to Fish	Toxicity to Microorganisms	Toxicity to Invertebrates
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	No information available	No information available	No information available	No information available

12.2. Persistence and degradability

Substances	CAS Number	Persistence and Degradability
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	No information available

12.3. Bioaccumulative potential

Substances	CAS Number	Bioaccumulation
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	No information available

12.4. Mobility in soil

Substances	CAS Number	Mobility
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	No information available

12.5 Other adverse effects

No information available

13. Disposal Considerations**13.1. Waste treatment methods**

Disposal methods Bury in a licensed landfill according to federal, state, and local regulations.
Contaminated Packaging Follow all applicable national or local regulations.

14. Transport Information**US DOT**

UN Number Not restricted
UN proper shipping name: Not restricted
Transport Hazard Class(es): Not applicable
Packing Group: Not applicable
Environmental Hazards: Not applicable

Canadian TDG

UN Number Not restricted
UN proper shipping name: Not restricted
Transport Hazard Class(es): Not applicable
Packing Group: Not applicable
Environmental Hazards: Not applicable

IMDG/IMO

UN Number Not restricted
UN proper shipping name: Not restricted
Transport Hazard Class(es): Not applicable
Packing Group: Not applicable
Environmental Hazards: Not applicable

IATA/ICAO

UN Number Not restricted
UN proper shipping name: Not restricted
Transport Hazard Class(es): Not applicable
Packing Group: Not applicable
Environmental Hazards: Not applicable

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code Not applicable

Special Precautions for User None

15. Regulatory Information

US Regulations

US TSCA Inventory All components listed on inventory or are exempt.

TSCA Significant New Use Rules - S5A2

Substances	CAS Number	TSCA Significant New Use Rules - S5A2
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	Not applicable

EPA SARA Title III Extremely Hazardous Substances

Substances	CAS Number	EPA SARA Title III Extremely Hazardous Substances
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	Not applicable

EPA SARA (311,312) Hazard Class

None

EPA SARA (313) Chemicals

Substances	CAS Number	Toxic Release Inventory (TRI) - Group I	Toxic Release Inventory (TRI) - Group II
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	Not applicable	Not applicable

EPA CERCLA/Superfund Reportable Spill Quantity

Substances	CAS Number	CERCLA RQ
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	Not applicable

EPA RCRA Hazardous Waste Classification

If product becomes a waste, it does NOT meet the criteria of a hazardous waste as defined by the US EPA.

California Proposition 65

Substances	CAS Number	California Proposition 65
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	Not applicable

U.S. State Right-to-Know Regulations

Substances	CAS Number	MA Right-to-Know Law	NJ Right-to-Know Law	PA Right-to-Know Law
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	Not applicable	Not applicable	Not applicable

Canadian Regulations

Canadian Domestic Substances List (DSL) All components listed on inventory or are exempt.

16. Other information

Preparation Information

Prepared By

Chemical Stewardship
Telephone: 1-281-871-6107
e-mail: fdunexchem@halliburton.com

Revision Date:

11-Sep-2018

Reason for Revision

Initial Release

Additional information

For additional information on the use of this product, contact your local Halliburton representative.

For questions about the Safety Data Sheet for this or other Halliburton products, contact Chemical Stewardship at 1-580-251-4335.

Key or legend to abbreviations and acronyms used in the safety data sheet

bw – body weight
CAS – Chemical Abstracts Service
d - day
EC50 – Effective Concentration 50%
ErC50 – Effective Concentration growth rate 50%
h - hour
LC50 – Lethal Concentration 50%
LD50 – Lethal Dose 50%
LL50 – Lethal Loading 50%
mg/kg – milligram/kilogram
mg/L – milligram/liter
mg/m³ - milligram/cubic meter
mm - millimeter
mmHg - millimeter mercury
NIOSH – National Institute for Occupational Safety and Health
NTP – National Toxicology Program
OEL – Occupational Exposure Limit
PEL – Permissible Exposure Limit
ppm – parts per million
STEL – Short Term Exposure Limit
TWA – Time-Weighted Average
UN – United Nations
w/w - weight/weight

Key literature references and sources for data

www.ChemADVISOR.com/

Disclaimer Statement

This information is furnished without warranty, expressed or implied, as to accuracy or completeness. The information is obtained from various sources including the manufacturer and other third party sources. The information may not be valid under all conditions nor if this material is used in combination with other materials or in any process. Final determination of suitability of any material is the sole responsibility of the user.

End of Safety Data Sheet

SAFETY DATA SHEET

POLYSELECT™ POWER THIN

Product Trade Name:

Revision Date: 17-Jan-2019

Revision Number: 2

1. Identification

1.1. Product Identifier

Product Trade Name: POLYSELECT™ POWER THIN
Synonyms: None
Chemical Family: Blend
Internal ID Code: HM008886

1.2 Recommended use and restrictions on use

Application: Additive
Uses advised against: No information available

1.3 Manufacturer's Name and Contact Details

Manufacturer/Supplier

Baroid Fluid Services
Product Service Line of Halliburton Energy Services, Inc.
P.O. Box 1675
Houston, TX 77251
Telephone: (281) 871-4000

Baroid Fluid Services
Product Service Line of Halliburton Energy Services, Inc.
645 - 7th Ave SW Suite 1800
Calgary, AB
T2P 4G8
Canada
Telephone: 1-403-231-9300

Prepared By: Chemical Stewardship
Telephone: 1-281-871-6107
e-mail: fdunexchem@halliburton.com

1.4. Emergency telephone number:

Emergency Telephone Number: 1-866-519-4752 or 1-760-476-3962
Global Incident Response Access Code: 334305
Contract Number: 14012

2. Hazards Identification

2.1 Classification in accordance with paragraph (d) of §1910.1200

As adopted by the competent authority, this product does not require an SDS or hazard warning label.

Not classified

2.2. Label Elements

Hazard Pictograms

Signal Word: Not Classified

Hazard Statements Not Hazardous

Precautionary Statements

Prevention	None
Response	None
Storage	None
Disposal	None

2.3 Hazards not otherwise classified

None known

3. Composition/information on Ingredients

Substances	CAS Number	PERCENT (w/w)	GHS Classification - US
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	60 - 100%	Not classified

The exact percentage (concentration) of the composition has been withheld as proprietary.

4. First Aid Measures

4.1. Description of first aid measures

Inhalation	If inhaled, remove from area to fresh air. Get medical attention if respiratory irritation develops or if breathing becomes difficult.
Eyes	In case of contact, immediately flush eyes with plenty of water for at least 15 minutes and get medical attention if irritation persists.
Skin	Wash with soap and water. Get medical attention if irritation persists.
Ingestion	Rinse mouth with water many times. Get medical attention, if symptoms occur

4.2 Most important symptoms/effects, acute and delayed

No significant hazards expected.

4.3. Indication of any immediate medical attention and special treatment needed

Notes to Physician	Treat symptomatically.
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5. Fire-fighting measures

5.1. Extinguishing media

Suitable Extinguishing Media

Water fog, carbon dioxide, foam, dry chemical.

Extinguishing media which must not be used for safety reasons

None known.

5.2 Specific hazards arising from the substance or mixture

Special exposure hazards in a fire

Decomposition in fire may produce harmful gases. Spills produce extremely slippery surfaces.

5.3 Special protective equipment and precautions for fire-fighters

Special protective equipment for firefighters

Full protective clothing and approved self-contained breathing apparatus required for fire fighting personnel.

6. Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Use appropriate protective equipment. Spills of this product are very slippery. Avoid contact with skin, eyes and clothing. Avoid breathing vapors. Ensure adequate ventilation.
See Section 8 for additional information

6.2. Environmental precautions

None known.

6.3. Methods and material for containment and cleaning up

Isolate spill and stop leak where safe. Contain spill with sand or other inert materials. Scoop up and remove.

7. Handling and storage

7.1. Precautions for safe handling

Handling Precautions

Avoid contact with eyes, skin, or clothing. Wash hands after use. Avoid breathing vapors. Ensure adequate ventilation. Use appropriate protective equipment.

Hygiene Measures

Handle in accordance with good industrial hygiene and safety practice.

7.2. Conditions for safe storage, including any incompatibilities

Storage Information

Store away from oxidizers. Store in a cool, dry location. Product has a shelf life of 24 months.

8. Exposure Controls/Personal Protection

8.1 Occupational Exposure Limits

Substances	CAS Number	OSHA PEL-TWA	ACGIH TLV-TWA
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	Not applicable	Not applicable

8.2 Appropriate engineering controls

Engineering Controls Use in a well ventilated area.

8.3 Individual protection measures, such as personal protective equipment

Personal Protective Equipment If engineering controls and work practices cannot prevent excessive exposures, the selection and proper use of personal protective equipment should be determined by an industrial hygienist or other qualified professional based on the specific application of this product.

Respiratory Protection If engineering controls and work practices cannot keep exposure below occupational exposure limits or if exposure is unknown, wear a NIOSH certified, European Standard EN 149, AS/NZS 1715:2009, or equivalent respirator when using this product. Selection of and instruction on using all personal protective equipment, including respirators, should be performed by an Industrial Hygienist or other qualified professional.

Hand Protection Use gloves which are suitable for the chemicals present in this product as well as other environmental factors in the workplace.

Skin Protection Wear protective clothing appropriate for the work environment.

Eye Protection Safety glasses with side-shields. If splashes are likely to occur, wear: Goggles,

Other Precautions Face-shield.
None known.

9. Physical and Chemical Properties

9.1. Information on basic physical and chemical properties

Physical State: Liquid **Color** Yellowish
Odor: Slight **Odor** No information available
Threshold:

<u>Property</u>	<u>Values</u>
<u>Remarks/ - Method</u>	
pH:	7 - 9
Freezing Point / Range	No data available
Melting Point / Range	No data available
Pour Point / Range	No data available
Boiling Point / Range	No data available
Flash Point	> 100 °C / > 212 °F Cleveland Open Cup (COC)
Flammability (solid, gas)	No data available
Upper flammability limit	No data available
Lower flammability limit	No data available
Evaporation rate	No data available
Vapor Pressure	No data available
Vapor Density	No data available
Specific Gravity	1.16
Water Solubility	Soluble in water
Solubility in other solvents	No data available
Partition coefficient: n-octanol/water	No data available
Autoignition Temperature	No data available
Decomposition Temperature	No data available
Viscosity	No data available
Explosive Properties	No information available
Oxidizing Properties	No information available

9.2. Other information

VOC Content (%) No data available

10. Stability and Reactivity

10.1. Reactivity

Not expected to be reactive.

10.2. Chemical stability

Stable

10.3. Possibility of hazardous reactions

Will Not Occur

10.4. Conditions to avoid

None anticipated

10.5. Incompatible materials

Strong oxidizers.

10.6. Hazardous decomposition products

Carbon monoxide and carbon dioxide.

11. Toxicological Information

11.1 Information on likely routes of exposure

Principle Route of Exposure Eye or skin contact, inhalation.

11.2 Symptoms related to the physical, chemical and toxicological characteristics

Acute Toxicity

Inhalation	May cause mild respiratory irritation.
Eye Contact	May cause mild eye irritation.
Skin Contact	May cause mild skin irritation.
Ingestion	May cause abdominal pain, vomiting, nausea, and diarrhea.

Chronic Effects/Carcinogenicity No data available to indicate product or components present at greater than 0.1% are chronic health hazards.

11.3 Toxicity data

Toxicology data for the components

Substances	CAS Number	LD50 Oral	LD50 Dermal	LC50 Inhalation
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	No data available	No data available	No data available

12. Ecological Information

12.1. Toxicity

Ecotoxicity effects

Product is not classified as hazardous to the environment.

Substance Ecotoxicity Data

Substances	CAS Number	Toxicity to Algae	Toxicity to Fish	Toxicity to Microorganisms	Toxicity to Invertebrates
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	No information available	No information available	No information available	No information available

12.2. Persistence and degradability

Substances	CAS Number	Persistence and Degradability
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	No information available

12.3. Bioaccumulative potential

Substances	CAS Number	Bioaccumulation
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	No information available

12.4. Mobility in soil

Substances	CAS Number	Mobility
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	No information available

12.5 Other adverse effects

No information available

13. Disposal Considerations**13.1. Waste treatment methods**

Disposal methods Disposal should be made in accordance with federal, state, and local regulations.
Contaminated Packaging Follow all applicable national or local regulations.

14. Transport Information**US DOT**

UN Number Not restricted
UN proper shipping name: Not restricted
Transport Hazard Class(es): Not applicable
Packing Group: Not applicable
Environmental Hazards: Not applicable

Canadian TDG

UN Number Not restricted
UN proper shipping name: Not restricted
Transport Hazard Class(es): Not applicable
Packing Group: Not applicable
Environmental Hazards: Not applicable

IMDG/IMO

UN Number Not restricted
UN proper shipping name: Not restricted
Transport Hazard Class(es): Not applicable
Packing Group: Not applicable
Environmental Hazards: Not applicable

IATA/ICAO

UN Number Not restricted
UN proper shipping name: Not restricted
Transport Hazard Class(es): Not applicable
Packing Group: Not applicable
Environmental Hazards: Not applicable

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code Not applicable

Special Precautions for User None

15. Regulatory Information

US Regulations

US TSCA Inventory All components listed on inventory or are exempt.

TSCA Significant New Use Rules - S5A2

Substances	CAS Number	TSCA Significant New Use Rules - S5A2
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	Not applicable

EPA SARA Title III Extremely Hazardous Substances

Substances	CAS Number	EPA SARA Title III Extremely Hazardous Substances
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	Not applicable

EPA SARA (311,312) Hazard Class

None

EPA SARA (313) Chemicals

Substances	CAS Number	Toxic Release Inventory (TRI) - Group I	Toxic Release Inventory (TRI) - Group II
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	Not applicable	Not applicable

EPA CERCLA/Superfund Reportable Spill Quantity

Substances	CAS Number	CERCLA RQ
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	Not applicable

EPA RCRA Hazardous Waste Classification

If product becomes a waste, it does NOT meet the criteria of a hazardous waste as defined by the US EPA.

California Proposition 65

Substances	CAS Number	California Proposition 65
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	Not applicable

U.S. State Right-to-Know Regulations

Substances	CAS Number	MA Right-to-Know Law	NJ Right-to-Know Law	PA Right-to-Know Law
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	Not applicable	Not applicable	Not applicable

NFPA Ratings:

Health 1, Flammability 1, Reactivity 0

HMIS Ratings:

Health 1, Flammability 0, Physical Hazard 0, PPE: B

Canadian Regulations

Canadian Domestic Substances List (DSL) All components listed on inventory or are exempt.

16. Other information

Preparation Information**Prepared By**

Chemical Stewardship
Telephone: 1-281-871-6107
e-mail: fdunexchem@halliburton.com

Revision Date:

17-Jan-2019

Reason for Revision

SDS sections updated:
9
Change to physical properties

Additional information

For additional information on the use of this product, contact your local Halliburton representative.

For questions about the Safety Data Sheet for this or other Halliburton products, contact Chemical Stewardship at 1-580-251-4335.

Key or legend to abbreviations and acronyms used in the safety data sheet

bw – body weight
CAS – Chemical Abstracts Service
d - day
EC50 – Effective Concentration 50%
ErC50 – Effective Concentration growth rate 50%
h - hour
LC50 – Lethal Concentration 50%
LD50 – Lethal Dose 50%
LL50 – Lethal Loading 50%
mg/kg – milligram/kilogram
mg/L – milligram/liter
mg/m³ - milligram/cubic meter
mm - millimeter
mmHg - millimeter mercury
NIOSH – National Institute for Occupational Safety and Health
NTP – National Toxicology Program
OEL – Occupational Exposure Limit
PEL – Permissible Exposure Limit
ppm – parts per million
STEL – Short Term Exposure Limit
TWA – Time-Weighted Average
UN – United Nations
w/w - weight/weight

Key literature references and sources for data

www.ChemADVISOR.com/
NZ CCID

Disclaimer Statement

This information is furnished without warranty, expressed or implied, as to accuracy or completeness. The information is obtained from various sources including the manufacturer and other third party sources. The information may not be valid under all conditions nor if this material is used in combination with other materials or in any process. Final determination of suitability of any material is the sole responsibility of the user.

End of Safety Data Sheet



SAFETY DATA SHEET PLATINUM PAC* (ALL GRADES)

SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1. Product identifier

Product name PLATINUM PAC* (ALL GRADES)
Synonyms, Trade Names PLATINUM PAC*, PLATINUM PAC UL*

1.2. Relevant identified uses of the substance or mixture and uses advised against

Identified uses Oil well drilling fluid additive.

1.3. Details of the supplier of the safety data sheet

Supplier M-I SWACO
A Schlumberger Company
Woodlands Drive,
Kirkhill Industrial Estate,
Dyce, Aberdeen AB21 0GW.
Scotland UK
T = +44 (0)1224-246600
F = +44 (0)1224-246699
E-mail = MBXMSDS-EH@miswaco.slb.com

1.4. Emergency telephone number

(24 Hour) Australia +61 2801 44558, Asia Pacific +65 3158 1074, China +86 10 5100 3039, Europe +44 (0) 1235 239 670, Middle East and Africa +44 (0) 1235 239 671, New Zealand +64 9929 1483, USA 001 281 561 1600.

SECTION 2: HAZARDS IDENTIFICATION

2.1. Classification of the substance or mixture

Classification (1999/45/EEC) Not classified.

2.2. Label elements

Risk Phrases

NC Not classified.

Safety Phrases

NC Not classified.

2.3. Other hazards

Not Classified as PBT/vPvB by current EU criteria.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.2. Mixtures

POLYANIONIC CELLULOSE		60-100%
Classification (EC 1272/2008) Not classified.	Classification (67/548/EEC) Not classified.	

The Full Text for all R-Phrases and Hazard Statements are Displayed in Section 16.

Composition Comments

The data shown is in accordance with the latest EC Directives.

SECTION 4: FIRST AID MEASURES

PLATINUM PAC* (ALL GRADES)**4.1. Description of first aid measures****Inhalation**

Move the exposed person to fresh air at once. If respiratory problems, artificial respiration/oxygen. Get medical attention if any discomfort continues.

Ingestion

Do not induce vomiting. Immediately give a couple of glasses of water or milk, provided the victim is fully conscious. Get medical attention if any discomfort continues.

Skin contact

Remove contaminated clothing immediately and wash skin with soap and water. Get medical attention promptly if symptoms occur after washing.

Eye contact

Make sure to remove any contact lenses from the eyes before rinsing. Promptly wash eyes with plenty of water while lifting the eye lids. Continue to rinse for at least 15 minutes. Get medical attention if any discomfort continues.

4.2. Most important symptoms and effects, both acute and delayed**Inhalation.**

Irritation of nose, throat and airway.

Ingestion

May cause discomfort if swallowed.

Skin contact

Prolonged skin contact may cause redness and irritation.

Eye contact

May cause temporary eye irritation.

4.3. Indication of any immediate medical attention and special treatment needed

Get medical attention if any discomfort continues.

SECTION 5: FIREFIGHTING MEASURES**5.1. Extinguishing media****Extinguishing media**

Use fire-extinguishing media appropriate for surrounding materials.

5.2. Special hazards arising from the substance or mixture**Hazardous combustion products**

When heated, vapours/gases hazardous to health may be formed.

Unusual Fire & Explosion Hazards

High concentrations of dust may form explosive mixture with air.

5.3. Advice for firefighters**Special Fire Fighting Procedures**

Containers close to fire should be removed immediately or cooled with water.

Protective equipment for fire-fighters

Self contained breathing apparatus and full protective clothing must be worn in case of fire.

SECTION 6: ACCIDENTAL RELEASE MEASURES**6.1. Personal precautions, protective equipment and emergency procedures**

Wear protective clothing as described in Section 8 of this safety data sheet.

6.2. Environmental precautions

Do not allow to enter drains, sewers or watercourses.

6.3. Methods and material for containment and cleaning up

Avoid generation and spreading of dust. Remove spillage with vacuum cleaner. If not possible, collect spillage with shovel, broom or the like. Ensure that waste and contaminated materials are collected and removed from the work area as soon as possible in a suitably labelled container. Product becomes slippery when wet.

6.4. Reference to other sections

Wear protective clothing as described in Section 8 of this safety data sheet.

SECTION 7: HANDLING AND STORAGE**7.1. Precautions for safe handling**

Avoid inhalation of dust and contact with skin and eyes. Avoid handling which leads to dust formation.

PLATINUM PAC* (ALL GRADES)**7.2. Conditions for safe storage, including any incompatibilities**

Store in tightly closed original container in a dry, cool and well-ventilated place.

7.3. Specific end use(s)

The identified uses for this product are detailed in Section 1.2.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION**8.1. Control parameters****Ingredient Comments**

NUI = Nuisance dust, WEL TWA 4mg/m3 Respirable Dust, 10 mg/m3 Total Dust.

8.2. Exposure controls**Protective equipment****Process conditions**

All chemical Personal Protective Equipment (PPE) should be selected based on an assessment of both the chemical hazard present and the risk of exposure to those hazards. The PPE recommendations below are based on an assessment of the chemical hazards associated with this product. Where this product is used in a mixture with other products or fluids, additional hazards may be created and as such further assessment of risk may be required. The risk of exposure and need of respiratory protection will vary from workplace to workplace and should be assessed by the user in each situation.

Engineering measures

Provide adequate general and local exhaust ventilation.

Respiratory equipment

In case of inadequate ventilation or risk of inhalation of dust, use suitable respiratory equipment with particle filter (type P2).

Hand protection

For prolonged or repeated skin contact use suitable protective gloves. Use protective gloves made of: Nitrile. or Neoprene.

Eye protection

Wear approved chemical safety goggles where eye exposure is reasonably probable.

Other Protection

Wear appropriate clothing to prevent any possibility of skin contact. Provide eyewash station.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES**9.1. Information on basic physical and chemical properties**

<u>Appearance</u>	Solid
<u>Colour</u>	White to yellow
<u>Odour</u>	Odourless.
<u>Solubility</u>	Soluble in water.
<u>Relative density</u>	0.3-0.5 sg
<u>Bulk Density</u>	300-900 kg/m3
<u>pH-Value, Diluted Solution</u>	6.0-8.5 @ 1%

9.2. Other information

Not relevant

SECTION 10: STABILITY AND REACTIVITY**10.1. Reactivity**

There are no known reactivity hazards associated with this product.

10.2. Chemical stability

Stable under normal temperature conditions and recommended use.

10.3. Possibility of hazardous reactions

Not known.

10.4. Conditions to avoid

PLATINUM PAC* (ALL GRADES)

Avoid heat, flames and other sources of ignition. Avoid contact with water.

10.5. Incompatible materials**Materials To Avoid**

Avoid contact with: Strong oxidising substances.

10.6. Hazardous decomposition products

When heated, vapours/gases hazardous to health may be formed.

SECTION 11: TOXICOLOGICAL INFORMATION**11.1. Information on toxicological effects****Aspiration hazard:**

Not anticipated to present an aspiration hazard based on chemical structure.

Inhalation

Dust may irritate respiratory system or lungs.

Ingestion

May cause discomfort if swallowed.

Skin contact

Prolonged and frequent contact may cause redness and irritation.

Eye contact

Particles in the eyes may cause irritation and smarting.

Route of entry

No route of entry noted.

Target Organs

No specific target organs noted

SECTION 12: ECOLOGICAL INFORMATION**Ecotoxicity**

Contact M-I SWACO's QHSE Department for ecological information at env@miswaco.slb.com.

12.1. Toxicity**Acute Fish Toxicity**

Not considered toxic to fish.

12.2. Persistence and degradability**Degradability**

There are no data on the degradability of this product.

12.3. Bioaccumulative potential**Bioaccumulative potential**

No data available on bioaccumulation.

12.4. Mobility in soil**Mobility:**

The product is soluble in water.

12.5. Results of PBT and vPvB assessment

Not Classified as PBT/vPvB by current EU criteria.

12.6. Other adverse effects

None known.

PLATINUM PAC* (ALL GRADES)**SECTION 13: DISPOSAL CONSIDERATIONS****13.1. Waste treatment methods**

Recover and reclaim or recycle, if practical. Dispose of waste and residues in accordance with local authority requirements.

SECTION 14: TRANSPORT INFORMATION**General**

The product is not covered by international regulation on the transport of dangerous goods (IMDG, IATA, ADR/RID).

14.1. UN number

Not applicable.

14.2. UN proper shipping name

Not applicable.

14.3. Transport hazard class(es)

Not applicable.

14.4. Packing group

Not applicable.

14.5. Environmental hazards**Environmentally Hazardous Substance/Marine Pollutant**

No.

14.6. Special precautions for user

Not applicable.

14.7. Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code

Not applicable.

SECTION 15: REGULATORY INFORMATION**15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture****Uk Regulatory References**

Chemicals (Hazard Information & Packaging) Regulations. Control of Substances Hazardous to Health Regulations 2002 (as amended) Workplace Exposure Limits EH40.

EU Legislation

Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), establishing a European Chemicals Agency, amending Directive 1999/45/EC and repealing Council Regulation (EEC) No 793/93 and Commission Regulation (EC) No 1488/94 as well as Council Directive 76/769/EEC and Commission Directives 91/155/EEC, 93/67/EEC, 93/105/EC and 2000/21/EC, including amendments.

Water hazard classification

WGK 1

15.2. Chemical Safety Assessment**International Chemical Inventories**

Contact REACH@miswaco.slb.com for REACH information. Complies with the following national/regional chemical inventory requirements: Australia (AICS), Canada (DSL / NDSL), China (IECSC), Europe (EINECS / ELINCS), Japan (METI / ENCS), Korea (TCCL / ECL), New Zealand (NZIoC), Philippines (PICCS), United States (TSCA).

SECTION 16: OTHER INFORMATION**Abbreviations and acronyms used in the safety data sheet**

*a mark of M-I L.L.C.

General information

HMIS Health -1 HMIS Flammability - 1 HMIS Physical Hazard - 0 E - Safety glasses, Gloves, Dust Respirator

Information Sources

Product information provided by the commercial vendor(s). Material Safety Data Sheet, Misc. manufacturers. LOLI. European Chemicals Bureau - ESIS (European Chemical Substances Information).

Revision Comments

General revision. Compiled or revised by Sarah Malone

PLATINUM PAC* (ALL GRADES)

<u>Issued By</u>	Bill Cameron
<u>Revision Date</u>	15-Jun-12
<u>Revision</u>	1
<u>Supersedes date</u>	13-May-12
<u>SDS No.</u>	12588
<u>Risk Phrases In Full</u>	
NC	Not classified.

Disclaimer

MSDS furnished independent of product sale. While every effort has been made to accurately describe this product, some of the data are obtained from sources beyond our direct supervision. We cannot make any assertions as to its reliability or completeness; therefore, user may rely only at user's risk. We have made no effort to censor or conceal deleterious aspects of this product. Since we cannot anticipate or control the conditions under which this information and product may be used, we make no guarantee that the precautions we have suggested will be adequate for all individuals and/or situations. It is the obligation of each user of this product to comply with the requirements of all applicable laws regarding use and disposal of this product. Additional information will be furnished upon request to assist the user; however, no warranty, either expressed or implied, nor liability of any nature with respect to this product or to the data herein is made or incurred hereunder.

SAFETY DATA SHEET

POLYSELECT™ POWER THIN

Product Trade Name:

Revision Date: 17-Jan-2019

Revision Number: 2

1. Identification

1.1. Product Identifier

Product Trade Name: POLYSELECT™ POWER THIN
Synonyms: None
Chemical Family: Blend
Internal ID Code: HM008886

1.2 Recommended use and restrictions on use

Application: Additive
Uses advised against: No information available

1.3 Manufacturer's Name and Contact Details

Manufacturer/Supplier

Baroid Fluid Services
Product Service Line of Halliburton Energy Services, Inc.
P.O. Box 1675
Houston, TX 77251
Telephone: (281) 871-4000

Baroid Fluid Services
Product Service Line of Halliburton Energy Services, Inc.
645 - 7th Ave SW Suite 1800
Calgary, AB
T2P 4G8
Canada
Telephone: 1-403-231-9300

Prepared By: Chemical Stewardship
Telephone: 1-281-871-6107
e-mail: fdunexchem@halliburton.com

1.4. Emergency telephone number:

Emergency Telephone Number: 1-866-519-4752 or 1-760-476-3962
Global Incident Response Access Code: 334305
Contract Number: 14012

2. Hazards Identification

2.1 Classification in accordance with paragraph (d) of §1910.1200

As adopted by the competent authority, this product does not require an SDS or hazard warning label.

Not classified

2.2. Label Elements

Hazard Pictograms

Signal Word: Not Classified

Hazard Statements Not Hazardous

Precautionary Statements

Prevention	None
Response	None
Storage	None
Disposal	None

2.3 Hazards not otherwise classified

None known

3. Composition/information on Ingredients

Substances	CAS Number	PERCENT (w/w)	GHS Classification - US
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	60 - 100%	Not classified

The exact percentage (concentration) of the composition has been withheld as proprietary.

4. First Aid Measures

4.1. Description of first aid measures

Inhalation	If inhaled, remove from area to fresh air. Get medical attention if respiratory irritation develops or if breathing becomes difficult.
Eyes	In case of contact, immediately flush eyes with plenty of water for at least 15 minutes and get medical attention if irritation persists.
Skin	Wash with soap and water. Get medical attention if irritation persists.
Ingestion	Rinse mouth with water many times. Get medical attention, if symptoms occur

4.2 Most important symptoms/effects, acute and delayed

No significant hazards expected.

4.3. Indication of any immediate medical attention and special treatment needed

Notes to Physician	Treat symptomatically.
---------------------------	------------------------

5. Fire-fighting measures

5.1. Extinguishing media

Suitable Extinguishing Media

Water fog, carbon dioxide, foam, dry chemical.

Extinguishing media which must not be used for safety reasons

None known.

5.2 Specific hazards arising from the substance or mixture

Special exposure hazards in a fire

Decomposition in fire may produce harmful gases. Spills produce extremely slippery surfaces.

5.3 Special protective equipment and precautions for fire-fighters

Special protective equipment for firefighters

Full protective clothing and approved self-contained breathing apparatus required for fire fighting personnel.

6. Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Use appropriate protective equipment. Spills of this product are very slippery. Avoid contact with skin, eyes and clothing. Avoid breathing vapors. Ensure adequate ventilation.
See Section 8 for additional information

6.2. Environmental precautions

None known.

6.3. Methods and material for containment and cleaning up

Isolate spill and stop leak where safe. Contain spill with sand or other inert materials. Scoop up and remove.

7. Handling and storage

7.1. Precautions for safe handling

Handling Precautions

Avoid contact with eyes, skin, or clothing. Wash hands after use. Avoid breathing vapors. Ensure adequate ventilation. Use appropriate protective equipment.

Hygiene Measures

Handle in accordance with good industrial hygiene and safety practice.

7.2. Conditions for safe storage, including any incompatibilities

Storage Information

Store away from oxidizers. Store in a cool, dry location. Product has a shelf life of 24 months.

8. Exposure Controls/Personal Protection

8.1 Occupational Exposure Limits

Substances	CAS Number	OSHA PEL-TWA	ACGIH TLV-TWA
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	Not applicable	Not applicable

8.2 Appropriate engineering controls

Engineering Controls Use in a well ventilated area.

8.3 Individual protection measures, such as personal protective equipment

Personal Protective Equipment If engineering controls and work practices cannot prevent excessive exposures, the selection and proper use of personal protective equipment should be determined by an industrial hygienist or other qualified professional based on the specific application of this product.

Respiratory Protection If engineering controls and work practices cannot keep exposure below occupational exposure limits or if exposure is unknown, wear a NIOSH certified, European Standard EN 149, AS/NZS 1715:2009, or equivalent respirator when using this product. Selection of and instruction on using all personal protective equipment, including respirators, should be performed by an Industrial Hygienist or other qualified professional.

Hand Protection Use gloves which are suitable for the chemicals present in this product as well as other environmental factors in the workplace.

Skin Protection Wear protective clothing appropriate for the work environment.

Eye Protection Safety glasses with side-shields. If splashes are likely to occur, wear: Goggles,

Other Precautions Face-shield.
None known.

9. Physical and Chemical Properties

9.1. Information on basic physical and chemical properties

Physical State: Liquid **Color** Yellowish
Odor: Slight **Odor** No information available
Threshold:

<u>Property</u>	<u>Values</u>
<u>Remarks/ - Method</u>	
pH:	7 - 9
Freezing Point / Range	No data available
Melting Point / Range	No data available
Pour Point / Range	No data available
Boiling Point / Range	No data available
Flash Point	> 100 °C / > 212 °F Cleveland Open Cup (COC)
Flammability (solid, gas)	No data available
Upper flammability limit	No data available
Lower flammability limit	No data available
Evaporation rate	No data available
Vapor Pressure	No data available
Vapor Density	No data available
Specific Gravity	1.16
Water Solubility	Soluble in water
Solubility in other solvents	No data available
Partition coefficient: n-octanol/water	No data available
Autoignition Temperature	No data available
Decomposition Temperature	No data available
Viscosity	No data available
Explosive Properties	No information available
Oxidizing Properties	No information available

9.2. Other information

VOC Content (%) No data available

10. Stability and Reactivity

10.1. Reactivity

Not expected to be reactive.

10.2. Chemical stability

Stable

10.3. Possibility of hazardous reactions

Will Not Occur

10.4. Conditions to avoid

None anticipated

10.5. Incompatible materials

Strong oxidizers.

10.6. Hazardous decomposition products

Carbon monoxide and carbon dioxide.

11. Toxicological Information

11.1 Information on likely routes of exposure

Principle Route of Exposure Eye or skin contact, inhalation.

11.2 Symptoms related to the physical, chemical and toxicological characteristics

Acute Toxicity

Inhalation	May cause mild respiratory irritation.
Eye Contact	May cause mild eye irritation.
Skin Contact	May cause mild skin irritation.
Ingestion	May cause abdominal pain, vomiting, nausea, and diarrhea.

Chronic Effects/Carcinogenicity No data available to indicate product or components present at greater than 0.1% are chronic health hazards.

11.3 Toxicity data

Toxicology data for the components

Substances	CAS Number	LD50 Oral	LD50 Dermal	LC50 Inhalation
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	No data available	No data available	No data available

12. Ecological Information

12.1. Toxicity

Ecotoxicity effects

Product is not classified as hazardous to the environment.

Substance Ecotoxicity Data

Substances	CAS Number	Toxicity to Algae	Toxicity to Fish	Toxicity to Microorganisms	Toxicity to Invertebrates
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	No information available	No information available	No information available	No information available

12.2. Persistence and degradability

Substances	CAS Number	Persistence and Degradability
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	No information available

12.3. Bioaccumulative potential

Substances	CAS Number	Bioaccumulation
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	No information available

12.4. Mobility in soil

Substances	CAS Number	Mobility
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	No information available

12.5 Other adverse effects

No information available

13. Disposal Considerations**13.1. Waste treatment methods**

Disposal methods Disposal should be made in accordance with federal, state, and local regulations.
Contaminated Packaging Follow all applicable national or local regulations.

14. Transport Information**US DOT**

UN Number Not restricted
UN proper shipping name: Not restricted
Transport Hazard Class(es): Not applicable
Packing Group: Not applicable
Environmental Hazards: Not applicable

Canadian TDG

UN Number Not restricted
UN proper shipping name: Not restricted
Transport Hazard Class(es): Not applicable
Packing Group: Not applicable
Environmental Hazards: Not applicable

IMDG/IMO

UN Number Not restricted
UN proper shipping name: Not restricted
Transport Hazard Class(es): Not applicable
Packing Group: Not applicable
Environmental Hazards: Not applicable

IATA/ICAO

UN Number Not restricted
UN proper shipping name: Not restricted
Transport Hazard Class(es): Not applicable
Packing Group: Not applicable
Environmental Hazards: Not applicable

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code Not applicable

Special Precautions for User None

15. Regulatory Information

US Regulations

US TSCA Inventory

All components listed on inventory or are exempt.

TSCA Significant New Use Rules - S5A2

Substances	CAS Number	TSCA Significant New Use Rules - S5A2
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	Not applicable

EPA SARA Title III Extremely Hazardous Substances

Substances	CAS Number	EPA SARA Title III Extremely Hazardous Substances
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	Not applicable

EPA SARA (311,312) Hazard Class

None

EPA SARA (313) Chemicals

Substances	CAS Number	Toxic Release Inventory (TRI) - Group I	Toxic Release Inventory (TRI) - Group II
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	Not applicable	Not applicable

EPA CERCLA/Superfund Reportable Spill Quantity

Substances	CAS Number	CERCLA RQ
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	Not applicable

EPA RCRA Hazardous Waste Classification

If product becomes a waste, it does NOT meet the criteria of a hazardous waste as defined by the US EPA.

California Proposition 65

Substances	CAS Number	California Proposition 65
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	Not applicable

U.S. State Right-to-Know Regulations

Substances	CAS Number	MA Right-to-Know Law	NJ Right-to-Know Law	PA Right-to-Know Law
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	Not applicable	Not applicable	Not applicable

NFPA Ratings:

Health 1, Flammability 1, Reactivity 0

HMIS Ratings:

Health 1, Flammability 0, Physical Hazard 0, PPE: B

Canadian Regulations

Canadian Domestic Substances List (DSL) All components listed on inventory or are exempt.

16. Other information

Preparation Information**Prepared By**

Chemical Stewardship
Telephone: 1-281-871-6107
e-mail: fdunexchem@halliburton.com

Revision Date:

17-Jan-2019

Reason for Revision

SDS sections updated:
9
Change to physical properties

Additional information

For additional information on the use of this product, contact your local Halliburton representative.

For questions about the Safety Data Sheet for this or other Halliburton products, contact Chemical Stewardship at 1-580-251-4335.

Key or legend to abbreviations and acronyms used in the safety data sheet

bw – body weight
CAS – Chemical Abstracts Service
d - day
EC50 – Effective Concentration 50%
ErC50 – Effective Concentration growth rate 50%
h - hour
LC50 – Lethal Concentration 50%
LD50 – Lethal Dose 50%
LL50 – Lethal Loading 50%
mg/kg – milligram/kilogram
mg/L – milligram/liter
mg/m³ - milligram/cubic meter
mm - millimeter
mmHg - millimeter mercury
NIOSH – National Institute for Occupational Safety and Health
NTP – National Toxicology Program
OEL – Occupational Exposure Limit
PEL – Permissible Exposure Limit
ppm – parts per million
STEL – Short Term Exposure Limit
TWA – Time-Weighted Average
UN – United Nations
w/w - weight/weight

Key literature references and sources for data

www.ChemADVISOR.com/
NZ CCID

Disclaimer Statement

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End of Safety Data Sheet



Safety Data Sheet POLYSWELL*

1. Identification of the Substance/Preparation and of the Company/Undertaking

1.1 Product identifier

Product name POLYSWELL*

Product code PID676

1.2 Relevant identified uses of the substance or mixture and uses advised against

Recommended Use Lost circulation material.

Uses advised against Consumer use

1.3 Details of the supplier of the safety data sheet

Supplier

M-I L.L.C.

P.O.Box 42842

Houston, TX 77242

www.miswaco.slb.com

Telephone: 1 281-561-1511

M-I SWACO, A Schlumberger Company

200 - 125, 9th Avenue SE

Calgary, Alberta T2G 0P6, Canada

Telephone: 1-780-962-8221

E-mail address SDS@slb.com

Prepared by

Global Regulatory Compliance - Chemicals (GRC - Chemicals)

1.4 Emergency Telephone Number

Emergency telephone (24 Hour) Asia Pacific +65 3158 1074, Europe +44 (0) 1235 239 670, Middle East and Africa +44 (0) 1235 239 671, USA +1 281 561 1600, Canada +1 800 579 7421, Argentina: +54 11 5984 3690, Brazil : 0800-720-8000/0800-777-2323 (WGRA)

2. Hazards Identification

2.1 Classification of the substance or mixture

GHS - Classification

Health hazards Not classified

Environmental hazards Not classified

Physical Hazards

Combustible dust

2.2 Label elements

Signal word

WARNING

Hazard Statements

H232 - May form combustible dust concentrations in air

Precautionary Statements

Supplementary precautionary statements

P240 - Ground/bond container and receiving equipment

P241 - Use explosion-proof electrical/ ventilating/ lighting/ equipment

P243 - Take precautionary measures against static discharge

Unknown acute toxicity

Not applicable.

3. Composition/information on Ingredients

3.1 Substances

Not applicable

3.2 Mixtures

This product does not contain any hazardous ingredients, or ingredients with national workplace exposure limits.

Chemical Name	CAS No	Weight-%
2-Propenoic acid, potassium salt, polymer with 2-propenamide	31212-13-2	80 - 100

Comments

The specific chemical identity and/or exact percentage (concentration) of composition has been withheld as a trade secret

4. First Aid Measures

4.1 First aid measures

Inhalation

If inhaled, remove from area to fresh air. Get medical attention if respiratory irritation develops or if breathing becomes difficult.

Ingestion

Rinse mouth. Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person. Get medical attention if symptoms occur.

Skin contact

Wash skin thoroughly with soap and water. Get medical attention if irritation persists.

Eye Contact

Promptly wash eyes with lots of water while lifting eye lids. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention if any discomfort continues.

4.2. Most important symptoms and effects, both acute and delayed

General advice

The severity of the symptoms described will vary dependant of the concentration and the

length of exposure. If adverse symptoms develop, the casualty should be transferred to hospital as soon as possible.

Symptoms

Inhalation Please see Section 11. Toxicological Information for further information.

Ingestion Please see Section 11. Toxicological Information for further information.

Skin contact Please see Section 11. Toxicological Information for further information.

Eye contact Please see Section 11. Toxicological Information for further information.

4.3 Indication of any immediate medical attention and special treatment needed

Notes to physician Treat symptomatically

5. Fire-Fighting Measures

5.1 Extinguishing media

Suitable extinguishing media

Water Fog, Alcohol Foam, CO₂, Dry Chemical.

Extinguishing media which must not be used for safety reasons

None known.

5.2. Special hazards arising from the substance or mixture

Unusual fire and explosion hazards

Suspended dust may present a dust explosion hazard.

Hazardous combustion products

Carbon oxides (CO_x), Nitrogen oxides (NO_x), Hydrogen cyanide (hydrocyanic acid).

5.3 Advice for firefighters

Special protective equipment for fire-fighters

As in any fire, wear self-contained breathing apparatus and full protective gear.

Special Fire-Fighting Procedures

Containers close to fire should be removed immediately or cooled with water.

6. Accidental Release Measures

6.1. Personal precautions, protective equipment and emergency procedures

Use personal protective equipment. See also section 8. Material becomes slippery when wet. Use caution if wet.

6.2 Environmental precautions

Disposal should be in accordance with applicable regional, national and local laws and regulations. Refer to applicable federal, state and local regulations.

Environmental exposure controls

Local authorities should be advised if significant spillages cannot be contained.

6.3 Methods and material for containment and cleaning up

Methods for containment

Prevent further leakage or spillage if safe to do so. Cover powder spill with plastic sheet or tarp to minimize spreading.

Methods for cleaning up

Swells on contact with water. Sweep up and shovel into suitable containers for disposal. After cleaning, flush away traces with water.

6.4 Reference to other sections

See section 13 for more information.

7. Handling and Storage

7.1 Precautions for safe handling

Handling

Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin and eyes. Avoid dust formation. Material becomes slippery when wet. Use caution if wet.

Hygiene measures

Use good work and personal hygiene practices to avoid exposure. Do not eat, drink or smoke when using this product.

7.2 Conditions for safe storage, including any incompatibilities

Technical measures/precautions Ensure adequate ventilation. Keep airborne concentrations below exposure limits.

Storage precautions Keep containers tightly closed in a dry, cool and well-ventilated place. Keep at 0-35°C. Avoid contact with: Oxidizing agents. Strong acids.

Packaging materials Use specially constructed containers only.

8. Exposure Controls/Personal Protection

8.1 Control parameters

Exposure limits NUI = Nuisance dust, TWA 4mg/m³ Respirable Dust, 10mg/m³ Total Dust. No biological limit allocated

Chemical Name	ACGIH TLV	OSHA PEL	Argentina - Occupational Exposure Limits - TWAs (CMPs)	Brazil - Occupational Exposure Limits - TWAs (LTs)	Mexico - Occupational Exposure Limits - TWAs (LMPE-PPTs)
2-Propenoic acid, potassium salt, polymer with 2-propenamide	Not determined	Not determined	Not determined	Not determined	Not determined

IDLH (Immediately Dangerous to Life or Health)

This product contains substance(s) classified as Immediately Dangerous to Life or Health (IDLH) by the US National Institute for Occupational Safety and Health (NIOSH). The purpose of establishing an IDLH value is to ensure that the worker can escape from a given contaminated environment in the event of failure of the most protective respiratory protection equipment. In the event of failure of respiratory protection equipment every effort should be made to exit immediately.

Chemical Name	IDLH (Immediately Dangerous to Life or Health)
2-Propenoic acid, potassium salt, polymer with 2-propenamide 31212-13-2	-

8.2 Exposure controls

A risk assessment is recommended to be performed by a qualified and trained personnel to analyze the worksite and recommends the appropriate controls such as engineering controls, work practice controls, and administrative controls as primary means of

reducing employee exposure. When there is a remaining hazards after applying the primary controls, Personal Protective Equipment (PPE) must be used.

All chemical Personal Protective Equipment (PPE) should be selected based on an assessment of both the chemical hazard present and the risk of exposure to those hazards. The PPE recommendations below are based on an assessment of the chemical hazards associated with this product. Where this product is used in a mixture with other products or fluids, additional hazards may be created and as such further assessment of risk may be required. The risk of exposure and need of respiratory protection will vary from workplace to workplace and should be assessed by the user in each situation.

Engineering Controls

Ensure adequate ventilation. Local exhaust ventilation.

Personal protective equipment

Eye protection	Use eye protection according to EN 166, designed to protect against powders and dusts. Tightly fitting safety goggles. Safety glasses with side-shields.
Hand protection	Wear gloves according to EN 374 to protect against skin effects from powders Use protective gloves made of: Nitrile Neoprene Frequent change is advisable
Respiratory Protection	All respiratory protection equipment should be used within a comprehensive respiratory protection program that meets the requirements of 29 CFR 1910.134 (U.S. OSHA Respiratory Protection Standard) or local equivalent.If exposed to airborne mist/aerosol of this product, use an organic vapor cartridge with a P-95 pre-filter attached. In work environments containing oil mist/aerosol, use an organic vapor cartridge with a P-95 pre-filter attached.If exposed to vapors from this product, use a NIOSH/MSHA-approved respirator with an organic vapor cartridge.
Skin and body protection	Wear suitable protective clothing, Eye wash and emergency shower must be available at the work place.
Hygiene Measures	Wash hands before eating, drinking or smoking, Remove and wash contaminated clothing before re-use.

9. Physical and Chemical Properties

9.1 Information on basic physical and chemical properties

Physical state	Solid
Appearance	Powder Dust
Color	White
Odor	None
Odor threshold	Not applicable

<u>Property</u>	<u>Values</u>	<u>Remarks</u>
pH		
pH @ dilution		
Melting / freezing point	> 150 °C / > 302 °F	
Boiling point/range	No information available	
Flash point	No information available	PMCC
Evaporation rate (BuAc =1)	No information available	
Flammability (solid, gas)	Not applicable	
Flammability Limit in Air		
Upper flammability limit	No information available	
Lower flammability limit	No information available	
Vapor pressure	No information available	
Vapor density	No information available	
Specific gravity	0.8 - 1.0	
Bulk density	0.65 - 0.75	
Water solubility	Insoluble in water Swells on contact with water.	
Solubility in other solvents	No information available	
Autoignition temperature	No information available	
Decomposition temperature	> 150°C / 302°F	

Kinematic viscosity No information available
Dynamic viscosity No information available
log Pow No information available

Explosive properties Not applicable
Oxidizing properties None known.

9.2 Other information

Pour point No information available
Molecular weight No information available
VOC content(%) None
Density No information available

Comments

The data listed above are typical physical and chemical properties and should not be construed as product specification.

10. Stability and Reactivity

10.1 Reactivity

No specific reactivity hazards associated with this product.

10.2 Chemical stability

Stable under normal temperature conditions and recommended use.

10.3 Possibility of Hazardous Reactions

Hazardous polymerization

Hazardous polymerization does not occur.

10.4 Conditions to avoid

Keep at temperatures between 0-35°C.

10.5 Incompatible materials

Oxidizing agents. Strong acids.

10.6 Hazardous decomposition products

See Section 5.2.

11. Toxicological Information

11.1 Information on toxicological effects

Acute toxicity

Inhalation Inhalation of dust in high concentration may cause irritation of respiratory system.

Eye contact Dust may cause mechanical irritation.

Skin contact Prolonged contact may cause redness and irritation.

Ingestion Ingestion may cause stomach discomfort.

LD50 Oral > 5000 mg/kg (rat) (MIXTURE)
LD50 Dermal > 5000 mg/kg (rat) (MIXTURE)

Chemical Name	LD50 Oral	LD50 Dermal	LC50 Inhalation
---------------	-----------	-------------	-----------------

2-Propenoic acid, potassium salt, polymer with 2-propenamide	No data available	No data available	No data available
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Chemical Name	IARC Group 1 or 2	ACGIH - Carcinogens	OSHA listed carcinogens	NTP
2-Propenoic acid, potassium salt, polymer with 2-propenamide	No data available	No data available	No data available	No data available

Sensitization	This product does not contain any components suspected to be sensitizing.
Mutagenic effects	This product does not contain any known or suspected mutagens.
Carcinogenicity	This product does not contain any known or suspected carcinogens.
Reproductive toxicity	This product does not contain any known or suspected reproductive hazards.
Developmental toxicity	Not known to cause birth defects or have a deleterious effect on a developing fetus.
Routes of Exposure	Inhalation.
Routes of entry	Inhalation.
Specific target organ toxicity - Single exposure	Not classified
Specific target organ toxicity - Repeated exposure	Not classified.
Aspiration hazard	Not applicable.

12. Ecological Information

12.1 Toxicity

Toxicity to algae

IC50/Scenedesmus subspicatus/72 hrs > 100 mg/L (OECD201).

Toxicity to fish

LC50/Danio rerio/96 hrs > 100 mg/L (OECD203)

LC50/Oncorhynchus mykiss/96 hrs > 100 mg/L (OECD203).

Toxicity to daphnia and other aquatic invertebrates

EC50/Daphnia magna/48 hrs > 100 mg/L OECD202).

Chemical Name	Toxicity to fish	Toxicity to algae	Toxicity to daphnia and other aquatic invertebrates
2-Propenoic acid, potassium salt, polymer with 2-propenamide	No information available	No information available	No information available

12.2 Persistence and degradability

Not readily biodegradable.

12.3 Bioaccumulative potential

Does not bioaccumulate.

log Pow

-2

12.4 Mobility

Insoluble in water.

12.5 Results of PBT and vPvB assessment

This preparation contains no substance considered to be persistent, bioaccumulating nor toxic (PBT)
This preparation contains no substance considered to be very persistent nor very bioaccumulating (vPvB)

12.6 Other adverse effects.

None known.

13. Disposal Considerations

13.1 Waste treatment methods

Disposal Method	Disposal should be made in accordance with federal, state and local regulations.
Contaminated packaging	Empty containers should be taken for local recycling, recovery or waste disposal.

14. Transport information

14.1. UN number

UN No. (DOT)	Not regulated
UN No. (MT/ANTT)	Not regulated
UN No. (TDG)	Not regulated
UN/ID No. (ADR/RID/ADN/ADG)	Not regulated
UN No. (IMDG/ANTAQ)	Not regulated
UN No. (ICAO/ANAC)	Not regulated
UN No. (DPC)	Not regulated

14.2. UN proper shipping name

The product is not covered by international regulation on the transport of dangerous goods

14.3 Hazard class(es)

DOT Hazard class	Not regulated
ANTT Hazard class	Not regulated
TDG Hazard class	Not regulated
ADR/RID/ADN/ADG Hazard class	Not regulated
IMDG/ANTAQ Hazard class	Not regulated
ICAO/ANAC Hazard class/division	Not regulated
DPC Hazard class	Not regulated

14.4 Packing group

DOT Packing group	Not regulated
ANTT Packing group	Not regulated
TDG Packing group	Not regulated
ADR/RID/ADN/ADG Packing group	Not regulated
IMDG/ANTAQ Packing group	Not regulated
ICAO/ANAC Packing group	Not regulated
DPC Packing group	Not regulated

14.5 Environmental hazard

No

14.6 Special precautions

Not applicable

14.7 Transport in bulk according to Annex I/II of MARPOL 73/78 and the IBC Code

Please contact SDS@slb.com for info regarding transport in Bulk.

15. Regulatory Information

International inventories

USA (TSCA)	Complies
Canada (DSL)	Complies
Philippines (PICCS)	Does not comply
Japan (ENCS)	Complies
China (IECSC)	Complies
Australia (AICS)	Complies
Korean (KECL)	Does not comply
New Zealand (NZIoC)	Complies

Europe - REACH

All products supplied from the European Economic Area (EEA) are compliant with the REACH Regulation EC 1907/2006. For products supplied from the EEA, Schlumberger and/or its suppliers have pre-registered and is registering all of the substances that it and/or its suppliers manufactures in or imports into the EEA that are subject to Title II of the REACH Regulation. All products supplied from outside the EEA are subject to REACH only if imported into the EEA. The importer of the products must comply with REACH for each imported substance. Contact REACH@slb.com for REACH information.

SARA 311/312 Hazard Categories

Should this product meet EPCRA 311/312 Tier reporting criteria at 40 CFR 370, refer to Section 2 of this SDS for appropriate classifications. Under the amended regulations at 40 CFR 370, EPCRA 311/312 Tier II reporting for the 2017 calendar year will need to be consistent with updated hazard classifications.

Chemical Name	SARA 302 / TPQs	SARA 313	CERCLA RQ
2-Propenoic acid, potassium salt, polymer with 2-propenamide	N/A	N/A	N/A

California Proposition 65

WARNING



This product can expose you to chemicals including those listed below, which is [are] known to the State of California to cause cancer, birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov

Chemical Name	California Proposition 65
2-Propenamid (impurity) 79-06-1	developmental toxicity male reproductive toxicity carcinogen

Canadian Classification

This Safety Data Sheet has been prepared in compliance with the Hazardous Products Regulations.

16. Other Information

Supersedes date 29/Jul/2015

Revision date 19/Oct/2016

Version 9

This SDS has been revised in the following section(s) All sections.

HMIS classification

Health	0
Flammability	1
Physical hazard	0
PPE	E

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Disclaimer

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SAFETY DATA SHEET

Sand Force

Section: 1. PRODUCT AND COMPANY IDENTIFICATION

Product name : Sand Force

Other means of identification : N/A

Recommended use : Viscosifier

Restrictions on use : None known

Company : Right Turn Supply LLC
P.O. Box 132016
Spring, TX 77393

Emergency telephone number : (800) 424-9300 (24 Hours) CHEMTREC

Issuing date : 08/01/2018

Reissue date : 01/01/2021

Section: 2. HAZARDS IDENTIFICATION

GHS Classification

Flammable liquids : Not classified

Skin irritation : Not classified

Eye irritation : Not classified

Carcinogenicity : Not classified

Reproductive toxicity : Not classified

Specific target organ toxicity : Not classified

- single exposure

Aspiration hazard : Not classified

GHS Label element

Hazard pictograms :



Signal Word : Warning

Hazard Statements : May form combustible dust concentrations in air.

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Sand Force

Precautionary Statements : **Prevention:**
P201 – Obtain special instructions before use.
P264 – Wash face, hands and any exposed skin thoroughly after handling.
P280 – Wear protective gloves/protective clothing/eye protection/face protection.

Response:
P308 + P313 – If exposed or concerned: Get medical advice/attention.
P302 + P352 – IF ON SKIN: Wash with plenty of soap and water.
P332 + P313 – If skin irritation occurs: Get medical advice/attention.
P363 – Wash contaminated clothing before reuse.
P305 + P351 + P338 – IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing.
P337 + P313 – If eye irritation persists: Get medical attention/advice.

Storage:
P403 + P235: Store in a well-ventilated place. Keep cool
P404 – Store in a closed container
P405 – Store locked up.

Disposal:
P501 – Dispose of contents/container in accordance with local/regional/national regulations.

Other hazards : None Known

Section: 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substances	CAS Number	Percent	GHS Classification – US
Xanthan Gum	11138-66-22	60 – 100%	Expl. Dust (Combustible Dust)

The exact percentage (concentration) of the composition has been withheld as proprietary

Section: 4. FIRST AID MEASURES

In case of eye contact : Flush eyes with water for at least 15 minutes, holding eyelids open. Remove Any contact lenses. If irritation persists, seek medical attention.

In case of skin contact : Wash with soap and water. Get medical attention if irritation persists.

If swallowed : Under normal conditions, first aid procedures are not required.

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Sand Force

If inhaled	:	If inhaled, remove from area to fresh air. Get medical attention if respiratory irritation develops or if breathing becomes difficult.
Protection of first-aiders	:	Move to fresh air. Call a physician if symptoms develop or persist.
Notes to physician	:	Treat symptomatically.
Most important symptoms and effects, both acute and delayed	:	No significant hazards expected.

Section: 5. FIREFIGHTING MEASURES

Suitable extinguishing media	:	Water, fog, carbon dioxide, foam, dry chemical.
Unsuitable extinguishing media	:	None known
Specific hazards during firefighting	:	Full protective clothing and approved self-contained breathing apparatus required for firefighting personnel.
Hazardous combustion products	:	Decomposition in fire may produce toxic gases. Organic dust in the presence of an ignition source can be explosive in high concentrations. Good housekeeping practices are required to minimize this potential
Special protective equipment for firefighters	:	Self-contained breathing apparatus and full protective clothing must be worn in case of fire.
Specific extinguishing methods	:	Use standard firefighting procedures and consider the hazards of other involved materials.

Section: 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures	:	Avoid contact with skin, eyes and clothing. Ventilate area. Avoid creating and breathing dust. Wear appropriate personal protective equipment.
Environmental precautions	:	None known.
Methods and materials for containment and cleaning up	:	Collect using dustless method and hold for appropriate disposal. Consider possible toxic or fire hazards associated with contaminating substances and use appropriate methods for collection, storage and disposal. In the event of spill or accidental release, notify relevant authorities in accordance with all applicable regulations. For waste disposal, see section 13 of the SDS.

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Sand Force

Section: 7. HANDLING AND STORAGE

- Advice on safe handling : Wear personal protective equipment. Avoid contact with eyes, skin or clothing. Wash hands after use. Do not eat, drink or smoke in work area. Wash contaminated clothing before reuse. Wear a NIOSH-approved, European Standard En 149, or equivalent when using this product. Material slippery when wet. Avoid creating or inhaling dust.
- Conditions for safe storage : Store in a cool dry place. Keep away from oxidizers. Protect from physical damage.

Section: 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

8(a): OCCUPATIONAL EXPOSURE LIMITS:

Substances	CAS Number	OSHA PEL-TWA	ACGIH-TLV-TWA
Xanthan Gum	11138-66-2	15 mg/m ³	10 mg/m ³

- Engineering measures : Use in a well-ventilated area. Use approved industrial ventilation and local exhaust. As required to maintain exposures below applicable exposure limits.

Personal protective equipment

- Eye protection : Wear safety glasses with side shields or splash proof goggles.
- Hand protection : Wear normal work gloves.
- Skin protection : Wear suitable protective clothing.
- Respiratory protection : Wear NIOSH-approved, European Standard EN 149 (FFP2/FFP3), AS/NZS 1715, or equivalent respirator when using this product. Handle only in a well-ventilated area.
- Hygiene measures : Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

Section: 9. PHYSICAL AND CHEMICAL PROPERTIES

- Appearance : Powder

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Sand Force

Colour	: Off white to tan
Odour	: Slight
Flash point	: 200.0 °F (93.3 °C) estimated
pH	: 7 (1%)
Odour Threshold	: no data available
Melting point/freezing point	: no data available
Initial boiling point and boiling range	: no data available
Evaporation rate	: no data available
Flammability (solid, gas)	: no data available
Upper explosion limit	: no data available
Lower explosion limit	: no data available
Vapour pressure	: no data available
Relative vapour density	: no data available
Relative density	: 1.6
Density	: 42.5 lbs/ft ³
Water solubility	: Soluble in water
Solubility in other solvents	: no data available
Partition coefficient: n-octanol/water	: no data available
Auto-ignition temperature	: no data available
Thermal decomposition temperature	: no data available
Viscosity, dynamic	: no data available
Viscosity, kinematic	: no data available
Molecular weight	: 1,000,000

Section: 10. STABILITY AND REACTIVITY

Chemical stability	: Material is stable under normal conditions.
Possibility of hazardous reactions	: Hazardous polymerization will not occur
Conditions to avoid	: Avoid creation of dust when handling and avoid all possible sources of ignition (spark or flame). Take precautionary measures against electrostatic discharges. To avoid fire or explosion, dissipate static electricity by grounding and bonding containers and equipment before transferring material. Prevent dust accumulation.
Incompatible materials	: Strong oxidizing agents.

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Sand Force

Hazardous decomposition products : Carbon monoxide and carbon dioxide.

Section: 11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure : Eye, skin contact, inhalation

Potential Health Effects

Eyes : May cause mild irritation to the eye.

Skin : None known.

Ingestion : None known

Inhalation : May impede respiration

Acute oral toxicity : No data available

Acute inhalation toxicity : No data available

Acute dermal toxicity : No data available

Skin corrosion/irritation : No data available

Serious eye damage/eye irritation : May cause mild irritation to the eye.

Respiratory or skin sensitization : No data available

Carcinogenicity : No data available to indicate product or components present at greater than 0.1% are chronic health hazards

Section: 12. ECOLOGICAL INFORMATION

Ecotoxicity

Ecotoxicity for the component:

Substances	CAS Number	LD50 Oral	LD50 Dermal	LC50 Inhalation
Xanthan Gum	11138-66-2	>45,000 mg/kg (Rat)	No data available	>21 mg/L (Rat) 1h >4.25 mg/L (Rat) 4h

Substances	CAS Number	Skin corrosion/irritation
Xanthan Gum	11138-66-2	Non-irritating to the skin in rabbits

Substances	CAS Number	Eye damage/irritation
Xanthan Gum	11138-66-2	Mechanical irritation of the eyes is possible.

Substances	CAS Number	Skin Sensitization
Xanthan Gum	11138-66-2	No information available.

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Substances	CAS Number	Respiratory Sensitization
Xanthan Gum	11138-66-2	No sensitization responses were observed

Substances	CAS Number	Mutagenic Effects
Xanthan Gum	11138-66-2	No information available

Substances	CAS Number	Carcinogenic Effects
Xanthan Gum	11138-66-2	Did not show carcinogenic effects in animal experiments

Substances	CAS Number	Reproductive toxicity
Xanthan Gum	11138-66-2	Animal testing did not show any effects on fertility

Substances	CAS Number	STOT - single exposure
Xanthan Gum	11138-66-2	No significant toxicity observed in animal studies at concentration requiring classification.

Substances	CAS Number	STOT - repeated exposure
Xanthan Gum	11138-66-2	No significant toxicity observed in animal studies at concentration requiring classification.

Substances	CAS Number	Aspiration hazard
Xanthan Gum	11138-66-2	Not applicable

Substances	CAS Number	Toxicity to Algae	Toxicity to Fish	Toxicity to Microorganisms	Toxicity to Invertebrates
Xanthan Gum	11138-66-2	No information available	TLM96 320-560 ppm (Oncorhynchus mykiss) LC50 (96h) 490 mg/L (Oncorhynchus mykiss)	No information available	TLM96 >75,000 ppm (Mysidopsis bahia) LC50 (48h) 980 mg/L (Daphnia magna)

Environmental Effects : The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

Persistence and degradability: no data available

Mobility: no data available

Bioaccumulative potential: no data available

Other information

No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

Section: 13. DISPOSAL CONSIDERATIONS

Disposal methods : Bury in a licensed landfill according to federal, state and local regulations. Follow all applicable national and local regulations.

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Sand Force

Contaminated packaging : Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.

Section: 14. TRANSPORT INFORMATION

US D.O.T Non-bulk (packages less than 119 gallons):.

Land transport (DOT):

Not regulated as dangerous goods.

Air transport (IATA)

Not regulated as dangerous goods

Sea transport (IMDG/IMO)

Not regulated as dangerous goods

Section: 15. REGULATORY INFORMATION

This product is not known to be a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

TSCA list : All components listed on inventory or are exempt

EPA SARA Title III Extremely hazardous substances: Not applicable.

EPA SARA (311, 312) Hazard Class: None

EPA SARA (313) Chemicals: This product does not contain a toxic chemical for routine annual "Toxic Chemical Release Reporting" under Section 313 (10 CFR 372)

EPA CERCLA/Superfund Reportable Spill Quantity: Not applicable

EPA RCRA Hazardous waste classification: If product becomes a waste, it does NOT meet the criteria of a hazardous waste as defined by the US EPA.

US STATE REGULATION:

US. California Controlled Substances. CA Department of Justice (California Health and Safety Code Section 11100): All components listed do not apply to the California Proposition 65 Regulation.

US. Massachusetts RTK - Substance List: Does not apply

US. New Jersey Worker and Community Right-to-Know Act: Does not apply

US. Pennsylvania Worker and Community Right-to-Know Law: Does not apply

SAFETY DATA SHEET

Sand Force

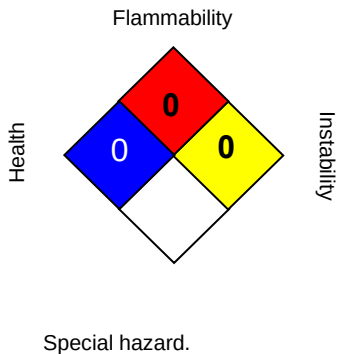
INTERNATIONAL CHEMICAL CONTROL LAWS:

United States TSCA Inventory: On TSCA Inventory

Canadian Domestic Substances List (DSL): On DSL Inventory

Section: 16. OTHER INFORMATION

NFPA:



HMIS III:

HEALTH	0
FLAMMABILITY	0
PHYSICAL HAZARD	0

0 = not significant, 1 = Slight,
2 = Moderate, 3 = High
4 = Extreme, * = Chronic

Revision Date : 08/01/2018
Version Number : 1.0

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.





Safety Data Sheet

Sodium Carbonate, Anhydrous

Date Reviewed: January 2021

Supersedes: February 2015

This document has been prepared to meet the requirements of the U.S. OSHA Hazard Communication Standard, 29 CFR 1910.1200; the Canada's Workplace Hazards Materials Information System (WHMIS) and, the EC Directive, 2001/58/EC.

SECTION 1: Product and Company Identification

Product Name	Sodium Carbonate, Anhydrous
Alternate Product Name(s)	Soda Ash, Disodium Carbonate Also: Dense Soda Ash, Soda Ash Light, Synthetic Light Soda Ash, Soda Ash Liquid, Natural Light Soda Ash, Natural Light HA Soda Ash
Chemical Formula	Na_2CO_3
Product Use	Oil well drilling fluid additive. Calcium precipitation.
This chemical is certified to ANSI/NSF Standard 60, Drinking Water Chemicals – Health Effects (as packaged in the original, unopened container). Concentration not to exceed 100 ppm when used for corrosion control or scale control pH adjustment.	
Supplier	Drillchem Drilling Solutions PO Box 132107 Spring, TX 77393
Telephone No.	Ph: (281) 713-8941
Emergency No.	(24 Hours) 800-424-9300 CHEMTREC

SECTION 2: Hazards Identification

Emergency Overview:

White, odorless, granular solid. Product is non-combustible. Reacts with acids to release carbon dioxide gas and heat. May irritate skin and eyes. Dusts may irritate respiratory tract. Not expected to be toxic to the environment, nor to aquatic organisms. Avoid simultaneous exposure to soda ash and lime dust. In the presence of moisture (i.e. perspiration) the two materials combine to form caustic soda (NaOH), which may cause burns.

Hazard Classification:

Class	Category	Hazard Statement
Eye Irritant	Category 2	H319 Causes serious eye irritation

EC Labelling:

Name of Substance to appear on label	Sodium Carbonate
Symbol(s)	 Xi- irritating
Label Phrases	R36: Irritating to eyes. S26: In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. S2: Keep out of reach of children S22: Do not breath dust

Potential Health Effects:

Skin	Prolonged contact may cause skin irritation (red, dry, cracked skin).
Eyes	Irritating to the eyes.
Ingestions	Although low in toxicity, ingestion may cause nausea, vomiting, stomach ache, and diarrhea.
Inhalation	Prolonged inhalation of product dusts may irritate nose, throat, and lungs.
Chronic Effects	Excessive, long term contact may produce "soda ulcers" on hands and perforation of the nasal septum. Sensitivity reactions may occur from prolonged and repeated exposure. This product does not contain any ingredient designated by IARC, NTP, ACGIH or OSHA as probable or suspected human carcinogens.

SECTION 3: Composition/Information on Ingredients

Chemical Name	CAS #	Wt%	EC No.	EC Class
Sodium Carbonate	497-19-8	99.8	207-838-8	Xi, R36

SECTION 4: First Aid Measures

Skin	Wash with plenty of soap and water. Get medical attention if irritation occurs and persists. Remove and wash contaminated clothing before re-use.
Eyes	Immediately flush with water for at least 15 minutes lifting the upper and lower eyelids intermittently. See a medical doctor or ophthalmologist as necessary.
Ingestions	Rinse mouth with water. Dilute by giving 1 or 2 glasses of water. Do not induce vomiting. Never give anything by mouth to an unconscious person. If symptoms persist, contact a doctor or poison control center
Inhalation	Remove to fresh air. If breathing difficulty or discomfort occurs and persists, obtain medical attention.
Advice to Physician	While internal toxicity is low, irritant effects of high concentrations may produce corneal opacities, and vesicular skin reactions in humans with abraded skin only. Treatment is symptomatic and supportive.

SECTION 5: Firefighting measures

Extinguishing Media	Not combustible, use extinguishing method suitable for surrounding fire.
Fire/Explosion Hazards	Not applicable.
Fire Fighting Procedures	Wear full protective clothing and self-contained breathing apparatus
Flammable Limits	Not applicable
Auto-Ignition Temperature	Not applicable
Hazardous Combustion Products	Carbon dioxide.
Sensitivity to Impact	None
Sensitivity to Static Discharge	None

SECTION 6: Accidental Release Measures

Personal Precautions	Refer to Section 8 "Exposure Controls / Personal Protection"
Containment	Prevent large quantities of this product from contacting vegetation or waterways; large spills could kill vegetation and fish.
Clean Up	This product, if spilled, can be recovered and re-used if contamination does not present a problem. Vacuum or sweep up the material and collect in a suitable container for disposal. If the spilled product is unusable due to contamination, consult state or federal environmental agencies for acceptable disposal procedures and locations. See Section 13 "Disposal Considerations".
Notification Requirements	Federal regulations do not require notification for spills of this product. State and local regulations may contain different requirements; consult local authorities.

SECTION 7: Handling and Storage

Handling	Use air conveying / mechanical systems for bulk transfer to storage. For manual handling of bulk transfer use mechanical ventilation to remove airborne dust from railcar, ship or truck. Use approved respiratory protection when ventilation systems are not available. Selection of respirators is based on the dust cloud generation. Keep material out of lakes, streams, ponds and sewer drains. Avoid eye contact or prolonged skin contact. Avoid breathing dusts. When dissolving, add to water cautiously and with stirring; solutions can get hot. Use good personal hygiene and housekeeping.
Storage	Store in a cool dry area, away from incompatible products (acids). Prolonged storage may cause product to cake from atmospheric moisture.

SECTION 8: Exposure Controls/ Personal Protection

Engineering Controls	Where possible, provide general mechanical and/or local exhaust ventilation to prevent release of airborne dust into the work environment. Eye wash facility should be provided in storage and general work area.
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Personal Protective Equipment:

Eyes and Face	For dusty or misty conditions, or when handling solutions where there is reasonable probability of eye contact, wear chemical safety goggles and hardhat. Under these conditions do not wear contact lenses. Otherwise, appropriate eye and face protection equipment (ANSI Z87 approved) should be selected for the particular use intended for this material. Safety glasses with side shields are recommended.
Respiratory	Whenever dust in the worker's breathing zone cannot be controlled with ventilation or other engineering means, workers should wear respirators or dust masks approved by NIOSH/MSHA, EU CEN or comparable certification organization to protect them against airborne dust.
Hands, Body, and Arms	Wear long-sleeve shirt and trousers, and impervious gloves for routine product use. Cotton gloves are sufficient for dry product; wear impervious (e.g., rubber, neoprene, etc.) gloves when handling solutions. Protective shoes or boots.

Exposure Guidelines:

Federal guidelines treat the ingredient(s) in this product as a nuisance dust, as no product-specific guidelines have been issued for exposure. As with all nuisance dusts, worker breathing zone concentrations should be measured by validated sampling and analytical methods. The following limits (OSHA and MSHA) apply to this material:

Particulates Not Otherwise Regulated:

OSHA (PEL / TWA): 15 mg/m³ (total dust); 5 mg/m³ (resp fraction)
MSHA (PEL / TWA): 10 mg/m³ (total dust)

SECTION 9: Physical and Chemical Properties

Appearance	White, granular solid
Odor	Odorless
Odor Threshold	Not applicable
Formula	Na ₂ CO ₃
Molecular Weight	105.99
pH	11.3
Melting point/freezing point	854°C (1569°F)
Initial boiling point/boiling range	Decomposes
Flash point	None
Evaporation rate	Not Applicable
Flammability (solid, gas)	Not combustible
Flammability in Air	
Upper flammability limit	No information available
Lower flammability limit	No information available
Vapor Pressure	Not applicable
Vapor Density	Not applicable
Bulk Density (g/l)	Dense grades: 0.9 – 1.1 Natural light grade: 0.7 – 0.9 Synthetic light grade: 0.5 – 0.7
Specific Gravity	2.533 (vs. Water)
Water Solubility(ies)	212.5 g/l @ 20°C
Partition coefficient	No information available
Auto-ignition temperature	No information available
Decomposition temperature	400°C
Viscosity	
Viscosity, dynamic	No information available
Viscosity, cinematic	No information available
Percent Volatile	0%

SECTION 10: Stability and Reactivity

Stability	Stable
Conditions to Avoid	Contract with acids will release carbon dioxide, heat. Contract with lime dust in the presence of moisture can produce corrosive sodium hydroxide.
Materials to Avoid	May react with aluminum, acids, fluorine, lithium, and 2,4,6- Trinitrotoluene.
Polymerization	Will not occur.
Hazardous Decomposition	When heated to decomposition, carbon dioxide is released.
Other Precautions	When dissolving, add to water cautiously and with stirring; solutions can get hot.

SECTION 11: Toxicological Information

Eye	Severe irritant (50 mg, rabbit).
Skin	Mild irritant (500 mg/24hr, rabbit). Minor irritation may occur on abraded skin. Not a sensitizer (tested at 0.25% solution).
Oral	LD ₅₀ , rat: 4,090 mg/kg
Inhalation	LC ₅₀ , rat, 2hr 2.3 mg/l 24 – hour LC ₅₀ : 800 mg/m ³ , 20 h exposure (guinea pig) (moderate toxicity)
Chronic	Excessive, long term contact may produce “soda ulcers” on hands and perforation of the nasal septum. Sensitivity reactions may occur from prolonged and repeated exposure.
Carcinogenicity	Not designated by IARC, NTP, ACGIH or OSHA as probable or suspected human carcinogens.

SECTION 12: Ecological Information

Acute Ecotoxicity	96 – hour LC ₅₀ : 265 – 565 mg/l (daphnia magna) (low toxicity) 300 – 320 mg/l (blue gill sunfish) (low toxicity) 96 – hour TL _m : 1200 mg/l (mosquito-fish) 48 – hour TL _m : 840 mg/l (mosquito-fish) 48 – hour EC ₅₀ : 265 mg/l (daphnia magna) 5 Day EC ₅₀ : 242 mg/l (Nitzschia linearis)
Chronic Ecotoxicity	7 Day EC, biomass: 14 mg/l (phytoplankton)
Mobility	Air: Not Applicable Water: Considerable solubility and mobility. Soil / sediments: Non-significant adsorption
Abiotic Degradation	Water (hydrolysis): degradation's products: carbonate (pH>10) / carbonic acid / carbon dioxide (pH<6). Soil: Hydrolysis as a function of pH.
Biotic Degradation	Aerobic / anaerobic: Not applicable (inorganic compound)
Potential for Bioaccumulation	Not applicable (ionizable inorganic compound)

Observed effects are related to alkaline properties of the product. Product is not significantly hazardous for the environment

SECTION 13: Disposal Considerations

Disposal Method	When this product is discarded or disposed of, as purchased, it is neither a characteristic nor a listed hazardous waste according to US Federal RCRA regulations (40 CFR 261). As a non-hazardous waste the material may be disposed of in a landfill in accordance with government regulations; check local or state regulations for applicable requirements prior to disposal. Any processing, usage, alteration, chemical additions to, or contamination of, the product may alter the disposal requirements. Under Federal Regulations, it is the generator's responsibility to determine if a waste is a hazardous waste.
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SECTION 14: Transport Information

Proper Shipping Name	Not regulated
Primary Hazard Class/Division	Not regulated
UN/NA Number	Not applicable
Label(s), Placard(s), Marking(s)	Not applicable
Reportable Quantity (RQ)	None
49 STCC Number	Not Applicable
ADR (EU), TDG (Canada)	Not regulated
IMDG (sea), ICAO (air), IATA (air)	Not regulated

SECTION 15: Regulatory Information

SARA Title III (Superfund Amendments and Reauthorization Act)

Section 302 Extremely Hazardous Substances: 40CFR355, Appendix A	Not listed
Section 311 Hazard Class 40CFR370	Immediate (acute)
Section 312 Threshold Planning Quantity (TPQ) 40CFR370	No TPQ listed for sodium carbonate
Section 313 Reportable Ingredients 40CFR372	Not listed

CERCLA (Comprehensive Environmental Response Compensation and Liability Act):
40CFR302.4 – There is no listed RQ (reportable quantity) for this product.

TSCA (Toxic Substance Control Act)

This product is listed on the TSCA Inventory of Chemical Substances. No other TSCA rules affect this product

State Regulations:

This product does not contain any components that are regulated under California Proposition 65.

Other:

Clean Water Act (CWA) – Section 301/ 311: Not listed

Clean Air Act (CAA) – Section 112: Not regulated

CANADA:

WHMIS Classification	D2B Toxic Class E Corrosive Symbol:  This product has been classified in accordance with hazard criteria of the Controlled Products Regulations and the MSDS contains all the information required by the Controlled Products Regulations.
WHMIS Ingredient Disclosure List	Listed
DSL Status (Domestic Substances List)	Listed on DSL

EUROPEAN UNION:

EINECS Inventory	Listed: 207-838-8
Annex I (Substances Directive)	Listed: 011-005-00-2 Xi, R-36 (See label details in Section 16)
German Water Classification	Hazard class 1, low hazard to waters
EU – Food Additives Directive (95/2/EC) – Annex I – Generally Permitted for Use in Food	E500

INTERNATIONAL:

This product is also found in the chemical inventories of Australia, China, Korea, Japan and the Philippines.

SECTION 16: Other Information

HMIS (Hazardous Material Identification System)

Health	2
Flammability	0
Physical Hazard	0
Personal Protection (PPE)	B

Protection = B (Safety glasses and gloves)

4 = Severe, 3 = Serious, 2 = Moderate, 1 = Slight, 0 = Minimal

NFPA (National Fire Protection Association System)

Health	2
Flammability	0
Reactivity	0
Special	None

4 = Extreme, 3 = High, 2 = Moderate, 1 = Slight, 0 = Insignificant

Other Information:

Soda ash is produced in three principal grades: Dense, natural light and synthetic light soda ash. When these products are mixed in water they may be known as liquid soda ash. These grades differ only in physical characteristics such as bulk density and size and shape of particles, which influence flow characteristics and angle of repose. Other physical properties, as well as chemical as chemical properties of solutions, are common to each grade of soda ash.

Certified to ANSI / NSF 60

Concentration not to exceed 100 ppm when used for corrosion control or scale control pH adjustment.



The information given corresponds to the current state of our knowledge and experience of the product, and is not exhaustive. This applies to product, which conforms to the specification, unless otherwise stated. In this case of combinations and mixtures one must make sure that no new dangers can arise. In any case, the user is not exempt from observing all legal, administrative and regulatory procedures relating to the product, personal hygiene, and protection of human welfare and the environment.

This Safety Data Sheet is offered for your information, consideration and investigation as required by Federal Hazardous Products Act and related legislation. The information is believed to be accurate but Drillchem Drilling Solutions, LLC. provides no warranties, either expressed or implied.

Waste Profile 632608IL SDSs

SAFETY DATA SHEET

In accordance with the requirements of US 29 CFR Parts 1910, 1915, and 1926.

Givaudan

AMBRONAT_AMBROFIX

Version 5.1

Revision Date 21 FEB 2020

Print Date 21 FEB 2020

SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Product information

Sales No. : 10058301
AMBRONAT_AMBROFIX

CAS-No. : 6790-58-5
Relevant identified uses of the substance or mixture and uses advised against : Perfumery ingredient
Intended Use Fragrances

Company :
Givaudan France SAS
55 Voie des Bans
F-95102 ARGENTEUIL

+33139981515
Emergency telephone number : +33172110003
Please refer to section 16 for a full list of emergency phone numbers.

SECTION 2. HAZARDS IDENTIFICATION

Classification according to HCS 2012 (29 CFR Parts 1910, 1915, and 1926)

Combustible dust CD: May form combustible dust concentrations in air.

Label elements

Labelling (REGULATION 29 CFR Parts 1910, 1915, and 1926).

Signal word : Warning

Hazard statements : CD May form combustible dust concentrations in air.

Hazards not Otherwise Classified. : May form combustible dust concentrations in air.

Please note: Mixtures have not been tested for health hazards. The health hazard information presented is provided in accordance with US 29 CFR 1910.1200 and is based on the testing of individual components which have been shown to cause or may cause these health effects when tested at higher concentrations or at full strength.

Ingredients with unknown acute toxicity.:

Administrative information:

Report Information: SDS_US/EN/GHS_SDS_NA_REGION/17

Sales & Distribution Information: AR01/FR/FR10/01

Shipping Order Information: 19,136,784/11,966,339

SAFETY DATA SHEET

In accordance with the requirements of US 29 CFR Parts 1910, 1915, and 1926.

Givaudan

AMBRONAT_AMBROFIX

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The following percentage of the mixture consists of ingredient(s) with unknown acute toxicity: 0 %

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Hazardous components

None known.

The specific chemical identity and/or exact percentage (concentration) of composition has been withheld as a trade secret.

SECTION 4. FIRST AID MEASURES

First aid measures

Description of first aid measures

- | | |
|-------------------------|--|
| General advice | : Consult physician or Poison Control Center. The National Hotline for US Poison Control Centers is 1.800.222.1222; https://www.poison.org |
| If inhaled | : Get to fresh air immediately.
Consult Poison Control Center or physician if any symptoms develop. |
| In case of skin contact | : Rinse immediately with plenty of water for at least 15 minutes. If skin irritation occurs, seek medical advice/attention. Immediately seek medical attention if chemical entered ear canal.
When symptoms persist or in all cases of doubt seek medical advice. |
| In case of eye contact | : Remove contact lenses.
Immediately flush eyes for at least 15 minutes. Get medical attention. |
| If swallowed | : Do NOT induce vomiting.
Immediately consult Poison Control Center or physician. |

Most important symptoms and effects, both acute and delayed

no data available

Indication of any immediate medical attention and special treatment needed

Administrative information:
Report Information: SDS_US/EN/GHS_SDS_NA_REGION/17
Sales & Distribution Information: AR01/FR/FR10/01
Shipping Order Information: 19,136,784/11,966,339

SAFETY DATA SHEET

In accordance with the requirements of US 29 CFR Parts 1910, 1915, and 1926.

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no data available

SECTION 5. FIREFIGHTING MEASURES

Extinguishing media

Suitable extinguishing media : Water spray
Alcohol-resistant foam
Carbon dioxide (CO₂)
Dry chemical

Unsuitable extinguishing media : no data available

Special hazards arising from the substance or mixture

Specific hazards during firefighting : no data available

Advice for firefighters

Special protective equipment for firefighters : Wear self-contained breathing apparatus for firefighting if necessary.

Further information : Avoid generating dust; fine dust dispersed in air in sufficient concentrations and in the presence of an ignition source is a potential dust explosion hazard.
Avoid high pressure water streams as this may spread burning powder or generate combustible dust clouds.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Evacuate personnel to safe areas.

Use personal protective equipment as required.

For emergency conditions, use an approved positive-pressure self-contained breathing apparatus.

Material can create slippery conditions.

Dust deposits should not be allowed to accumulate on surfaces, as these may form an explosive mixture if they are released into the atmosphere in sufficient concentration.

Environmental precautions

Dispose of in accordance with local regulations.

Local authorities should be advised if significant spillages cannot be contained.

Methods and materials for containment and cleaning up

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Keep in suitable, closed containers for disposal.
Clean contaminated floors and objects thoroughly while observing environmental regulations.
Avoid dispersal of dust in the air (i.e., cleaning dust surfaces with compressed air).

SECTION 7. HANDLING AND STORAGE

Precautions for safe handling

- | | |
|---|--|
| Advice on safe handling | : Avoid dust formation.
When using do not eat, drink or smoke. |
| Advice on protection against fire and explosion | : Minimize dust generation and accumulation. Routine housekeeping should be instituted to ensure that dust does not accumulate on surfaces. Dry powders can build static electricity charges when subjected to the friction of transfer and mixing operations. Provide adequate precautions, such as electrical grounding and bonding, or inert atmospheres. |

Conditions for safe storage, including any incompatibilities

- | | |
|---|---|
| Requirements for storage areas and containers | : Keep container tightly closed in a dry and well-ventilated place. |
| Further information on storage conditions | : Ambient / 10-30°C (50-85°F)
Dry, well ventilated, preferably full, hermetically sealed |
| Advice on common storage | : Protect against light. |

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure Guidelines

Exposure limit(s) : None established

Exposure Assessment: Exposures are dependent on the product being handled, the potential for chemical release, and any resulting airborne concentrations or dermal contact. Since product handling and release scenarios vary, and no two workplaces are exactly alike, it is recommended that the potential for exposure be assessed prior to the product's use or introduction. Exposure assessments should be performed by an occupational hygienist, industrial hygienist, or other qualified occupational or environmental health professional. An exposure assessment should be conducted to determine the efficacy of any ventilation and the need for additional respiratory protection.

Engineering measures

Ventilation: Use engineering controls to maintain airborne levels below exposure limit requirements or guidelines. If there are no applicable exposures limit requirements or guidelines,

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use only with adequate ventilation. Local exhaust ventilation may be necessary for some operations.

Personal protective equipment

- Eye protection : Ensure that eyewash stations and safety showers are close to the workstation location.
The use of safety glasses is recommended.
- Hand protection : Gloves
- Hygiene measures : Handle in accordance with good industrial hygiene and safety practice.
Wash hands before breaks and immediately after handling the product.
Avoid breathing dust.

See Section 16 for further information.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

- Physical state : solid
Form : flakes
Color : white to Creamy white
Taste : not determined
Odor : Ambery, woody, Dry, Warm
Odour Threshold : 0.2075 ng/l
Flash point : 322 °F (161 °C) Literature
Lower explosion limit : not determined
Upper explosion limit : not determined
Flammability (solid, gas) : May form combustible dust concentrations in air.
Oxidizing properties : The substance or mixture is not classified as oxidizing.
Information taken from reference works and the literature.
- Auto-ignition temperature : no data available
Decomposition temperature : no data available
pH : no data available
Melting point : 167 °F (75 °C)
Boiling point : 604 °F (318 °C) at 1,013 hPa
Vapor pressure : 0.0006 hPa at
77 °F (25 °C)
Method: OECD Test Guideline 104
- Density : no data available
Bulk density : not determined
- Water solubility : 1.88 mg/l at 68 °F (20 °C)
- Solubility/qualitative : insoluble
Partition coefficient: n-
octanol/water : log Pow: 5.09
Method: OECD Test Guideline 117

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Viscosity, kinematic : no data available
Relative vapour density : no data available
Evaporation rate : no data available

SECTION 10. STABILITY AND REACTIVITY

Conditions to avoid : Generation of dust clouds.

Materials to avoid : no data available

Hazardous decomposition products : no data available

Chemical stability : The product is chemically stable.

Reactivity : none

Hazardous reactions : no data available

SECTION 11. TOXICOLOGICAL INFORMATION

Information on toxicological effects

Acute oral toxicity

Species	Measurement	Dose
Rat	LD50	> 2,000 mg/kg

Acute inhalation toxicity : No data is available on the product itself.

Acute dermal toxicity

Species	Measurement	Dose
Rabbit	LD50	> 2,000 mg/kg

Acute toxicity (other routes of administration) : No data is available on the product itself.

Skin corrosion/irritation : No data is available on the product itself.

Serious eye damage/eye : No data is available on the product itself.

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irritation

Respiratory or skin sensitisation : Skin sensitization Human
Result: Not sensitizing
at 5 % in Petrolatum
Maximisation Test Guinea pig
Result: Not sensitizing
Method: OECD Test Guideline 406

Mutagenicity : No data is available on the product itself.

Reproductive toxicity : No data is available on the product itself.

Teratogenicity : No data is available on the product itself.

Carcinogenicity:

IARC : Remarks : No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

OSHA : Remarks : No component of this product present at levels greater than or equal to 0.1% is on OSHA's list of regulated carcinogens.

NTP : Remarks : No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

STOT - single exposure : No data is available on the product itself.

Repeated dose toxicity : Species: Rat, male and female
Application Route: Oral
Exposure time: 28d ()

STOT - repeated exposure : No data is available on the product itself.

Aspiration hazard : No data is available on the product itself.

Further information : no data available

Administrative information:

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Please note: Mixtures have not been tested for health hazards. The health hazard information presented is provided in accordance with US 29 CFR 1910.1200 and is based on the testing of individual components which have been shown to cause or may cause these health effects when tested at higher concentrations or at full strength.

SECTION 12. Ecological information

Ecological information is not reported.

SECTION 13. DISPOSAL CONSIDERATIONS

The product should not be allowed to enter drains, water courses or the soil.
Do not contaminate ponds, waterways or ditches with chemical or used container.
Dispose of in accordance with local, state and federal regulations.

SECTION 14. TRANSPORT INFORMATION

14.1 UN number

N/A

14.2 UN proper shipping name

Not regulated as a dangerous good

14.3 Transport hazard class(es)

N/A

14.4 Packing group

N/A

14.5 Environmental hazards

N/A

14.6 Special precautions for user

IMDG

IMDG Code Segregation : None

Administrative information:

Report Information: SDS_US/EN/GHS_SDS_NA_REGION/17

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Group

14.7 Transport in bulk according to Annex II of Marpol and the IBC Code

Not applicable for product as supplied.

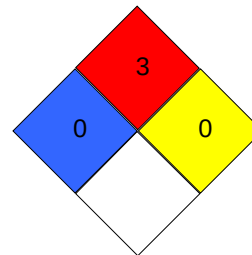
SECTION 15. REGULATORY INFORMATION

Only relevant information is reported

SARA 311/312 Hazards. : Combustible dust

SECTION 16. OTHER INFORMATION

NFPA Classification : Health hazard: 0
Fire Hazard: 3
Reactivity Hazard: 0



Refer to NFPA 61, "Standard for the Prevention of Fires and Dust Explosions in Agricultural and Food Processing Facilities" and NFPA 654 "Standard for the Prevention of Fire and Dust Explosions from the Manufacturing, Processing, and Handling of Combustible Particulate Solids", for safe handling guidance.

Full list of Emergency response numbers worldwide.

	Country	Phone nr		Country	Phone nr
Europe	All Europe	+44 1235 239670	APAC	All East/South East Asia	+65 3158 1074
	France	+33 1 72 11 00 03		Sri Lanka	+65 3158 1195
	Germany	+49 89 220 61012		Taiwan	+886 2 8793 3212
	Spain	+34 91 114 2520		Japan	+81 3 4578 9341
	Italy	+39 02 3604 2884		Indonesia	007 803 011 0293
	Netherlands	+31 10 713 8195		Malaysia	+60 3 6207 4347
	Turkey	+90 212 375 5231		Thailand	001 800 120 666 751
	Norway	+47 2103 4452		India	+65 3158 1198 000 800 100 7479

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	Greece	+30 21 1198 3182		Pakistan	+65 3158 1329
	Portugal	+351 30880 4750		Bangladesh	+65 3158 1200
	Denmark	+45 8988 2286		Philippines	+63 2 231 2149
	Sweden	+46 8 566 42573		Vietnam	+84 28 4458 2388
	Poland	+48 22 307 3690		Korea	+65 3158 1285
	Czech republic	+420 228 882 830		South Korea	+82 2 3479 8401
	Finland	+358 9 7479 0199		Australia	+61 2 8014 4558
Middle East/Africa	All Middle East/Africa	+44 1235 239671		New Zealand	+64 9 929 1483
	Bahrain and Middle East	+973 1619 8321		China	+86 532 8388 9090
	Africa/South Africa	+27 21 300 2732		Mexico	+52 55 5004 8763
NOAM	USA and Canada	+1 866 928 0789	LATAM	Brazil	+55 11 3197 5891
	USA and Canada	+1 215 207 0061		Chile	+56 2 2582 9336
	USA and Canada	+1 202 464 2554		Colombia	+57 1 508 7337
Global	Global	+44 1865 407333		Argentina	+54 11 5984 3690

Givaudan recommends that each recipient or user of this SDS carefully study this document and consult with the appropriate expert (i.e., industrial hygienist, toxicologist, or occupational physician) to understand and appreciate the technical data, any associated hazards, and appropriate control measures needed to ensure the safe handling and use of this product. The above information relates only to this product and not to its use in combination with any other material or in any particular process. The above information is based on data provided by and collected from recognized sources such as distributors, manufacturers and technical groups and is considered to be accurate to the best of Givaudan's knowledge as of the date of this document. Since the conditions of handling and use are not within the knowledge of Givaudan, it is the responsibility of the recipient to conduct an appropriate hazard assessment and to review all information about this product and determine its safety and suitability in their own processes and operations.

Appropriate warnings and safe handling instructions should be provided to all handlers and users, taking into account the intended use and the specific conditions and factors relating to such use.

Version : 5 1**Revision Date : 21 FEB 2020****Print Date : 21 FEB 2020**

Administrative information:

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SAFETY DATA SHEET

Atralone



Section 1. Identification

GHS product identifier : Atralone
Other means of identification : Not available.
Product type : Solid.

Relevant identified uses of the substance or mixture and uses advised against

Product use : Aromatic.
Area of application : Industrial applications, Professional applications.

Supplier's details : AGAN AROMA & FINE CHEMICALS LTD.
Northern Industrial Zone P.O. Box 262
ISRAEL - Ashdod
Telephone no.: +972-8-8515389
Fax no.: +972-8-8515388
MSDS@ma-industries.com

e-mail address of person responsible for this SDS : info@chemical-check.de, k.schnurbusch@chemical-check.de

Emergency telephone number (with hours of operation) : INFOTRAC 1(800) 535-5053 Contract #76582

Section 2. Hazards identification

OSHA/HCS status : While this material is not considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200), this SDS contains valuable information critical to the safe handling and proper use of the product. This SDS should be retained and available for employees and other users of this product.

Classification of the substance or mixture : Not classified.

GHS label elements

Signal word : No signal word.
Hazard statements : No known significant effects or critical hazards.

Precautionary statements

General : Not applicable.
Prevention : Not applicable.
Response : Not applicable.
Storage : Not applicable.
Disposal : Not applicable.
Hazards not otherwise classified : None known.

Date of issue/Date of revision : 08/11/2015 **Date of previous issue** : No previous validation **Version** : 1 **1/10**

Section 3. Composition/information on ingredients

Substance/mixture : Substance
Other means of identification : Not available.

CAS number/other identifiers

CAS number : 4707-47-5
Product code : Not available.

Ingredient name	Other names	%	CAS number
methyl 2,4-dihydroxy-3,6-dimethylbenzoate	methyl 2,4-dihydroxy-3,6-dimethylbenzoate	60-100	4707-47-5

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health and hence require reporting in this section.

Section 4. First aid measures

Description of necessary first aid measures

Eye contact : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs.

Inhalation : Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.

Skin contact : Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.

Ingestion : Wash out mouth with water. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.

Most important symptoms/effects, acute and delayed

Potential acute health effects

Eye contact : No known significant effects or critical hazards.
Inhalation : No known significant effects or critical hazards.
Skin contact : No known significant effects or critical hazards.
Ingestion : No known significant effects or critical hazards.

Over-exposure signs/symptoms

Eye contact : No specific data.
Inhalation : No specific data.
Skin contact : No specific data.
Ingestion : No specific data.

Indication of immediate medical attention and special treatment needed, if necessary

Notes to physician : Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

Specific treatments : No specific treatment.

Section 4. First aid measures

Protection of first-aiders : No action shall be taken involving any personal risk or without suitable training.

See toxicological information (Section 11)

Section 5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media : Foam. Dry chemical powder.

Unsuitable extinguishing media : Do not use water jet.

Specific hazards arising from the chemical : No specific fire or explosion hazard.

Hazardous thermal decomposition products : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide
Toxic gas

Special protective actions for fire-fighters : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

Special protective equipment for fire-fighters : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Remark : Not considered to be a product presenting a risk of explosion.

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Put on appropriate personal protective equipment.

For emergency responders : If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

Environmental precautions : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods and materials for containment and cleaning up

Small spill : Move containers from spill area. Vacuum or sweep up material and place in a designated, labeled waste container. Dispose of via a licensed waste disposal contractor.

Large spill : Move containers from spill area. Prevent entry into sewers, water courses, basements or confined areas. Vacuum or sweep up material and place in a designated, labeled waste container. Dispose of via a licensed waste disposal contractor. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

Section 7. Handling and storage

Precautions for safe handling

- Protective measures** : Put on appropriate personal protective equipment (see Section 8).
- Advice on general occupational hygiene** : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

- Conditions for safe storage, including any incompatibilities** : Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

None.

- Appropriate engineering controls** : Good general ventilation should be sufficient to control worker exposure to airborne contaminants.
- Environmental exposure controls** : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

Individual protection measures

- Hygiene measures** : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.
- Eye/face protection** : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: safety glasses with side-shields.
- Skin protection**
- Hand protection** : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.
Recommended: Protective hand cream.
- Body protection** : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. Recommended: Long-sleeved protective clothing. Safety shoes.
- Other skin protection** : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Section 8. Exposure controls/personal protection

- Respiratory protection** : Use a properly fitted, particulate filter respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator. Recommended: Use appropriate respiratory protection if there is a risk of exceeding any exposure limits. Particle filter device (DIN EN 143) If applicable Filter P2

Section 9. Physical and chemical properties

Appearance

- Physical state** : Solid.
- Color** : White./Cream
- Odor** : Characteristic.
- Odor threshold** : Not available.
- pH** : Not available.
- Melting point** : 141 to 142°C (285.8 to 287.6°F)
- Boiling point** : Not available.
- Flash point** : [Product does not sustain combustion.]
- Evaporation rate** : Not available.
- Flammability (solid, gas)** : Non-combustible.
- Lower and upper explosive (flammable) limits** : Not available.
- Vapor pressure** : Not available.
- Vapor density** : Not available.
- Relative density** : Not available.
- Solubility** : Not available.
- Solubility in water** : Not available.
- Partition coefficient: n-octanol/water** : Not available.
- Auto-ignition temperature** : Not available.
- Decomposition temperature** : Not available.
- SADT** : Not available.
- Viscosity** : Not available.

Section 10. Stability and reactivity

- Reactivity** : No specific test data related to reactivity available for this product or its ingredients.
- Chemical stability** : The product is stable.
- Possibility of hazardous reactions** : Under normal conditions of storage and use, hazardous reactions will not occur.
Under normal conditions of storage and use, hazardous polymerization will not occur.
- Conditions to avoid** : Keep away from heat and flame. Keep away from sources of ignition.
- Incompatible materials** :

Section 10. Stability and reactivity

Reactive or incompatible with the following materials: oxidizing materials, reducing materials, acids and alkalis.

Hazardous decomposition products : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

Not available.

Irritation/Corrosion

Not available.

Sensitization

Not available.

Mutagenicity

Not available.

Carcinogenicity

Not available.

Reproductive toxicity

Not available.

Teratogenicity

Not available.

Specific target organ toxicity (single exposure)

Not available.

Specific target organ toxicity (repeated exposure)

Not available.

Aspiration hazard

Not available.

Information on the likely routes of exposure : Not available.

Potential acute health effects

Eye contact	: No known significant effects or critical hazards.
Inhalation	: No known significant effects or critical hazards.
Skin contact	: No known significant effects or critical hazards.
Ingestion	: No known significant effects or critical hazards.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact	: No specific data.
Inhalation	: No specific data.
Skin contact	: No specific data.

Section 11. Toxicological information

Ingestion : No specific data.

Delayed and immediate effects and also chronic effects from short and long term exposure

Short term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Long term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Potential chronic health effects

Not available.

General : No known significant effects or critical hazards.

Carcinogenicity : No known significant effects or critical hazards.

Mutagenicity : No known significant effects or critical hazards.

Teratogenicity : No known significant effects or critical hazards.

Developmental effects : No known significant effects or critical hazards.

Fertility effects : No known significant effects or critical hazards.

Numerical measures of toxicity

Acute toxicity estimates

Not available.

Other information : Adverse symptoms may include the following:
Ingestion:
Can cause gastrointestinal disturbances.
Not available.

Section 12. Ecological information

Toxicity

Not available.

Persistence and degradability

Not available.

Bioaccumulative potential

Not available.

Mobility in soil

Soil/water partition coefficient (K_{oc}) : Not available.

Section 12. Ecological information

Other adverse effects : No known significant effects or critical hazards.

Section 13. Disposal considerations

Disposal methods : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Section 14. Transport information

	DOT Classification	IMDG	IATA
UN number	Not regulated.	Not regulated.	Not regulated.
UN proper shipping name	-	-	-
Transport hazard class(es)	-	-	-
Packing group	-	-	-
Environmental hazards	No.	No.	No.
Additional information	-	-	-

Special precautions for user : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code : Not available.

Section 15. Regulatory information

U.S. Federal regulations : **United States inventory (TSCA 8b):** All components are listed or exempted.

Clean Air Act Section 112 : Not listed

(b) Hazardous Air Pollutants (HAPs)

Clean Air Act Section 602 Class I Substances : Not listed

Clean Air Act Section 602 Class II Substances : Not listed

DEA List I Chemicals (Precursor Chemicals) : Not listed

DEA List II Chemicals (Essential Chemicals) : Not listed

SARA 302/304

Composition/information on ingredients

No products were found.

SARA 304 RQ : Not applicable.

SARA 311/312

Classification : Not applicable.

Composition/information on ingredients

No products were found.

SARA 313

Not applicable.

State regulations

Massachusetts : None of the components are listed.

New York : None of the components are listed.

New Jersey : None of the components are listed.

Pennsylvania : None of the components are listed.

California Prop. 65

Section 16. Other information

Hazardous Material Information System (U.S.A.)

Health	0
Flammability	0
Physical hazards	0

Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. Although HMIS® ratings are not required on SDSs under 29 CFR 1910.1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered mark of the National Paint & Coatings Association (NPCA). HMIS® materials may be purchased exclusively from J. J. Keller (800) 327-6868.

The customer is responsible for determining the PPE code for this material.

National Fire Protection Association (U.S.A.)

Section 16. Other information



Reprinted with permission from NFPA 704-2001, Identification of the Hazards of Materials for Emergency Response Copyright ©1997, National Fire Protection Association, Quincy, MA 02269. This reprinted material is not the complete and official position of the National Fire Protection Association, on the referenced subject which is represented only by the standard in its entirety.

Copyright ©2001, National Fire Protection Association, Quincy, MA 02269. This warning system is intended to be interpreted and applied only by properly trained individuals to identify fire, health and reactivity hazards of chemicals. The user is referred to certain limited number of chemicals with recommended classifications in NFPA 49 and NFPA 325, which would be used as a guideline only. Whether the chemicals are classified by NFPA or not, anyone using the 704 systems to classify chemicals does so at their own risk.

History

Date of issue/Date of revision	: 08/11/2015
Date of previous issue	: No previous validation
Version	: 1
Prepared by	: Chemical Check GmbH
Key to abbreviations	: ATE = Acute Toxicity Estimate BCF = Bioconcentration Factor GHS = Globally Harmonized System of Classification and Labelling of Chemicals IATA = International Air Transport Association IBC = Intermediate Bulk Container IMDG = International Maritime Dangerous Goods LogPow = logarithm of the octanol/water partition coefficient MARPOL 73/78 = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution) UN = United Nations

References	: HCS (U.S.A.)- Hazard Communication Standard International transport regulations
------------	--

Indicates information that has changed from previously issued version.

Notice to reader

To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein.

Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.



SAFETY DATA SHEET

501608 BUTYL CYCLOHEXANOL PARA

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1. IDENTIFICATION

Product Description:	BUTYL CYCLOHEXANOL PARA
CAS #	98-52-2
Other means of identification	
Vigon Item #	501608
Recommended use	Concentrated aromatic ingredient which may be used fragrance compounds according to legal and IFRA guidelines.
Recommended restrictions	For Manufacturing Use Only
<u>Company</u>	<u>24 Hour Emergency Response Information</u>
Vigon International, Inc.	INFOTRAC (ACCT# 78928);
127 Airport Road	1-800-535-5053 WITHIN THE U.S.A.
E. Stroudsburg, PA 18301	1-352-323-3500 OUTSIDE THE U.S.A.
For information call: 570-476-6300	
Web Site: www.vigon.com	

2. HAZARD(S) IDENTIFICATION

Physical hazards	Not classified.	
Health hazards	Acute toxicity, oral	Category 5
Environmental hazards	Hazardous to the aquatic environment, acute hazard	Category 3
	Hazardous to the aquatic environment, long-term hazard	Category 3

Label elements

Hazard symbol	None.
Signal word	Warning
Hazard statement	
H303	May be harmful if swallowed.
H402	Harmful to aquatic life.
H412	Harmful to aquatic life with long lasting effects.

Precautionary statement

Prevention

P273	Avoid release to the environment.
------	-----------------------------------

Response

P312	Call a POISON CENTER or doctor/physician if you feel unwell.
------	--

Storage

Not available.

Disposal

P501	Dispose of contents/container in accordance with local/regional/national/international regulations.
------	---

Hazard(s) not otherwise classified (HNOC) None known.

Supplemental information None.

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3. COMPOSITION/INFORMATION ON INGREDIENTS**Substances**

Chemical name	Common name and synonyms	CAS number	%
BUTYL CYCLOHEXANOL PARA	patchouli hexanol 4-(1,1 dimethylethyl)cyclohexanol 4-tert-Butylcyclohexanol TRANS-4-TERT-BUTYLCYCLOHEXANOL Cyclohexanol, 4-(1,1-dimethylethyl)-	98-52-2	100

4. FIRST-AID MEASURES

Inhalation	If breathing is difficult, remove to fresh air and keep at rest in a position comfortable for breathing. For breathing difficulties, oxygen may be necessary. Call a physician if symptoms develop or persist.
Skin contact	Take off immediately all contaminated clothing. Get medical attention if irritation develops and persists. Wash skin thoroughly with soap and water for several minutes.
Eye contact	Remove contact lenses, if present and easy to do. Get medical attention if irritation develops and persists. Promptly wash eyes with plenty of water while lifting the eye lids.
Ingestion	Call a physician or poison control center immediately. If swallowed, rinse mouth with water (only if the person is conscious). Do not induce vomiting. If vomiting occurs, the head should be kept low so that stomach vomit doesn't enter the lungs.
Most important symptoms/effects, acute and delayed	Not available.
Indication of immediate medical attention and special treatment needed	Not available.
General information	Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Show this safety data sheet to the doctor in attendance.

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media	Water spray, fog, CO2, dry chemical, or alcohol resistant foam.
Unsuitable extinguishing media	Do not use a solid water stream as it may scatter and spread fire.
Specific hazards arising from the chemical	Fire may produce irritating, corrosive and/or toxic gases.
Special protective equipment and precautions for firefighters	Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA. Structural firefighters protective clothing will only provide limited protection. Wear self-contained breathing apparatus with a full facepiece operated in the positive pressure demand mode when fighting fires.
Fire fighting equipment/instructions	In case of fire and/or explosion do not breathe fumes. Use standard firefighting procedures and consider the hazards of other involved materials. Move containers from fire area if you can do so without risk. Water runoff can cause environmental damage. Ventilate closed spaces before entering them. Keep run-off water out of sewers and water sources. Dike for water control.
Specific methods	Use water spray to cool unopened containers.
General fire hazards	Static charges generated by emptying package in or near flammable vapor may cause flash fire.



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6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures	Keep unnecessary personnel away. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ventilate closed spaces before entering them. Eliminate all sources of ignition. Avoid contact with skin or inhalation of spillage, dust or vapor.
Methods and materials for containment and cleaning up	Use a non-combustible material like vermiculite, sand or earth to soak up the product and place into a container for later disposal. Clean surface thoroughly to remove residual contamination. Never return spills in original containers for re-use. Collect and dispose of spillage as indicated in section 13 of the SDS.
Environmental precautions	Avoid release to the environment. Contact local authorities in case of spillage to drain/aquatic environment. Prevent further leakage or spillage if safe to do so. Do not contaminate water. Retain and dispose of contaminated wash water.

7. HANDLING AND STORAGE

Precautions for safe handling	Do not handle or store near an open flame, heat or other sources of ignition. Take precautionary measures against static discharges. All equipment used when handling the product must be grounded. Avoid breathing vapor. Avoid prolonged exposure. Wash thoroughly after handling. Avoid contact with eyes, skin, and clothing.
Conditions for safe storage, including any incompatibilities	Keep container closed. Handle containers with care. Open slowly in order to control possible pressure release. Store in a cool, well-ventilated area.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Occupational exposure limits	No exposure limits noted for ingredient(s).
Biological limit values	No biological exposure limits noted for the ingredient(s).
Appropriate engineering controls	Use explosion-proof ventilation equipment to stay below exposure limits.
Individual protection measures, such as personal protective equipment	
Eye/face protection	Wear safety glasses with side shields (or goggles).
Skin protection	
Hand protection	Chemical resistant gloves.
Other	Not available.
Respiratory protection	Dust mask.
Thermal hazards	Not available.
General hygiene considerations	When using, do not eat, drink or smoke. Wash hands before breaks and immediately after handling the product. Handle in accordance with good industrial hygiene and safety practice.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Refer to Spec Sheet
Physical state	Powder\Crystal.
Form	Crystalline powder.
Color	Refer to Spec Sheet
Odor	Characteristic.
Odor threshold	Not available.
pH	Not available.

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Melting point/freezing point	Not available.
Initial boiling point and boiling range	435.2 - 442.4 °F (224 - 228 °C)
Flash point	> 200.0 °F (> 93.3 °C) Closed Cup
Evaporation rate	Not available.
Flammability (solid, gas)	Not available.
Upper/lower flammability or explosive limits	
Flammability limit - lower (%)	Not available.
Flammability limit - upper (%)	Not available.
Explosive limit - lower (%)	Not available.
Explosive limit - upper (%)	Not available.
Vapor pressure	0.03 mm Hg at 20 °C 0 kPa at 25 °C
Vapor density	5.4
Relative density	Not available.
Solubility(ies)	
Solubility (water)	Insoluble
Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Viscosity	Not available.
Other information	
Flammability class	Combustible IIIB estimated
Molecular formula	C10H20O
Specific gravity	0.87

10. STABILITY AND REACTIVITY

Reactivity	Not available.
Chemical stability	Not available.
Possibility of hazardous reactions	Not available.
Conditions to avoid	Not available.
Incompatible materials	Not available.
Hazardous decomposition products	No hazardous decomposition products if stored and handled as indicated.

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11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Inhalation	Irritating to respiratory system.
Skin contact	Causes mild skin irritation.
Eye contact	Causes mild eye irritation.
Ingestion	May be harmful if swallowed.

Symptoms related to the physical, chemical and toxicological characteristics
Not available.

Information on toxicological effects

Acute toxicity

Product	Species	Test Results
BUTYL CYCLOHEXANOL PARA (CAS 98-52-2)		
<i>Dermal</i>		
LD50	Rabbit	> 5 g/kg
<i>Acute</i>		
<i>Oral</i>		
LD50	Rat	4200 mg/kg

* Estimates for product may be based on additional component data not shown.

Skin corrosion/irritation	Rabbit: not irritating Method: OECD Test Guideline 404
Serious eye damage/eye irritation	Due to lack of data the classification is not possible.
Respiratory or skin sensitization	
Respiratory sensitization	Due to lack of data the classification is not possible.
Skin sensitization	Maximization test guinea pig: not sensitizing Method: OECD Test Guideline 406
Germ cell mutagenicity	Due to lack of data the classification is not possible.
Carcinogenicity	Due to lack of data the classification is not possible.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not listed.

Reproductive toxicity	Ames test Salmonella typhimurium negative Method: analogy OECD-method
	Cytogenetic test Chinese hamster (V 79-cells) negative Method: OECD TG 473
Specific target organ toxicity - single exposure	Due to lack of data the classification is not possible.

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Specific target organ toxicity - repeated exposure	Oral Rat
	Testing period: 28 d
	NOAEL: 50 mg/kg
	LOAEL: 150 mg/kg
	Target organ/effect: Temporary cramps have been observed at high dosage levels
	Method: OECD Test Guideline 407
	The reported effects are reversible
Aspiration hazard	Not applicable.

12. ECOLOGICAL INFORMATION

Ecotoxicity Harmful to aquatic life with long lasting effects. Accumulation in aquatic organisms is expected.

Product	Species	Test Results
BUTYL CYCLOHEXANOL PARA (CAS 98-52-2)		
Other	EC10	Pseudomonas putida
		221 mg/l, 5 hours
Aquatic		
Algae	LC50	Algae
		29 mg/l, 72 hours
Crustacea	EC50	Daphnia
		46 mg/l, 48 hours
Fish	LC50	Fish
		16.6 mg/l, 46 hours

* Estimates for product may be based on additional component data not shown.

Persistence and degradability	aerobic
	89%
	Readily biodegradable: OECD 301E
	readily biodegradable
Bioaccumulative potential	Not available.
Mobility in soil	Not available.
Other adverse effects	Not available.

13. DISPOSAL CONSIDERATIONS

Disposal instructions	Do not discharge into drains, water courses or onto the ground. Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container. Dispose of contents/container in accordance with local/regional/national/international regulations.
Hazardous waste code	Not established.
Waste from residues / unused products	Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).
Contaminated packaging	Empty containers should be taken to an approved waste handling site for recycling or disposal. Since emptied containers may retain product residue, follow label warnings even after container is emptied.

14. TRANSPORT INFORMATION

ADN

Not regulated as dangerous goods.



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ADR

Not regulated as dangerous goods.

RID

Not regulated as dangerous goods.

DOT

BULK

Not regulated as dangerous goods.

DOT

NON-BULK

Not regulated as dangerous goods.

IATA

Not regulated as dangerous goods.

IMDG

Not regulated as dangerous goods.

15. REGULATORY INFORMATION

US federal regulations

CERCLA Hazardous Substance List (40 CFR 302.4)

Not listed.

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not listed.

SARA 304 Emergency release notification

Not regulated.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not listed.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories

Immediate Hazard - No

Delayed Hazard - No

Fire Hazard - No

Pressure Hazard - No

Reactivity Hazard - No

SARA 302 Extremely hazardous substance

Not listed.

SARA 311/312 Hazardous

No

chemical

SARA 313 (TRI reporting)

Not regulated.



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Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

Not regulated.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

Safe Drinking Water Act (SDWA)

Not regulated.

US state regulations

US. Massachusetts RTK - Substance List

Not regulated.

US. New Jersey Worker and Community Right-to-Know Act

Not listed.

US. Pennsylvania Worker and Community Right-to-Know Law

Not listed.

US. Rhode Island RTK

Not regulated.

US. California Proposition 65

US - California Proposition 65 - Carcinogens & Reproductive Toxicity (CRT): Listed substance

Not listed.

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	Yes
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	Yes
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	Yes
Korea	Existing Chemicals List (ECL)	Yes
New Zealand	New Zealand Inventory	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. OTHER INFORMATION, INCLUDING DATE OF PREPARATION OR LAST REVISION

Issue date 01-21-2016

Revision date 11-19-2013



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HMIS® ratings

Health: 1

Flammability: 1

Physical hazard: 0

Disclaimer

The information in the sheet was written based on the best knowledge and experience currently available. The above information relates only to this product and not to its use in combination with any other material or any particular process and is designed only as guidance for the safe handling, use, processing, storage, transportation, disposal, and should not be considered as a guarantee or quality specification. The above information is based on data provided by and collected from recognized sources such as distributors, manufacturers, and technical groups and is considered to be accurate to the best of Vigon's knowledge as of the date of this document. It is the responsibility of the user to review all safety information about this product and determine its safety and suitability in their own processes and operations. Appropriate warnings and safe handling procedures should be provided to all handlers and users, taking into account the intended use and the specific conditions and factors relating to such use in accordance with all applicable laws and regulations.

Product Specification



Product Name: BUTYL CYCLOHEXANOL PARA

Vigon Code: 501608

CAS Number: 98-52-2

FEMA Number:

Characteristic:

Purity %

Gas Chromatograph

Odor

Color/appearance

Specification:

98.00 100.00

PASSES TEST

EXTREMELY DRY, WOODY-CAMPHORACEOUS ODOR.

SOLID.

Additional Product Information:

Flash Point: >200 °F

Shelf Life: 36 Months

Storage Conditions: Stable when stored in its original package, tightly sealed in a cool (46-90°F) and dry location out of direct heat and light.

Effective Date: August 2, 2002



SAFETY DATA SHEET

INTERNATIONAL FLAVORS & FRAGRANCES

Product CEDROL

Print Date 05/27/2016

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SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Product name : CEDROL
Cust. Material : 10057615
MSDS Number : R00000216111
Product Use Description : Flavour or Fragrance Ingredient

Company : INTERNATIONAL FLAVORS & FRAGRANCES
(HANGZHOU) CO., LTD.
East of Xinanjiang Town
Jiande City311600 ZHEJIANG
Telephone : +8657164735488
Telefax : +8657164722092
Emergency telephone number : +86 532 8388 9090

SECTION 2 HAZARDS IDENTIFICATION

GHS-Classification

Not a hazardous substance or mixture.

GHS-Labeling

Carcinogenicity:

No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

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Revision Date : 04/01/2016

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No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Hazardous components

Component	CAS-No.
1H-3a,7-Methanoazulen-6-ol, octahydro-3,6,8,8-tetramethyl-, (3R,3aS,6R,7R,8aS)-	77-53-2

SECTION 4. FIRST AID MEASURES

First aid procedures

- Inhalation : Remove from exposure site to fresh air and keep at rest. If victim is unconscious, remove foreign bodies from the mouth. If victim has stopped breathing, give artificial respiration. Obtain medical advice.
- Skin contact : Remove contaminated clothes. Wash thoroughly with water (and soap). Contact physician if symptoms persist.
- Eye contact : Flush immediately with water for at least 15 minutes. Contact physician if symptoms persist.
- Ingestion : Rinse mouth with water and obtain medical advice.

SECTION 5. FIREFIGHTING MEASURES

Flammable properties

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Flash point : 177.80 °F (81.00 °C)

Fire fighting

Suitable extinguishing media : Use water spray, dry chemical, carbon dioxide or appropriate foam.

Protective equipment and precautions for firefighters

Special protective equipment for firefighters : Wear NIOSH approved self-contained breathing apparatus and full protective clothing when fighting fires involving chemicals. Use water spray to cool containers exposed to fire.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions : Avoid inhalation and contact with skin and eyes. A self-contained breathing apparatus is recommended in case of a major spill.

Environmental precautions : Keep away from drains, surface- and groundwater and soil.

Methods for containment /
Methods for cleaning up : Clean up spillage promptly. Remove ignition sources. Provide adequate ventilation or exhaust. Avoid excessive inhalation of dust and vapours. Contain and recover free product. Dispose of according to the local regulations.

SECTION 7. HANDLING AND STORAGE

Handling : Avoid excessive inhalation of concentrated vapors. Follow good manufacturing practices for housekeeping and personal hygiene. Wash any exposed skin immediately after any chemical contact, before breaks and meals, and at the end of each work period. Contaminated clothing and shoes should be thoroughly cleaned

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before re-use.

If appropriate, procedures used during the handling of this material should also be used when cleaning equipment or removing residual chemicals from tanks or other containers, especially when steam or hot water is used, as this may increase vapor concentrations in the workplace air. Where chemicals are openly handled, access should be restricted to properly trained employees.

Keep all heated processes at the lowest necessary temperature in order to minimize emissions of volatile chemicals into the air.

Advice on protection against fire and explosion : Keep away from ignition sources and naked flame.

Requirements for storage areas and containers : Store in a cool, dry, ventilated area away from heat sources. Keep containers upright and tightly closed when not in use.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

Engineering measures

Engineering measures : Where feasible, isolate mixing rooms and other areas where this material is used or openly handled. Maintain these areas under negative air pressure relative to the rest of the plant. Where feasible, use closed systems to transfer and process this material

Personal protective equipment

Eye protection : Use tight-fitting goggles, face shield or safety glasses with side shields if eye contact might occur.

Hand protection : Avoid skin contact. Use chemically resistant gloves.

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Respiratory protection : Use local exhaust ventilation around open tanks and other open sources of potential exposures in order to avoid excessive inhalation, including places where this material is openly weighed or measured. In addition, use general dilution ventilation of the work area to eliminate or reduce possible worker exposures. No respiratory protection is required during normal operations in a workplace where engineering controls such as adequate ventilation, etc. are sufficient.

If engineering controls and safe work practices are not sufficient, an approved, properly fitted respirator with organic vapor cartridges or canisters and particulate filters should be used:

- a) while engineering controls and appropriate safe work practices and/or procedures are being implemented; or
- b) during short term maintenance procedures when engineering controls are not in normal operation or are not sufficient; or
- c) if normal operational workplace vapor concentration in the air is increased due to heat ;
- d) during emergencies; or
- e) if engineering controls and operational practices are not sufficient to reduce airborne concentrations below an established occupational exposure limit.

Hygiene measures : To the extent deemed appropriate, implement pre-placement and regularly scheduled ascertainment of symptoms and spirometry testing of lung function for workers who are regularly exposed to this material. To the extent deemed appropriate, use an experienced air sampling expert to identify and measure volatile chemicals that could be present in the workplace air to determine potential exposures and to ensure the continuing effectiveness of engineering controls and operational practices to minimize exposure.

Protective measures : In December 2003, the National Institute for Occupational Safety and Health ("NIOSH") published an Alert on preventing lung

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Revision Date : 04/01/2016

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disease in workers who use or make flavorings [NIOSH Publication Number 2004-110].

In August 2004, the United States Flavor and Extract Manufacturers Association (FEMA) issued a report entitled "Respiratory Safety in the Flavor Manufacturing Workplace".

Both of these reports provide recommendations for reducing employee exposure and for medical surveillance in the workplace. The recommendations in these reports are generally applicable to the use of any chemical in the workplace and you are strongly urged to review both of these reports.

The report published by FEMA also contains a list of "high priority" chemicals. If any of these chemicals are present in this product at a concentration $\geq 1.0\%$ due to an intentional addition by IFF, the chemical(s) will be identified in this safety data sheet.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance

Physical state : solid
Appearance : CRYSTAL
Colour : white

Odour : conforms to standard

Safety data

Flash point : 177.80 °F (81.00 °C)

Freezing point : 170.60 - 194.00 °F (77.00 - 90.00 °C)

Vapour pressure : Note: Not applicable

Relative density (20 °C) : 1.0000

Version : 1
Revision Date : 04/01/2016

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SAFETY DATA SHEET

INTERNATIONAL FLAVORS & FRAGRANCES

Product CEDROL

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Partition coefficient: n-octanol/water : log Pow: 5.290

SECTION 10. STABILITY AND REACTIVITY

Conditions to avoid : Remarks: Direct sources of heat.

Chemical stability : Remarks: Presents no significant reactivity hazard, by itself or in contact with water. Avoid contact with strong acids, alkali or oxidizing agents.

Hazardous decomposition products : Note: Carbon monoxide and unidentified organic compounds may be formed during combustion.

SECTION 11. TOXICOLOGICAL INFORMATION

SECTION 12. ECOLOGICAL INFORMATION

SECTION 13. DISPOSAL CONSIDERATIONS

Contaminated packaging : Place material into sealed containers and dispose of in accordance with local, state and federal regulations.

SECTION 14. TRANSPORT INFORMATION

DOT Proper shipping name : ENVIRONMENTALLY HAZARDOUS
SUBSTANCE, SOLID, N.O.S.

Version : 1
Revision Date : 04/01/2016

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(CEDROL)
Labels : 9
UN number : 3077
Class : 9
Packing group : III
Emergency Response : 171
Guidebook Number

DOT NON-BULK Not dangerous goods

IATA UN number : 3077
Description of the goods : ENVIRONMENTALLY HAZARDOUS
SUBSTANCE, SOLID, N.O.S.
(CEDROL)
Class : 9
Packing group : III
ICAO-Labels : 9

IMDG UN number : 3077
Description of the goods : ENVIRONMENTALLY HAZARDOUS
SUBSTANCE, SOLID, N.O.S.
(CEDROL)
Class : 9
Packing group : III
IMDG-Labels : 9
EmSNumber 1 : F-A
EmSNumber 2 : S-F
Marine pollutant : yes

SECTION 15. REGULATORY INFORMATION

SARA 311/312 Hazards : Acute Health Hazard

Reportable Quantity :

Version : 1
Revision Date : 04/01/2016

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SAFETY DATA SHEET

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Product CEDROL

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HMIS Classification : Health hazard: 1
Flammability: 0
Physical and chemical hazards: 0

SECTION 16. OTHER INFORMATION

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Further information

The information in this MSDS was obtained from current and reliable sources. However the data is provided without any warrant, expressed or implied, regarding its correctness or accuracy. Since the use, handling, storage and disposal of this product are beyond IFF control, it is the responsibility of the user both to determine safe conditions for the use of this product and to assume liability of loss, damage, or expense arising out of the product's improper use. No warranty expressed or implied regarding the product described herein shall be created by or inferred from any statement or omission in this MSDS. Various Federal, State or Provincial agencies may have specific regulations concerning the transportation, handling, storage, use, or disposal of this product which may not be reflected in this MSDS. The user should review these regulations to ensure full compliance.

Version : 1
Revision Date : 04/01/2016

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Firmenich

GHS Safety Data Sheet - US

According to Regulation HCS 2012

This Safety Data Sheet cancels and replaces all preceding SDS for this product.

1 IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

1.1 Product identifier

922560-10057620

CETALOX®

© Firmenich product

CAS No: 3738-00-9

EC No:

REACH No: 01-2119976315-31

1.2 Relevant identified uses of the substance or mixture and uses advised against

Ingredient for use in products that may be ingested and/or fragrance ingredient for use in consumer product.

Not for personal use in this form or concentration.

Intended to be used in the manufacture of products for consumers

1.3 Details of the supplier of the safety data sheet

John Carey

Firmenich Inc.

250 Plainsboro Road

Princeton - New Jersey 08536 - USA

john.carey@firmenich.com

Tel.: +1.609.452.1000

1.4 Emergency telephone number

FOR INFORMATION OR IN AN EMERGENCY CALL NCEC @ +1 215 207 0061.

2 HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

According to Regulation HCS 2012

Not Classified according to the rules of the HCS 2012.

Additional information

Full text of listed statements : See section 16

2.2 Label elements

Firmenich

GHS Safety Data Sheet - US

According to Regulation HCS 2012

This Safety Data Sheet cancels and replaces all preceding SDS for this product.

2.3 Other hazards

No data available at this time.

3 COMPOSITION/INFORMATION ON INGREDIENTS

The exact percentage (concentration) of composition has been withheld as a trade secret.

3.1 Substance

Chemical substance.

4 FIRST-AID MEASURES

4.1 Description of first aid measures

General information:

As in all cases of potential poisoning, Obtain medical advice immediately.

In case of eye contact:

In the event of contact with the eyes, irrigate with water for at least 15 minutes; obtain medical advice if irritation persists.

In case of inhalation:

In the event of exposure to vapors, immediately remove from the area to a fresh air environment.

In case of skin contact:

Remove contaminated clothes. Wash skin with large volumes of water.

If irritation persists, or any sign of tissue damage is apparent, obtain medical advice immediately.

In case of ingestion:

In the event of accidental ingestion, rinse mouth with water. Give up to one tumbler (half pint) of milk or water.

Obtain medical advice immediately.

Do not induce vomiting, obtain medical advice immediately.

4.2 Most important symptoms and effects, both acute and delayed

No specific data available.

4.3 Indication of immediate medical attention and special treatment needed

No specific data available.

5 FIRE-FIGHTING MEASURES

Firmenich

GHS Safety Data Sheet - US

According to Regulation HCS 2012

This Safety Data Sheet cancels and replaces all preceding SDS for this product.

5.1 Extinguishing media

In the event of fire, adequate extinguishers should be used. Avoid inhalation of smoke and fumes. In case of insufficient ventilation, wear suitable respiratory equipment.

Use standard procedures and preferred extinguishing media as stated below.

Extinguishing media: Water, foam, carbon dioxide or dry chemical.

5.2 Special hazard arising from the substance or mixture

Product is a combustible powder. Like all combustible powders, it may form explosive mixtures if suspended in air.

None.

5.3 Advice for fire-fighters

No specific advice.

6 ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

For non-emergency personnel:

Impervious gloves should be worn when handling spillages. No smoking. Avoid naked flames or other potential sources of ignition (eg. electrical equipment).

Avoid skin contamination and inhalation of dust.

Individual washing routines should be followed after any potential contact.

Ensure adequate ventilation in working areas following accidental releases.

For emergency personnel:

Apply the same recommendations as section 6.1

6.2 Environmental precautions

Do not discharge directly into drains, air, into soil or into the aquatic environment.

6.3 Methods and material for containment and cleaning up

For containment:

Small Spills can be swept up and disposed of properly.

Do not allow powder to accumulate on horizontal surfaces, as an explosive dust/air mixture could occur if suddenly dispersed into the air.

For cleaning-up:

Spillages should be disposed of in accordance with Governmental Regulations.

7 HANDLING AND STORAGE

7.1 Precautions for safe handling

Keep strict control of dust accumulation to a minimum.

Avoid contact with skin and eyes.

Wear impervious gloves protection and eye/face protection.

No smoking. Avoid any source of ignition. Use flameproof electrical equipment and spark-reduced tools.

Ensure that all equipments are properly bonding and earthing.

Avoid exposing to high temperature during processing.

Do not ingest or apply to the skin as such. Good personal washing routines should be followed.

Firmenich

GHS Safety Data Sheet - US

According to Regulation HCS 2012

This Safety Data Sheet cancels and replaces all preceding SDS for this product.

Maintain adequate local and general ventilation where product is handled.

Protective measures

Keep strict control of dust accumulation to a minimum. Maintain adequate local and general ventilation where product is handled. Avoid any sources of ignition.

Advice on general occupational hygiene

Good personal washing routines should be followed.

7.2 Conditions for safe storage, including any incompatibilities

It is good general practice to store in closed, preferably full, containers away from heat sources, and protected from extremes of temperature. Do not re-use the empty container.
Respect general rules for compatibility storage.

7.3 Specific end use(s)

Not available at this time.

8 EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters

Contains no substances with occupational exposure limit values

Derived No Effect Level (DNEL)

Worker (dermal), No hazard identified.
Worker (inhalation), No hazard identified.
Consumer (oral), No hazard identified.
Consumer (inhalation), No hazard identified.
Consumer (dermal), No hazard identified.

Predicted No Effect Concentration (PNEC)

PNEC Aqua (freshwater) = 8.8 µg/l
PNEC Aqua (marine water) = 0.88 µg/l
PNEC Sediment (freshwater) = 4.652 mg/kg sediment dw
PNEC Sediment (marine water) = 0.465 mg/kg sediment dw
PNEC STP = 10 mg/l
PNEC Soil = 0.925 mg/kg soil dw
PNEC Air No hazard identified.
PNEC Oral (secondary poisoning) = 53.33 mg/kg food

8.2 Exposure controls

Avoid exposing to high temperature during processing.
Maintain adequate local and general ventilation where product is handled.

Appropriate engineering controls

Maintain adequate local and general ventilation where product is handled and dispensed.

Environmental exposure controls

Not available at this time. Minimize release to the environment.

Firmenich

GHS Safety Data Sheet - US

According to Regulation HCS 2012

This Safety Data Sheet cancels and replaces all preceding SDS for this product.

Personal protection

Respiratory protection: Breathing of the vapors or dust particles may be hazardous. In the absence of appropriate engineering controls such as spot ventilation, ventilated enclosures, etc., workers should avail themselves of the appropriate NIOSH approved respiratory protection. OSHA has established limits for Respirable dust (PEL of 5 mg/m³) TWA and Total dust (PEL of 15 mg/m³)TWA. It is recommended that when using powders that air monitoring of the workplace be conducted to ensure that these levels are not exceeded.

Hand protection: Adequate and Impervious Protective Gloves should be worn.

Eye protection: Adequate safety glasses should be used.

Skin protection: Wear protective clothing, overall if necessary to limit the odour contamination of personal clothing. Individual washing routines should be followed after any potential contact.

9 PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Appearance :	CRYSTALLINE SOLID
Colour :	WHITE
Odour :	Characteristic strong odour according to the commercial description of the substance.
pH :	Not applicable
Melting point/range (°C) :	= 80 °C (OECD 102)
Initial boiling point/range (°C) :	= 324 °C at 99.4kPa (OECD 103)
Flash point (closed cup) :	> 212 Fahrenheit (> 100 Centigrade)
Evaporation rate :	Not available
Flammability (solid/gas) :	Not applicable
Explosive properties (St class) :	N/A
Vapor pressure (At 20°C in mm Hg) :	< 0.1 mm
Vapour density :	Not available
Relative density (d 20/20) :	= 1.081 at 20.2°C (OECD 109)
Water solubility (20°C) :	= 1.88 mg/l at 20°C (OECD 105)
Partition coef. (n-octanol/water) :	Log Kow = 5.09 (OECD 123)
Auto-ignition temperature (°C) :	Not available
Decomposition temperature :	Not available
Viscosity :	Not available
Oxidizing properties :	Not available

9.2 Other safety information

9.2.1 Explosive properties (Measured)

No data available at this time.

10 STABILITY AND REACTIVITY

10.1 Reactivity

Firmenich

GHS Safety Data Sheet - US

According to Regulation HCS 2012

This Safety Data Sheet cancels and replaces all preceding SDS for this product.

No reaction known with water.

10.2 Chemical stability

Presents no significant reactivity hazard. Normally stable even at elevated temperatures and pressures. Avoid temperatures above or near to the flash point. Not pyrophoric nor reactive with water. Does not undergo explosive decomposition, is shock stable, and is not an oxygen donor. Does not form explosive mixtures with other organic materials. Will not undergo hazardous exothermic polymerization.

10.3 Possibility of hazardous reactions

Not known.

10.4 Conditions to avoid

Avoid temperatures above or at least 5 °C below flash point for any flammable liquids.
Do not heat closed containers.
Avoid contact with oxidizing agents.

10.5 Incompatible materials

Avoid strong oxidizing agents.

10.6 Hazardous decomposition products

Contact with water or storage under recommended conditions for one year should not produce dangerous decomposition products.

11 TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

(a) acute toxicity

Acute oral toxicity (Rat, OECD 420, Gavage): LD50 > 2000 mg/kg

Acute dermal toxicity (Rabbit, Occlusive):

LD50 > 2000 mg/kg

LD50 > 2000 mg/kg

(b) skin corrosion/irritation

In vitro Skin irritation (EpiSkin, OECD 439): Non irritant

(c) serious eye damage/irritation

In vitro Bovine corneal opacity and permeability (BCOP) test (OECD 437): Non irritant

Data on analogue - Acute Eye irritation (Rabbit, OECD 405): Non irritant

(d) respiratory or skin sensitisation

Local Lymph Node Assay (LLNA) OECD 429: Non-sensitising to skin

(e) germ cell mutagenicity

Bacterial Reverse Mutation test (Ames) (Salmonella + E. Coli, OECD 471, With and without S9, 5 strains): Non mutagenic

Firmenich

GHS Safety Data Sheet - US

According to Regulation HCS 2012

This Safety Data Sheet cancels and replaces all preceding SDS for this product.

In vitro mammalian cell gene mutation test (Chinese hamster, OECD 476, With and without S9): Non mutagenic

In vitro Mammalian Chromosome Aberration Test (Chinese hamster, OECD 473): No chromosomal aberration

(f) carcinogenicity

No data available

(g) reproductive toxicity

Combined Repeat. Dose Tox. & Reprod./Develop. Tox. Screening (Rat, OECD 422, Gavage, 28 day(s)):

NOAEL = 800 mg/kg/day

NOAEL (fertility) = 800 mg/kg/day

NOAEL (development) = 800 mg/kg/day

(h) STOT-single exposure

No data available

(i) STOT-repeated exposure

No data available

(j) aspiration hazard

No data available

12 ECOLOGICAL INFORMATION

12.1 Toxicity

Alga, Growth Inhibition Test (*Pseudokirchneriella subcapitata*, OECD 201, Static):

72 ErC50 > 1.4 mg/l

72 ErC10 > 1.4 mg/l

Daphnia sp. Acute Immobilisation Test and Reproduction Test (OECD 202, Static): 48 EL50 > 100 mg/l

Fish, Acute Toxicity Test (Zebra fish, OECD 203, Static): 96 LC50 > 0,51 mg/l

Activated Sludge, Respiration Inhibition Test (OECD 209, Static): 3 EC50 > 100 mg/l

12.2 Persistence and degradability

Ready Biodegradation - Manometric Respirometry Test (OECD 301F, Sludge): Readily biodegradable (80 - 93% in 28 day(s))

12.3 Bioaccumulative potential

Bioconcentration, Flow-through Fish Test (OECD 305, Rainbow trout (*Oncorhynchus Mykiss*)): BCF = 864 L/kg

Log Kow = 5.09 (OECD 123)

12.4 Mobility in soil

Adsorption coefficient: Log Koc = 3.552

Firmenich

GHS Safety Data Sheet - US

According to Regulation HCS 2012

This Safety Data Sheet cancels and replaces all preceding SDS for this product.

12.5 Results of PBT and vPvB assessment
Not applicable

12.6 Other adverse effects
No data available

13 DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

Product: The product should be handled according to the instructions given under sections 6, 7 and 8. Dispose of according to local or national regulations. The product should not be allowed to enter drains or the environment.

Contaminated packaging: Empty packaging should be disposed according to local or national regulations by an approved waste handling

14 TRANSPORT INFORMATION

In case of accidental spillage or fire during transport, refer to instructions given under points 5, 6, 7 and 8 above.

UNO

UN-No:	Not regulated
Proper Shipping Name:	N/A
Class:	----
Packing Group:	---

Land transport (ADR/RID)

UN-No:	Not regulated
Proper Shipping Name:	N/A
Class:	----
Packing group:	---

Sea transport (IMDG-Code)

UN-No:	Not regulated
Proper Shipping Name:	N/A
Class:	----
Packing group:	---

Air transport (ICAO-IATA)

UN-No:	Not regulated
Proper Shipping Name:	N/A
Class:	----
Packing group:	---

Firmenich

GHS Safety Data Sheet - US

According to Regulation HCS 2012

This Safety Data Sheet cancels and replaces all preceding SDS for this product.

15 REGULATORY INFORMATION

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture:

This chemical is NOT subject to reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 29 CFR Part 1910.1200.

15.2 Chemical Safety Assessment

No data available at this time.

16 OTHER INFORMATION

Revisions

Jun-2020 : Version 9.2 - Updates to sections 1, 2, 3 ,8 ,9, 11, 12, 14, 15, 16

Key literature references

RIFM database
OECD SIDS
EU IUCLID
Supplier information

Full text of phrases used under section 2

-

We believe that the information contained herein is current as of the date of this Safety Data Sheet. Since the use of this information and the conditions of use of the product are not within the control of Firmenich, it is the user's obligation to determine conditions of safe use of the product.

Information contained in this document and related material is proprietary to Firmenich. Disclosure to third parties without the prior written consent of Firmenich except where required by applicable laws and regulations and/or reverse engineering are strictly prohibited.

SAFETY DATA SHEET

According to Title 29 of US Code of Federal Regulations 1910.1200.



130717 FRAMBINON®

Version 6.0

Print Date: 04/06/2016

Revision Date: 10/20/2015

SECTION 1. IDENTIFICATION

Product name : FRAMBINON®

Product code : 130717

Manufacturer or supplier's details

Company name of supplier : Symrise AG

Address : Mühlenfeldstrasse 1
Holzminden 37603

Telephone : +495531900

Telefax : +495531901649

E-mail address : msds-us@symrise.com

Emergency telephone number : +1-800-535-5053 (ID# 101844)
+1-352-323-3500 (Outside US)

SECTION 2. HAZARDS IDENTIFICATION

GHS Classification

Acute toxicity (Oral) : Category 4

GHS Label element

Hazard pictograms :



Signal word : Warning

Hazard statements : H302 Harmful if swallowed.

Precautionary statements : **Prevention:**
P264 Wash skin thoroughly after handling.
P270 Do not eat, drink or smoke when using this product.
Response:
P301 + P312 + P330 IF SWALLOWED: Call a POISON
CENTER or doctor/ physician if you feel unwell. Rinse mouth.
Disposal:
P501 Dispose of contents/ container to an approved waste
disposal plant.

Hazards Not Otherwise Classified (HNOC)

None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name : 2-Butanone, 4-(4-hydroxyphenyl)-
Synonyms : 4-(4-Hydroxyphenyl)butan-2-one, Raspberry Ketone
Chemical Family : Aromatic Ketones
CAS-No. : 5471-51-2
Molecular formula : C10-H12-O2
FEMA Number : 2588

SAFETY DATA SHEET

According to Title 29 of US Code of Federal Regulations 1910.1200.



130717 FRAMBINON®

Version 6.0

Print Date: 04/06/2016

Revision Date: 10/20/2015

SECTION 4. FIRST AID MEASURES

- | | | |
|------------------------|---|---|
| General advice | : | Do not leave the victim unattended.
Move out of dangerous area.

Show this safety data sheet to the doctor in attendance.

Symptoms of poisoning may appear several hours later. |
| If inhaled | : | If unconscious place in recovery position and seek medical advice.
If symptoms persist, call a physician. |
| In case of eye contact | : | Remove contact lenses.
Keep eye wide open while rinsing.
If eye irritation persists, consult a specialist. |
| If swallowed | : | Induce vomiting immediately and call a physician.
Do not give milk or alcoholic beverages.
If symptoms persist, call a physician. |

SECTION 5. FIREFIGHTING MEASURES

- | | | |
|---|---|---|
| Suitable extinguishing media | : | Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide. |
| Specific extinguishing methods | : |

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. |
| Further information | : | Standard procedure for chemical fires. |
| Special protective equipment for firefighters | : | Wear self-contained breathing apparatus for firefighting if necessary. |

SECTION 6. ACCIDENTAL RELEASE MEASURES

- | | | |
|---|---|--|
| Personal precautions, protective equipment and emergency procedures | : | Avoid breathing dust.
Avoid dust formation. |
| Environmental precautions | : | Prevent further leakage or spillage if safe to do so.
If the product contaminates rivers and lakes or drains inform respective authorities. |
| Methods and materials for containment and cleaning up | : | Clean up promptly by sweeping or vacuum. |

SAFETY DATA SHEET

According to Title 29 of US Code of Federal Regulations 1910.1200.



130717 FRAMBINON®

Version 6.0

Print Date: 04/06/2016

Revision Date: 10/20/2015

SECTION 7. HANDLING AND STORAGE

- Advice on safe handling : Use only with adequate ventilation.
Do not breathe vapours/dust.
For industrial use only.
Keep all heated processes at the lowest necessary temperature in order to minimize emissions of volatile chemicals into the air.
Take care to avoid waste and spillage when weighing, loading and mixing the product.
- Conditions for safe storage : Keep containers tightly closed in a dry, cool and well-ventilated place.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

We are not aware of any national exposure limit.

Personal protective equipment

- Respiratory protection : In the absence of adequate ventilation, a dust mask or a respirator, appropriate for the specific workplace conditions, is recommended.
- Eye protection : Wear chemical resistant goggles and/or face shield.
- Skin and body protection : Wear suitable gloves.
- Protective measures : Engineering controls providing adequate ventilation (such as hoods, point source or whole room ventilation systems for liquids and dust collection systems for dusts) are recommended as the primary method to minimize workplace exposure. When adequate ventilation cannot be achieved, the use of an appropriate respiratory protection device is recommended.
Established TLV/ TWA or PEL values should be used when possible.
- Hygiene measures : Handle in accordance with good industrial hygiene and safety practice.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

SAFETY DATA SHEET

According to Title 29 of US Code of Federal Regulations 1910.1200.



130717 FRAMBINON®

Version 6.0

Print Date: 04/06/2016

Revision Date: 10/20/2015

Appearance	: crystals
Colour	: pale white to white
Odour	: characteristic
Melting point/range	: ca. 83 °C Method: OECD Test Guideline 102
Boiling point/boiling range	: 166.0 - 167.0 °C (6.6 hPa)
Flash point	: > 212 °F / > 100 °C
Vapour pressure	: 0.003 hPa (20 °C) / 0.003 mmHg (20 °C)
Solubility(ies)	
Water solubility	: immiscible
Partition coefficient: n-octanol/water	: log Pow: 0.4
Molecular weight	: 164.22 g/mol

SECTION 10. STABILITY AND REACTIVITY

Chemical stability	: No decomposition if stored and applied as directed.
Possibility of hazardous reactions	: Stable under recommended storage conditions. None known.
Conditions to avoid	: No data available

SECTION 11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Ingestion
Inhalation
Eye contact
Skin contact

Acute toxicity

Acute oral toxicity	: LD50 Oral (Rat, female): 1,320 mg/kg GLPyes
Acute dermal toxicity	: LD50 (Rabbit): > 5,000 mg/kg

Skin corrosion/irritation

Species: Humans
Result: No skin irritation
Concentration: 12 %

SAFETY DATA SHEET

According to Title 29 of US Code of Federal Regulations 1910.1200.



130717 FRAMBINON®

Version 6.0

Print Date: 04/06/2016

Revision Date: 10/20/2015

Species: Rabbit
Exposure time: 24 h
Result: No skin irritation
Concentration: 100 %

Serious eye damage/eye irritation

Species: Rabbit
Result: Mild eye irritation
Concentration: 100 %
Method: OECD Test Guideline 405
GLP: yes

Respiratory or skin sensitisation

Species: Humans
Result: No sensitizing effect.
Concentration: 12 %

Germ cell mutagenicity

Genotoxicity in vitro : Test Type: Ames test
Metabolic activation: with and without metabolic activation
Method: OECD 471
Result: negative
GLP: yes

Carcinogenicity

IARC	Not listed
OSHA	Not listed
NTP	Not listed

Reproductive toxicity

No data available

STOT - single exposure

No data available

STOT - repeated exposure

No data available

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 18 mg/l
Exposure time: 48 h
Test Type: static test
Method: OECD Test Guideline 202
GLP: yes

SAFETY DATA SHEET

According to Title 29 of US Code of Federal Regulations 1910.1200.



130717 FRAMBINON®

Version 6.0

Print Date: 04/06/2016

Revision Date: 10/20/2015

Persistence and degradability

Biodegradability

: Test Type: Manometric respiration test
Result: Readily biodegradable
Biodegradation: 89 %
Exposure time: 28 d
Method: OECD 301F
GLP: yes

Test Type: Closed Bottle test
Result: Readily biodegradable
Biodegradation: 68 %
Exposure time: 28 d
Method: OECD 301D
GLP: yes

Bioaccumulative potential

No data available

Mobility in soil

No data available

Other adverse effects

No data available

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods

Waste from residues

: Dispose of in accordance with local regulations.
Observe, local, state and federal regulations.
Do not dispose of waste into sewer.
Discharge into the environment must be avoided.
Send to a licensed waste management company.

Contaminated packaging

: Empty remaining contents.
Empty containers should be taken to an approved waste handling site for recycling or disposal.
Do not re-use empty containers.
Where possible recycling is preferred to disposal or incineration.

SECTION 14. TRANSPORT INFORMATION

49CFR Road 0 – 25 kg

Not classified as dangerous in the meaning of transport regulations.

49CFR Road 25 – 400 kg

Not classified as dangerous in the meaning of transport regulations.

49CFR Road > 400 kg

Not classified as dangerous in the meaning of transport regulations.

SAFETY DATA SHEET

According to Title 29 of US Code of Federal Regulations 1910.1200.



130717 FRAMBINON®

Version 6.0

Print Date: 04/06/2016

Revision Date: 10/20/2015

IMDG : Not classified as dangerous in the meaning of transport regulations.

IATA-DGR : Not classified as dangerous in the meaning of transport regulations.

SECTION 15. REGULATORY INFORMATION

TSCA list

United States TSCA Inventory	: y
TSCA - 12(b) Export Notification List of Chemicals	: Not listed
TSCA - 5(a) Significant New Use Rule List of Chemicals	: Not listed

CERCLA Reportable Quantity

This material does not contain any components with a CERCLA RQ.

SARA 304 Extremely Hazardous Substances Reportable Quantity

This material does not contain any components with a section 304 EHS RQ.

SARA 311/312 Hazards : Acute Health Hazard

SARA 302 : This material does not contain any components with a SARA 302 RQ.

SARA 313 : This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

New Jersey Right To Know

Not listed

California Prop 65

Not listed

SECTION 16. OTHER INFORMATION

Revision Date : 10/20/2015

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

SAFETY DATA SHEET

According to Title 29 of US Code of Federal Regulations 1910.1200.



130717 FRAMBINON®

Version 6.0

Print Date: 04/06/2016

Revision Date: 10/20/2015

SAFETY DATA SHEET

According to Title 29 of US Code of Federal Regulations 1910.1200.



660173 INDOFLOR® CRYSTALS 00060

Version 15.1

Print Date: 06/24/2020

Revision Date: 03/11/2019

SECTION 1. IDENTIFICATION

Product name : INDOFLOR® CRYSTALS 00060
000000000000660173
Product code : 660173
Customer Material No. : 10058421

Manufacturer or supplier's details

Company name of supplier : Symrise , Inc.
Address : 300 North Street
Teterboro NJ 07608
Telephone : (201) 288-3200
Telefax : (201) 288-0843
E-mail address : msds-us@symrise.com
Emergency telephone number : +1-800-535-5053 (ID# 101844)
+1-352-323-3500 (Outside US)

Recommended use of the chemical and restrictions on use

Recommended use : Fragrances

SECTION 2. HAZARDS IDENTIFICATION

GHS Classification

Reproductive toxicity : Category 2

GHS label elements

Hazard pictograms :



Signal word : Warning

Hazard statements : H361 Suspected of damaging fertility or the unborn child.

Precautionary statements : **Prevention:**
P201 Obtain special instructions before use.
P202 Do not handle until all safety precautions have been read and understood.
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.
Response:
P308 + P313 IF exposed or concerned: Get medical advice/ attention.
Disposal:
P501 Dispose of contents/ container to an approved waste disposal plant.

Hazards Not Otherwise Classified (HNOC)

SAFETY DATA SHEET

According to Title 29 of US Code of Federal Regulations 1910.1200.



660173 INDOFLOR® CRYSTALS 00060

Version 15.1

Print Date: 06/24/2020

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None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical name	: Indeno[1,2-d]-1,3-dioxin, 4,4a,5,9b-tetrahydro-
Synonyms	: 4,4a,5,9b-Tetrahydroindeno[1,2-d]-1,3-dioxin
Chemical Family	: Cyclic Ethers
CAS-No.	: 18096-62-3
Molecular formula	: C11-H12-O2

SECTION 4. FIRST AID MEASURES

General advice	: Do not leave the victim unattended. Move out of dangerous area. Show this safety data sheet to the doctor in attendance.
If inhaled	: Consult a physician after significant exposure. If unconscious, place in recovery position and seek medical advice.
In case of skin contact	: If skin irritation persists, call a physician. If on skin, rinse well with water. If on clothes, remove clothes.
In case of eye contact	: Remove contact lenses. Keep eye wide open while rinsing. If eye irritation persists, consult a specialist.
If swallowed	: Induce vomiting immediately and call a physician. Do not give milk or alcoholic beverages. If symptoms persist, call a physician. Take victim immediately to hospital.

SECTION 5. FIREFIGHTING MEASURES

Suitable extinguishing media	: Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.
Specific hazards during firefighting	: Do not allow run-off from fire fighting to enter drains or water courses.
Specific extinguishing methods	: Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Further information	: Collect contaminated fire extinguishing water separately. This must not be discharged into drains.
Special protective equipment for firefighters	: Wear self-contained breathing apparatus for firefighting if necessary.

SAFETY DATA SHEET

According to Title 29 of US Code of Federal Regulations 1910.1200.



660173 INDOFLOR® CRYSTALS 00060

Version 15.1

Print Date: 06/24/2020

Revision Date: 03/11/2019

SECTION 6. ACCIDENTAL RELEASE MEASURES

- | | |
|---|--|
| Personal precautions,
protective equipment and
emergency procedures | : Avoid breathing dust.
Avoid dust formation. |
| Environmental precautions | : Try to prevent the material from entering drains or water
courses.
Prevent further leakage or spillage if safe to do so.
If the product contaminates rivers and lakes or drains inform
respective authorities. |
| Methods and materials for
containment and cleaning up | : Clean up promptly by sweeping or vacuum. |

SECTION 7. HANDLING AND STORAGE

- | | |
|-----------------------------|--|
| Advice on safe handling | : Use only with adequate ventilation.
Do not breathe vapours/dust.
For industrial use only.
Keep all heated processes at the lowest necessary
temperature in order to minimize emissions of volatile
chemicals into the air.
Take care to avoid waste and spillage when weighing, loading
and mixing the product. |
| Conditions for safe storage | : Keep containers tightly closed in a dry, cool and well-
ventilated place. |

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

We are not aware of any national exposure limit.

Personal protective equipment

- | | |
|--------------------------|---|
| Respiratory protection | : In the absence of adequate ventilation, a dust mask or a
respirator, appropriate for the specific workplace conditions,
is recommended. |
| Eye protection | : Wear chemical resistant goggles and/or face shield. |
| Skin and body protection | : Wear suitable gloves. |
| Protective measures | : Engineering controls providing adequate ventilation (such as |

SAFETY DATA SHEET

According to Title 29 of US Code of Federal Regulations 1910.1200.



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hoods, point source or whole room ventilation systems for liquids and dust collection systems for dusts) are recommended as the primary method to minimize workplace exposure. When adequate ventilation cannot be achieved, the use of an appropriate respiratory protection device is recommended.

Established TLV/ TWA or PEL values should be used when possible.

Hygiene measures : Handle in accordance with good industrial hygiene and safety practice.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	: crystalline
Colour	: white
Odour	: characteristic
Melting point/range	: 36.4 °C (1,013 hPa) Method: OECD Test Guideline 102 GLP: no
Boiling point/boiling range	: 276.1 °C (1,013 hPa) Method: OECD Test Guideline 103 GLP: no
Flash point	: > 212 °F / > 100 °C
Flammability (solid, gas)	: Method: Flammability (solids) GLP: no
Vapour pressure	: 0.001 hPa (20 °C) / 0.001 mmHg (20 °C) Method: OECD Test Guideline 104 GLP: no 0.003 hPa (25 °C) / 0.003 mmHg (25 °C) Method: OECD Test Guideline 104 GLP: no 0.068 hPa (50 °C) / 0.051 mmHg (50 °C) Method: OECD Test Guideline 104 GLP: no
Relative density	: 1.27 (20 °C) Method: OECD 109 GLP: no relation to density of water at 4°C
Solubility(ies) Water solubility	: 3.89 g/l immiscible (20 °C) pH: 6.7 Method: OECD Test Guideline 105 GLP: yes

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According to Title 29 of US Code of Federal Regulations 1910.1200.



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Partition coefficient: n-octanol/water : log Pow: 1.76 (22.8 °C)
pH: 7.0
Method: OECD 117
GLP: yes

Molecular weight : 176.15 g/mol

SECTION 10. STABILITY AND REACTIVITY

Chemical stability : No decomposition if stored and applied as directed.

Possibility of hazardous reactions : Stable under recommended storage conditions.

None known.

Conditions to avoid : No data available

SECTION 11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Ingestion
Inhalation
Eye contact
Skin contact

Acute toxicity

Acute oral toxicity : LD50 (Rat, male and female): > 2,000 mg/kg
Method: OECD Test Guideline 401
GLP: yes

Acute dermal toxicity : LD50 (Rat, male and female): > 2,000 mg/kg
Method: OECD Test Guideline 402
GLP: yes

Skin corrosion/irritation

Species: Rabbit
Exposure time: 4 h
Method: OECD Test Guideline 404
Result: Mild skin irritation
Concentration: 100 %
GLP: yes

Species: Humans
Exposure time: 24 h
Method: Human patch test
Result: No skin irritation
Concentration: 50 %

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GLP: no

Serious eye damage/eye irritation

Result: No eye irritation

Concentration: 100 %

Method: Human EpiOcular Eye Model Test

GLP: yes

Respiratory or skin sensitisation

No data available

Germ cell mutagenicity

Genotoxicity in vitro

: Test Type: Ames test

Metabolic activation: with and without metabolic activation

Method: OECD 471

Result: negative

GLP: yes

: Test Type: In Vitro Mammalian Cell Micronucleus Test

Test species: Human lymphocytes

Metabolic activation: with and without metabolic activation

Method: OECD Test Guideline 487

Result: negative

GLP: yes

: Test Type: In vitro Mammalian Cell Gene Mutation Test

Test species: V79 cells

Metabolic activation: with and without metabolic activation

Method: OECD 476

Result: negative

GLP: yes

Carcinogenicity

IARC

Not listed

OSHA

Not listed

NTP

Not listed

Reproductive toxicity

No data available

STOT - single exposure

No data available

STOT - repeated exposure

No data available

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

Toxicity to fish

: LC50 (Danio rerio (zebra fish)): > 100 mg/l

Exposure time: 96 h

Test Type: static test

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According to Title 29 of US Code of Federal Regulations 1910.1200.



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Analytical monitoring: yes
Method: OECD Test Guideline 203
GLP: yes

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna): > 100 mg/l
Exposure time: 48 h
Test Type: static test
Analytical monitoring: yes
Method: OECD Test Guideline 202
GLP: yes

Toxicity to algae : EC50 (Pseudokirchneriella subcapitata (green algae)): > 100 mg/l
End point: Growth rate
Exposure time: 72 h
Test Type: static test
Analytical monitoring: yes
Method: OECD Test Guideline 201
GLP: yes

EC10 (Pseudokirchneriella subcapitata (green algae)): > 100 mg/l
End point: Growth rate
Exposure time: 72 h
Test Type: static test
Analytical monitoring: yes
Method: OECD Test Guideline 201
GLP: yes

Persistence and degradability

Biodegradability : Test Type: Closed Bottle test
Result: Not readily biodegradable.
Biodegradation: 5 %
Exposure time: 28 d
Method: OECD 301D
GLP: yes

Bioaccumulative potential

No data available

Mobility in soil

No data available

Other adverse effects

No data available

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods

Waste from residues : Dispose of in accordance with local regulations.
Observe, local, state and federal regulations.
Do not dispose of waste into sewer.
Discharge into the environment must be avoided.

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According to Title 29 of US Code of Federal Regulations 1910.1200.



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Send to a licensed waste management company.

Contaminated packaging : Empty remaining contents.
Empty containers should be taken to an approved waste handling site for recycling or disposal.
Do not re-use empty containers.
Where possible recycling is preferred to disposal or incineration.

SECTION 14. TRANSPORT INFORMATION

49CFR Road 0 – 25 kg Not classified as dangerous in the meaning of transport regulations.

49CFR Road 25 – 400 kg Not classified as dangerous in the meaning of transport regulations.

49CFR Road > 400 kg Not classified as dangerous in the meaning of transport regulations.

IMDG : Not classified as dangerous in the meaning of transport regulations.

IATA-DGR : Not classified as dangerous in the meaning of transport regulations.

SECTION 15. REGULATORY INFORMATION

TSCA list

TSCA - 12(b) Export Notification List of Chemicals : Not listed

TSCA - 5(a) Significant New Use Rule List of Chemicals : Not listed

CERCLA Reportable Quantity

This material does not contain any components with a CERCLA RQ.

SARA 304 Extremely Hazardous Substances Reportable Quantity

This material does not contain any components with a section 304 EHS RQ.

SARA 311/312 Hazards : Chronic Health Hazard

SARA 302 : This material does not contain any components with a SARA 302 RQ.

SARA 313 : This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

New Jersey Right To Know

SAFETY DATA SHEET

According to Title 29 of US Code of Federal Regulations 1910.1200.



660173 INDOFLOR® CRYSTALS 00060

Version 15.1

Print Date: 06/24/2020

Revision Date: 03/11/2019

Not listed

California Prop 65

Not listed

SECTION 16. OTHER INFORMATION

Revision Date : 03/11/2019

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

! SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Name of product	Indole
	Prod-Nr 50905
Name of substance	Indole
EC No	204-420-7
REACH registration number	01-2120745892-45-****
CAS No	120-72-9

1.2. Relevant identified uses of the substance or mixture and uses advised against

Recommended intended purpose(s)
used in fragrances and flavors

1.3. Details of the supplier of the safety data sheet

Manufacturer/distributor	A.C.S. International GmbH Im Wesertal 5, D-37671 H�xter - Stahle Phone +49 (0)5531 9906142, Fax +49 (0)5531 9906 196 E-Mail regulatory@acsint.com Internet www.acsint.com
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Advice GIZ-Nord, G ttingen, Germany

1.4. Emergency telephone number

Emergency advice
Phone +49 551 19240

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008 [CLP/GHS]

Hazard classes and Hazard categories	Hazard Statements	Classification procedure
Acute Tox. 3	H311	
Acute Tox. 4	H302	
Eye Dam. 1	H318	
Skin Sens. 1	H317	

Hazard statements for health hazards

H302	Harmful if swallowed.
H311	Toxic in contact with skin.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.

2.2. Label elements

Labelling according to Regulation (EC) No 1272/2008 [CLP/GHS]



GHS05



GHS06

Signal word
Danger

Hazard statements for health hazards

H302	Harmful if swallowed.
H311	Toxic in contact with skin.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.

Precautionary Statements

Prevention

P261	Avoid breathing dust/fume/gas/mist/vapours/spray.
P280	Wear protective gloves/protective clothing/eye protection/face protection.

Response

P301 + P312	IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell.
P302 + P352	IF ON SKIN: Wash with plenty of water.
P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Storage

P403 + P233	Store in a well-ventilated place. Keep container tightly closed.
-------------	--

2.3. Other hazards

No information available.

SECTION 3: Composition/ information on ingredients

3.1. Substances

CAS No 120-72-9	Indole
------------------------	---------------

EC No 204-420-7

REACH registration number 01-2120745892-45-****

3.2. Mixtures

not applicable

SECTION 4: First aid measures

4.1. Description of first aid measures

General information

Remove contaminated soaked clothing immediately.

In case of inhalation

In case of inhalation remove the casualty into fresh air and seek medical advice.

In case of skin contact

In case of contact with skin wash off immediately with soap and water.
Remove contaminated clothing immediately, even underwear and shoes.
Seek medical advice immediately.

In case of eye contact

In case of contact with eyes rinse thoroughly with plenty of water and seek medical advice.

In case of ingestion

Turn a vomiting person lying on his back onto his side.

Do not induce vomiting.

Seek medical advice immediately.

Rinse out mouth and give plenty of water to drink.

4.2. Most important symptoms and effects, both acute and delayed

No information available.

4.3. Indication of any immediate medical attention and special treatment needed

No information available.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media

Foam

Dry fire-extinguishing substance

Carbon dioxide

Unsuitable extinguishing media

Full water jet

5.2. Special hazards arising from the substance or mixture

Carbon monoxide (CO)

Carbon dioxide (CO₂)

5.3. Advice for firefighters

Special protective equipment for fire-fighters

Use breathing apparatus with independent air supply.

Do not inhale explosion and/or combustion gases.

Additional information

Cool endangered containers with water spray jet.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

For non-emergency personnel

Ensure adequate ventilation.

Remove persons to safety.

Use personal protective clothing.

Keep away sources of ignition.

6.2. Environmental precautions

Do not discharge into the drains/surface waters/groundwater.

6.3. Methods and material for containment and cleaning up

Take up with absorbent material (e.g. sand, sawdust, general-purpose binder).

After taking up the material dispose according to regulation.

6.4. Reference to other sections

No information available.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Advice on safe handling

Care for thoroughly room ventilation, if necessary use in well ventilated area with local exhaust ventilation at workplace.

Take the usual precautions when handling with chemicals.

General protective measures

Avoid contact with eyes and skin

Do not inhale gases/vapours/aerosols.

Hygiene measures

At work do not eat, drink and smoke.

Remove soaked clothing immediately.

Wash hands before breaks and after work.

Advice on protection against fire and explosion

Keep away from sources of ignition - No smoking

7.2. Conditions for safe storage, including any incompatibilities

Advice on storage compatibility

Do not store together with oxidizing agents.

Further information on storage conditions

Keep container tightly closed.

Protect from heat and direct solar radiation.

Store at cool and aired place.

7.3. Specific end use(s)

No information available.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Additional advice

not determined

8.2. Exposure controls

Respiratory protection

Environment-independent breathing apparatus.

Hand protection

chemical-resistant gloves

Eye protection

safety goggles with side protection

Other protection measures

protective clothing

Limitation and surveillance of the environment

not determined

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance
crystalline powder

Colour
colourless

Odour
fecal,floral odor in high dilution

Odour threshold
not determined

Important health, safety and environmental information

	Value	Temperature	at	Method	Remark
pH value	not determined				
boiling point	253 - 254 °C				
melting point	51 - 53 °C				
Flash point	> 100 °C			closed cup	
Vapourisation rate	not determined				
Flammable (solid)	not determined				
Flammability (gas)	not determined				
Ignition temperature	not determined				
Self ignition temperature	not determined				
Lower explosion limit	not determined				
Upper explosion limit	not determined				
Vapour pressure	not determined				
Relative density	not determined				
Vapour density	not determined				
Solubility in water					insoluble
Solubility/other	not determined				
Partition coefficient n-octanol/water (log P O/W)	not determined				
Decomposition temperature	not determined				
Viscosity	not determined				

Oxidising properties

No information available.

Explosive properties

No information available.

9.2. Other information

No information available.

SECTION 10: Stability and reactivity

10.1. Reactivity

No information available.

10.2. Chemical stability

No information available.

10.3. Possibility of hazardous reactions

No information available.

10.4. Conditions to avoid

Evolution of heat.

10.5. Incompatible materials

Substances to avoid

Reactions with strong oxidising agents.

10.6. Hazardous decomposition products

Carbon monoxide and carbon dioxide.

Hazardous decomposition products:

Thermal decomposition

Remark Stable at ambient temperature.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity/Irritation/Sensitization

	Value/Validation	Species	Method	Remark
LD50 acute oral	> 1000 mg/kg	rat		Harmful if swallowed.
LD50 acute dermal	790 mg/kg	rabbit		Toxic in contact with skin.
Skin irritation	low irritant effect - not necessary to label	rabbit		
Eye irritation	Causes serious eye damage.			
Skin sensitization	May cause an allergic skin reaction.			

SECTION 12: Ecological information

12.1. Toxicity

Ecotoxicological effects

	Value	Species	Method	Validation
Daphnia	EC50 1 mg/l (48 h)	Daphnia magna		
Algae	EC100 < 10 mg/l (96 h)	Scenedesmus quadricauda		

12.2. Persistence and degradability

No information available.

12.3. Bioaccumulative potential

No information available.

12.4. Mobility in soil

No information available.

12.5. Results of PBT and vPvB assessment

No information available.

12.6. Other adverse effects

No information available.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Recommendations for the product

Remove in accordance with local official regulations.

Recommendations for packaging

Contaminated packaging should be emptied as far as possible and after appropriate cleansing may be taken for reuse.

Packaging that cannot be cleaned should be disposed of like the product.

SECTION 14: Transport information

	ADR/RID	IMDG	IATA-DGR
14.1. UN number	2811	2811	2811
14.2. UN proper shipping name	Poisonous solid, organic, n.o.s.	Toxic solid, organic, n.o.s.	Toxic solid, organic, n.o.s.
14.3. Transport hazard class(es)	6.1	6.1	6.1
14.4. Packing group	III	III	III

	ADR/RID	IMDG	IATA-DGR
14.5. Environmental hazards	No	No	No
14.6. Special precautions for user No information available.			
14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code No information available.			
Land and inland navigation transport ADR/RID Hazard label(s) 6.1			

SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

National regulations

Water hazard class 1 value from literature

Decree for case of interference/remarks no

15.2. Chemical Safety Assessment

No information available.

SECTION 16: Other information

Training advice

no

Recommended uses and restrictions

National and local regulations concerning chemicals shall be observed.

Further information

The information contained herein is based on the state of our knowledge. It characterizes the product with regard to the appropriate safety precautions. It does not represent a guarantee of the properties of the product.

Indication of changes: "!" = Data changed compared with the previous version. Previous version: 3.5

Sources of key data used

Listed in EINECS and TSCA



SAFETY DATA SHEET

98727040 MAPLE LACTONE FCC

[x] 1 PRODUCT AND COMPANY IDENTIFICATION

1.1 Product identifier

98727040 MAPLE LACTONE FCC

CAS-No.	: 765-70-8
EINECS Number	: 212-154-8
INDEX NUMBER	: No data available.
REACH Registration No.	: No data available.

1.2 Relevant identified uses of the substance or mixture and uses advised against

Perfume composition, flavour or aromatical ingredient, for an industrial usage, that can be used in end-user product.

1.3 Details of the supplier of the safety data sheet

Supplier	: MANE USA
Address	: 60 Demarest Drive - WAYNE - 07470 - UNITED STATES
Telephone	: 1 973 633 5533 (Only during office hours)
e-mail	: US-WayneList.regulatoryaffairs@mane.com

1.4 Emergency telephone number

Emergency telephone : CHEMTREC 1-703-527-3887 / 1-800-424-9300

[x] 2 HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

CLASSIFICATION ACCORDING Reg. 1272/2008/CE

Physical hazards

No hazard specified.

Health Dangers

No hazard specified.

Environmental hazards

No hazard specified.

2.2 Label elements

No recommendation given.



SAFETY DATA SHEET

98727040 MAPLE LACTONE FCC

No other dangers

2.3 Other hazards

PBT-Substances, vPvB-Substances: None

Other information: None

For a complete list of references and phrases mentioned in this chapter, see chapter 16.

[x] 3 COMPOSITION / INFORMATION ON INGREDIENTS

3.1 Substances

CAS-No.: 765-70-8

No recommendation given.

Ingredients having an occupational exposure limit value: See section 8.

3.2 Mixtures

Not applicable

[x] 4 FIRST AID MEASURES

4.1 Description of first aid measures

IF ON SKIN (or hair): Remove/take off immediately all contaminated clothing. Rinse skin with water/shower.

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

4.2 Most important symptoms and effects, both acute and delayed

Get medical attention if symptoms persist.

4.3 Indication of any immediate medical attention and special treatment needed

Never give liquid to an unconscious person.

[x] 5 FIRE-FIGHTING MEASURES

5.1 Suitable extinguishing media



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98727040 MAPLE LACTONE FCC

Water, CO2 or Foam
Extinguishing media to avoid
Avoid water in straight hose stream; will scatter and spread fire.

5.2 Special hazards arising from the substance or mixture

Avoid breathing dust or vapor.
Cool containers exposed to flames with water until well after the fire is out.

5.3 Advice for firefighters

No specific precautions.

[x] 6 ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

Contain spillages with sand, earth or any suitable adsorbent material.

6.2 Environmental precautions

Should not be released into the environment.

6.3 Methods and materials for containment and cleanup procedure

Collect with non-combustible absorbent material. Flush with water. Dike for large spills.

6.4 Reference to other sections

See Section 8 of the MSDS for Personal Protective Equipment.
For waste disposal, see section 13 of the MSDS.

[x] 7 HANDLING AND STORAGE

7.1 Precautions for safe handling

Extinguish all ignition sources. Avoid sparks, flames, heat and smoking. Ventilate.
Store in a cool, dry place with adequate ventilation. Keep away from incompatible materials, open flames, and high temperatures.
Do not breathe vapor from heated material.

7.2 Condition for safe storage, including any incompatibilities



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98727040 MAPLE LACTONE FCC

Keep only in the original container in an appropriate place.

7.3 Specific end use(s)

No specific precautions.

[x] 8 EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1 Control parameters

Occupational exposure limits

National OELs values

FRANCE: None
GERMANY: None
UNITED STATES: None
CHINA: None
INDONESIA: None

European Indicative OELs values

None

8.2 Exposure controls

Personal protective equipment (ppe)

Respiratory protection: In case of inadequate ventilation use suitable respirator.

Eye protection: Wear goggles/face shield.

Hand protection: Gloves.

Skin protection: Wear suitable protective clothing. Provide adequate ventilation if fumes or vapors are generated.

Environmental exposure controls

Discharge, treatment, or disposal may be subject to national, state, or local laws.

[x] 9 PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

- Physical State: POWDER

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98727040 MAPLE LACTONE FCC

- Color: From WHITE to YELLOW
- Odor: Characteristic
- pH: No data available.
- Melting point (°C): No data available.
- Boiling point (°C): No data available.
- Flash point (°C): >100 °C
- Evaporation Rate: No data available.
- Flammability (solid, gas): No data available.
- Upper/lower limit on flammability or explosive limits: No data available.
- Vapor pressure: 0.4 mmHg
- Vapor Density: No data available.
- Specific Gravity: No data available.
- Solubility: No data available.
- Log Pow (n-Octanol/Water Partition Coefficient): 1.29
- Auto Ignition Temp. (°C): No data available.
- Decomposition temperature (°C): No data available.
- Viscosity: No data available.
- Explosive properties: No data available.
- Oxidizing properties: No data available.
- Vapor pressure at 20°C: No data available.
- Vapor pressure at 50°C: No data available.

9.2 Other information

No other information noted.

[x] 10 STABILITY AND REACTIVITY



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98727040 MAPLE LACTONE FCC

10.1 Reactivity

No data available.

10.2 Chemical stability

Stable under normal temperature conditions and recommended use.

10.3 Possibility of hazardous reactions

No data available.

10.4 Conditions to avoid

Store in a cool, dry place with adequate ventilation. Keep away from incompatible materials, open flames, and high temperatures.

10.5 Incompatible materials

No data available.

10.6 Hazardous decomposition products

No data available.

[x] 11 TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Product Information

LD50 Dermal(mg/kg)	> 5000 (Unknown: 0%) (Calculated)
LD50 Oral(mg/kg)	2500 (Unknown: 0%) (Calculated)
CL50 Inhalation - vapor(mg/l)	> 100 (Unknown: 0%) (Calculated)

Component Information

Skin corrosion/irritation	: No data available.
Specific Target Organ - Repeated Exposure	: No data available.



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98727040 MAPLE LACTONE FCC

Respiratory Sensitization	: No data available.
Reproductive toxicity	: No data available.
Germ cell mutagenicity	: No data available.
Serious eye damage/irritation	: No data available.
Skin Sensitization	: No data available.
Aspiration Hazard	: No data available.
Specific Target Organ - Single Exposure	: No data available.
Specific Target Organ (NE) - Single Exposure	: No data available.
Carcinogenicity	: No data available.

11.2 Information on likely routes of exposure

No data available.

11.3 Symptoms related to the physical, chemical, and toxicological characteristics

No data available.

11.4 Delayed, Immediate, and Chronic Effects of Short- and Long-Term Exposure

No data available.

11.5 Interactive effects

No data available.

11.6 Other information

No other information noted.

[x] 12 ECOLOGICAL INFORMATION

12.1 Toxicity

Product Information

Toxicity Fish	: No data available.
Toxicity Alga	: No data available.
Toxicity Water Flea	: No data available.



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98727040 MAPLE LACTONE FCC

12.2 Persistence and degradability

Biodegradability : No data available.
Hydrosolubility : No data available.
Comments : None

12.3 Bioaccumulative potential

Log Pow (n-Octanol/Water Partition Coefficient) : 1.29
Bio Concentration Factor : No data available.

12.4 Mobility in soil

No data available.

12.5 Results of PBT and vPvB assessment

No data available.

12.6 Other adverse effects

No data available.

[x] 13 DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

Do not release into the environment. Confirm disposal procedures with environmental engineer and local regulations.

13.2 Other information

Always keep original label(s) on empty recipients (drums/pails).

[x] 14 TRANSPORT INFORMATION

ADR

Not regulated

IATA

Not regulated

IMDG

Not regulated

RID

Not regulated



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14.1 Special precautions for user

No recommendation given.

[x] 15 REGULATORY INFORMATION

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

Water Hazard Class (WGK): WGK 2 (Hazard to waters)

Regulation (EC) No 1907/2006, if relevant :

No data available.

15.2 Chemical safety assessment

No data available.

[x] 16 OTHER INFORMATION

16.1 Entire text of the H and P phrases mentioned in chapters 2 and 3:

No recommendation given.

16.2 Abbreviation and acronyms

CAS: Chemical Abstracts Service
CO₂: Carbon dioxide
LD₅₀: Lethal dose 50
NTP: National Toxicology program
IARC: International Agency for Research on Cancer
OSHA: Occupational Safety and Health Administration
UN: United Nations
IMDG : International Maritime Dangerous Goods
IATA : International Air Transport Association

Classification codes

Acute Tox. 4 Dermal	: Acute toxicity Category 4 Dermal
Acute Tox. 4 Oral	: Acute toxicity Category 4 Oral
Aquatic Acute 1	: Acute hazards to the aquatic environment Category 1
Aquatic Chronic 1	: Chronic hazards to the aquatic environment Category 1



Aquatic Chronic 2	: Chronic hazards to the aquatic environment Category 2
Aquatic Chronic 3	: Chronic hazards to the aquatic environment Category 3
Asp. Tox. 1	: Aspiration hazard Category 1
Eye Dam. 1	: Serious eye damage/eye irritation Category 1
Eye Irrit. 2A	: Serious eye damage/eye irritation Category 2A
Eye Irrit. 2B	: Serious eye damage/eye irritation Category 2B
Flam. Liq. 3	: Flammable liquids Category 3
Flam. Liq. 4	: Flammable liquids Category 4
Skin irrit. 2	: Skin corrosion/irritation Category 2
Skin Sens. 1	: Skin sensitizer Category 1
Skin Sens. 1A	: Skin sensitizer Category 1A
Skin Sens. 1B	: Skin sensitizer Category 1B

16.3 Key literature references and sources for data

This safety Data Sheet has been prepared in accordance with Regulation EC 1907/2006 and its amendments. The information given correspond to the knowledge we have on the date mentioned on this document and is based on the recommendations of the EFFA and IOFI/IFRA working groups.

To specify modifications that appear in document since the previous version, we note this symbol [X] in front of each section containing a modification.

We cannot be held responsible in the event of improper usage of this product. It is up to the user to analyse the information given and to determine appropriate handling conditions for the safe use of this product.

It is the user's liability to conform to all local, national, and international regulations that apply to its activities.

This automatically generated safety data sheet is valid without signature.

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According to Title 29 of US Code of Federal Regulations 1910.1200.



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Version 9.0

Print Date: 04/20/2016

Revision Date: 11/25/2015

SECTION 1. IDENTIFICATION

Product name : MENTHOL L PELLETS 00010
000000000000620009
Product code : 620009
Customer Material No. : 10049541

Manufacturer or supplier's details

Company name of supplier : Symrise , Inc.
Address : 300 North Street
Teterboro NJ 07608
Telephone : (201) 288-3200
Telefax : (201) 288-0843
E-mail address : msds-us@symrise.com
Emergency telephone number : +1-800-535-5053 (ID# 101844)
+1-352-323-3500 (Outside US)

SECTION 2. HAZARDS IDENTIFICATION

GHS Classification

Skin irritation : Category 2
Eye irritation : Category 2A

GHS Label element

Hazard pictograms : 

Signal word : Warning

Hazard statements : H315 Causes skin irritation.
H319 Causes serious eye irritation.

Precautionary statements : **Prevention:**
P264 Wash skin thoroughly after handling.
P280 Wear eye protection/ face protection.
P280 Wear protective gloves.
Response:
P302 + P352 IF ON SKIN: Wash with plenty of soap and water.
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P332 + P313 If skin irritation occurs: Get medical advice/ attention.
P337 + P313 If eye irritation persists: Get medical advice/ attention.
P362 Take off contaminated clothing and wash before reuse.

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Hazards Not Otherwise Classified (HNOC)

None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	: Cyclohexanol, 5-methyl-2-(1-methylethyl)-, (1R,2S,5R)-
Synonyms	: L-Menthol, Menthol
Chemical Family	: Alcohols
CAS-No.	: 2216-51-5
Molecular formula	: C ₁₀ H ₂₀ O
FEMA Number	: 2665

SECTION 4. FIRST AID MEASURES

General advice	: Do not leave the victim unattended. Move out of dangerous area. Show this safety data sheet to the doctor in attendance.
If inhaled	: If unconscious place in recovery position and seek medical advice. If symptoms persist, call a physician.
In case of skin contact	: If skin irritation persists, call a physician. If on skin, rinse well with water. If on clothes, remove clothes.
In case of eye contact	: Immediately flush eye(s) with plenty of water. Remove contact lenses. Keep eye wide open while rinsing. If eye irritation persists, consult a specialist.
If swallowed	: Do not give milk or alcoholic beverages. If symptoms persist, call a physician.

SECTION 5. FIREFIGHTING MEASURES

Suitable extinguishing media	: Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.
Specific extinguishing methods	: Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Further information	: Standard procedure for chemical fires.
Special protective equipment for firefighters	: Wear self-contained breathing apparatus for firefighting if necessary.

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SECTION 6. ACCIDENTAL RELEASE MEASURES

- | | |
|---|---|
| Personal precautions,
protective equipment and
emergency procedures | : Avoid breathing dust.
Avoid dust formation. |
| Environmental precautions | : Prevent further leakage or spillage if safe to do so. |
| Methods and materials for
containment and cleaning up | : Clean up promptly by sweeping or vacuum. |

SECTION 7. HANDLING AND STORAGE

- | | |
|-----------------------------|--|
| Advice on safe handling | : Use only with adequate ventilation.
Do not breathe vapours/dust.
For industrial use only.
Keep all heated processes at the lowest necessary
temperature in order to minimize emissions of volatile
chemicals into the air.
Take care to avoid waste and spillage when weighing, loading
and mixing the product. |
| Conditions for safe storage | : Keep containers tightly closed in a dry, cool and well-
ventilated place. |

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

We are not aware of any national exposure limit.

Personal protective equipment

- | | |
|--------------------------|---|
| Respiratory protection | : In the absence of adequate ventilation, a dust mask or a
respirator, appropriate for the specific workplace conditions,
is recommended. |
| Eye protection | : Wear chemical resistant goggles and/or face shield. |
| Skin and body protection | : Wear suitable gloves. |
| Protective measures | : Engineering controls providing adequate ventilation (such as
hoods, point source or whole room ventilation systems for
liquids and dust collection systems for dusts) are
recommended as the primary method to minimize workplace
exposure. When adequate ventilation cannot be achieved, |

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the use of an appropriate respiratory protection device is recommended.
Established TLV/ TWA or PEL values should be used when possible.

Hygiene measures : Handle in accordance with good industrial hygiene and safety practice.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	: pelletized crystals
Colour	: pale white to white
Odour	: characteristic
Melting point/range	: 42 °C Method: OECD Test Guideline 102
Boiling point/boiling range	: 218.94 °C (1,013.0 hPa)
Flash point	: 201 °F / 94 °C
Vapour pressure	: < 0.100 mb* (20 °C) / < 0.075 mmHg (20 °C)
Relative density	: 1.00 (20 °C)
Bulk density	: ca. 490 kg/m ³ Method: DIN 53468
Solubility(ies)	
Water solubility	: 0.397 g/l partly miscible Method: OECD Test Guideline 105 GLP: yes
Partition coefficient: n-octanol/water	: log Pow: 3.15 (25 °C) pH: 7.14 - 7.44 Method: Directive 440/2008/EC, Annex , A.8. GLP: no
Molecular weight	: 156.3 g/mol

SECTION 10. STABILITY AND REACTIVITY

Chemical stability	: No decomposition if stored and applied as directed.
Possibility of hazardous reactions	: Stable under recommended storage conditions.
	None known.

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Conditions to avoid : No data available

SECTION 11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Ingestion
Inhalation
Eye contact
Skin contact

Acute toxicity

Acute oral toxicity : LD50 (Rat): 2,615 mg/kg

Acute dermal toxicity : LD50 (Rabbit): > 5,000 mg/kg

Skin corrosion/irritation

Species: Rabbit
Method: OECD Test Guideline 404
Result: Irritating to skin.
GLP: yes

Serious eye damage/eye irritation

Species: Rabbit
Result: Mild eye irritation

Respiratory or skin sensitisation

Species: Humans
Result: No sensitizing effect.
Concentration: 8 %

Germ cell mutagenicity

Genotoxicity in vitro : Test Type: Ames test
Method: OECD 471
Result: negative

Carcinogenicity

IARC	Not listed
OSHA	Not listed
NTP	Not listed

Reproductive toxicity

No data available

STOT - single exposure

No data available

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STOT - repeated exposure

No data available

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

Toxicity to fish : LC50 (Zebrafish (Brachydanio rerio)): 15.6 mg/l
Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 26.6 mg/l
Exposure time: 48 h
Test Type: static test
Method: 92/69/EC

Toxicity to bacteria : EC50 (Activated sludge): 237 mg/l
Method: OECD 209 / ISO 8192

Persistence and degradability

Biodegradability : Test Type: Closed Bottle test
Result: Readily biodegradable
Biodegradation: 92 %
Exposure time: 28 d
Method: OECD 301D
GLP: yes

Bioaccumulative potential

No data available

Mobility in soil

No data available

Other adverse effects

Results of PBT and vPvB assessment : This substance is not considered to be very persistent and very bioaccumulating (vPvB). This substance is not considered to be persistent, bioaccumulating and toxic (PBT).

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods

Waste from residues : Dispose of in accordance with local regulations.
Observe, local, state and federal regulations.
Do not dispose of waste into sewer.
Discharge into the environment must be avoided.
Send to a licensed waste management company.

Contaminated packaging : Empty remaining contents.
Empty containers should be taken to an approved waste handling site for recycling or disposal.
Do not re-use empty containers.
Where possible recycling is preferred to disposal or incineration.

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SECTION 14. TRANSPORT INFORMATION

49CFR Road 0 – 25 kg Not classified as dangerous in the meaning of transport regulations.

49CFR Road 25 – 400 kg Not classified as dangerous in the meaning of transport regulations.

49CFR Road > 400 kg Not classified as dangerous in the meaning of transport regulations.

IMDG : Not classified as dangerous in the meaning of transport regulations.

IATA-DGR : Not classified as dangerous in the meaning of transport regulations.

SECTION 15. REGULATORY INFORMATION

TSCA list

United States TSCA Inventory	: y
TSCA - 12(b) Export Notification List of Chemicals	: Not listed
TSCA - 5(a) Significant New Use Rule List of Chemicals	: Not listed

CERCLA Reportable Quantity

This material does not contain any components with a CERCLA RQ.

SARA 304 Extremely Hazardous Substances Reportable Quantity

This material does not contain any components with a section 304 EHS RQ.

SARA 311/312 Hazards : Acute Health Hazard

SARA 302 : This material does not contain any components with a SARA 302 RQ.

SARA 313 : This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

New Jersey Right To Know

Not listed

California Prop 65

Not listed

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Revision Date: 11/25/2015

SECTION 16. OTHER INFORMATION

Revision Date : 11/25/2015

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

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660002 PARA METHOXY ACETOPHENONE 00100

Version 11.0

Print Date: 06/26/2020

Revision Date: 10/29/2019

SECTION 1. IDENTIFICATION

Product name : PARA METHOXY ACETOPHENONE 00100
000000000000660002
Product code : 660002
Customer Material No. : 10059159

Manufacturer or supplier's details

Company name of supplier : Symrise , Inc.
Address : 300 North Street
Teterboro NJ 07608
Telephone : (201) 288-3200
Telefax : (201) 288-0843
E-mail address : msds-us@symrise.com
Emergency telephone number : +1-800-535-5053 (ID# 101844)
+1-352-323-3500 (Outside US)

SECTION 2. HAZARDS IDENTIFICATION

GHS Classification

Acute toxicity (Oral) : Category 4
Skin irritation : Category 2
Eye irritation : Category 2A

GHS label elements

Hazard pictograms :

Signal word : Warning

Hazard statements : H302 Harmful if swallowed.
H315 Causes skin irritation.
H319 Causes serious eye irritation.

Precautionary statements : **Prevention:**
P264 Wash skin thoroughly after handling.
P270 Do not eat, drink or smoke when using this product.
P280 Wear protective gloves/ eye protection/ face protection.
Response:
P301 + P312 + P330 IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell. Rinse mouth.
P302 + P352 IF ON SKIN: Wash with plenty of soap and water.
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P332 + P313 If skin irritation occurs: Get medical advice/ attention.

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P337 + P313 If eye irritation persists: Get medical advice/
attention.
P362 Take off contaminated clothing and wash before reuse.
Disposal:
P501 Dispose of contents/ container to an approved waste
disposal plant.

Hazards Not Otherwise Classified (HNOC)

None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical name	: Ethanone, 1-(4-methoxyphenyl)-
Synonyms	: 4'-Methoxyacetophenone
Chemical Family	: Aromatic Ketones
CAS-No.	: 100-06-1
Molecular formula	: C9-H10-O2
FEMA Number	: 2005

SECTION 4. FIRST AID MEASURES

General advice	: Do not leave the victim unattended. Move out of dangerous area. Show this safety data sheet to the doctor in attendance. Symptoms of poisoning may appear several hours later.
If inhaled	: If unconscious, place in recovery position and seek medical advice. If symptoms persist, call a physician.
In case of skin contact	: If skin irritation persists, call a physician. If on skin, rinse well with water. If on clothes, remove clothes.
In case of eye contact	: Immediately flush eye(s) with plenty of water. Remove contact lenses. Keep eye wide open while rinsing. If eye irritation persists, consult a specialist.
If swallowed	: Induce vomiting immediately and call a physician. Do not give milk or alcoholic beverages. If symptoms persist, call a physician.

SECTION 5. FIREFIGHTING MEASURES

Suitable extinguishing media	: Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.
Specific extinguishing	:

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methods

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Further information : Standard procedure for chemical fires.

Special protective equipment for firefighters : Wear self-contained breathing apparatus for firefighting if necessary.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures : Avoid breathing dust.
Avoid dust formation.

Environmental precautions : Prevent further leakage or spillage if safe to do so.
If the product contaminates rivers and lakes or drains inform respective authorities.

Methods and materials for containment and cleaning up : Clean up promptly by sweeping or vacuum.

SECTION 7. HANDLING AND STORAGE

Advice on safe handling : Use only with adequate ventilation.
Do not breathe vapours/dust.
For industrial use only.
Keep all heated processes at the lowest necessary temperature in order to minimize emissions of volatile chemicals into the air.
Take care to avoid waste and spillage when weighing, loading and mixing the product.

Conditions for safe storage : Keep containers tightly closed in a dry, cool and well-ventilated place.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

We are not aware of any national exposure limit.

Personal protective equipment

Respiratory protection : In the absence of adequate ventilation, a dust mask or a respirator, appropriate for the specific workplace conditions, is recommended.

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- Eye protection : Wear chemical resistant goggles and/or face shield.
- Skin and body protection : Wear suitable gloves.
- Protective measures : Engineering controls providing adequate ventilation (such as hoods, point source or whole room ventilation systems for liquids and dust collection systems for dusts) are recommended as the primary method to minimize workplace exposure. When adequate ventilation cannot be achieved, the use of an appropriate respiratory protection device is recommended.
Established TLV/ TWA or PEL values should be used when possible.
- Hygiene measures : Handle in accordance with good industrial hygiene and safety practice.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

- Appearance : crystals
- Colour : pale white to white
- Odour : characteristic
- Melting point/range : ca. 37 °C
Method: OECD Test Guideline 102
- Boiling point/boiling range : 260 °C
(1,013.0 hPa)
- Flash point : 280 °F / 138 °C
- Vapour pressure : 0.003 hPa (20 °C) / 0.003 mmHg (20 °C)
- Relative density : ca. 1.08 (41 °C)
- Solubility(ies)
Water solubility : 2.474 g/l
- Partition coefficient: n-octanol/water : log Pow: 1.7
calculated
- Molecular weight : 150.18 g/mol

SECTION 10. STABILITY AND REACTIVITY

- Chemical stability : No decomposition if stored and applied as directed.
- Possibility of hazardous : Stable under recommended storage conditions.

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reactions

None known.

Conditions to avoid : No data available

SECTION 11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Ingestion

Inhalation

Eye contact

Skin contact

Acute toxicity

Acute oral toxicity : LD50 (Rat): 1,720 mg/kg
Method: OECD Test Guideline 401
GLPno

Acute dermal toxicity : LD50 (Rabbit): > 5,000 mg/kg
Method: OECD Test Guideline 402
GLP: no

Skin corrosion/irritation

Species: human skin

Exposure time: 1 h

Method: OECD Test Guideline 439

Result: Skin irritation

Concentration: 100 %

GLP: yes

Serious eye damage/eye irritation

Result: Eye irritation

Respiratory or skin sensitisation

Species: Humans

Result: No sensitizing effect.

Concentration: 6 %

Germ cell mutagenicity

Genotoxicity in vitro : Test Type: Ames test
Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 471
Result: negative
GLP: yes

Carcinogenicity

IARC

Not listed

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OSHA Not listed
NTP Not listed

Reproductive toxicity

No data available

STOT - single exposure

No data available

STOT - repeated exposure

No data available

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

- Toxicity to fish : LC50 (Danio rerio (zebra fish)): > 60 mg/l
Exposure time: 96 h
Test Type: static test
Analytical monitoring: yes
Method: OECD Test Guideline 203
GLP: yes
- Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna): 75 mg/l
Exposure time: 48 h
Test Type: static test
Analytical monitoring: yes
Method: OECD Test Guideline 202
GLP: yes
- Toxicity to algae : EC50 (Pseudokirchneriella subcapitata (green algae)): 28 mg/l
End point: Growth rate
Exposure time: 72 h
Test Type: static test
Analytical monitoring: yes
Method: OECD Test Guideline 201
GLP: yes
- EC10 (Pseudokirchneriella subcapitata (green algae)): 28 mg/l
End point: Growth rate
Exposure time: 72 h
Test Type: static test
Analytical monitoring: yes
Method: OECD Test Guideline 201
GLP: yes
- Toxicity to bacteria : EC50 (Activated sludge): 403 mg/l
End point: Respiration inhibition
Exposure time: 3 h
Test Type: static test
Analytical monitoring: no
Method: OECD Test Guideline 209
GLP: yes
- EC10 (Activated sludge): 43 mg/l
End point: Respiration inhibition
Exposure time: 3 h

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Revision Date: 10/29/2019

Test Type: static test
Analytical monitoring: no
Method: OECD Test Guideline 209
GLP: yes

Persistence and degradability

Biodegradability : Test Type: Modified OECD screening test
Result: Readily biodegradable.
Biodegradation: 100 %
Exposure time: 28 d
Method: OECD 301E
GLP: yes

Bioaccumulative potential

No data available

Mobility in soil

No data available

Other adverse effects

No data available

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods

Waste from residues : Dispose of in accordance with local regulations.
Observe, local, state and federal regulations.
Do not dispose of waste into sewer.
Discharge into the environment must be avoided.
Send to a licensed waste management company.

Contaminated packaging : Empty remaining contents.
Empty containers should be taken to an approved waste
handling site for recycling or disposal.
Do not re-use empty containers.
Where possible recycling is preferred to disposal or
incineration.

SECTION 14. TRANSPORT INFORMATION

49CFR Road 0 – 25 kg Not classified as dangerous in the meaning of transport regulations.

49CFR Road 25 – 400 kg Not classified as dangerous in the meaning of transport regulations.

49CFR Road > 400 kg Not classified as dangerous in the meaning of transport regulations.

IMDG : Not classified as dangerous in the meaning of transport regulations.

SAFETY DATA SHEET

According to Title 29 of US Code of Federal Regulations 1910.1200.



660002 PARA METHOXY ACETOPHENONE 00100

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IATA-DGR : Not classified as dangerous in the meaning of transport regulations.

SECTION 15. REGULATORY INFORMATION

TSCA list

TSCA - 12(b) Export Notification List of Chemicals : Not listed

TSCA - 5(a) Significant New Use Rule List of Chemicals : Not listed

CERCLA Reportable Quantity

This material does not contain any components with a CERCLA RQ.

SARA 304 Extremely Hazardous Substances Reportable Quantity

This material does not contain any components with a section 304 EHS RQ.

SARA 311/312 Hazards : Acute Health Hazard

SARA 302 : This material does not contain any components with a SARA 302 RQ.

SARA 313 : This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

New Jersey Right To Know

Not listed

California Prop 65

Not listed

SECTION 16. OTHER INFORMATION

Revision Date : 10/29/2019

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.



SAFETY DATA SHEET

INTERNATIONAL FLAVORS & FRAGRANCES

Product PINEAPPLE COMPOUND

Print Date 05/27/2016

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SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Product name : PINEAPPLE COMPOUND
Cust. Material : 95393227
MSDS Number : R00000355079
Product Use Description : Fragrance Ingredient

Company : IFF Inc.
600 Highway 36
Hazlet NJ 07730

Telephone : (732) 264-4500
Telefax : (732) 335-2551
Emergency telephone number : +1 800 424 9300

SECTION 2 HAZARDS IDENTIFICATION

GHS-Classification

Combustible dust,
Acute toxicity, Category 4, Oral

GHS-Labeling

Symbol(s)



Signal word

: Warning

Hazard statements

: May form combustible dust concentrations in air
H302: Harmful if swallowed.

Precautionary statements

: P301 + P312 + P330: IF SWALLOWED: Call a POISON CENTER

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INTERNATIONAL FLAVORS & FRAGRANCES

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or doctor/ physician if you feel unwell. Rinse mouth.

Carcinogenicity:

No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Hazardous components

Component	CAS-No.
3(2H)-Furanone, 4-hydroxy-2,5-dimethyl-	3658-77-3

SECTION 4. FIRST AID MEASURES

First aid procedures

- Inhalation : Remove from exposure site to fresh air and keep at rest. Obtain medical advice.
- Skin contact : Remove contaminated clothes. Wash thoroughly with water (and soap). Contact physician if symptoms persist.
- Eye contact : Flush immediately with water for at least 15 minutes. Contact physician if symptoms persist.

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Ingestion : Rinse mouth with water and obtain medical advice.

SECTION 5. FIREFIGHTING MEASURES

Flammable properties

Flash point : Remarks: Not applicable

Fire fighting

Suitable extinguishing media : Use water spray, dry chemical, carbon dioxide or appropriate foam.

Protective equipment and precautions for firefighters

Special protective equipment for firefighters : Wear NIOSH approved self-contained breathing apparatus and full protective clothing when fighting fires involving chemicals. Use water spray to cool containers exposed to fire.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions : Avoid inhalation and contact with skin and eyes. A self-contained breathing apparatus is recommended in case of a major spill.

Environmental precautions : Keep away from drains, surface- and groundwater and soil.

Methods for containment /
Methods for cleaning up : Clean up spillage promptly. Remove ignition sources. Provide adequate ventilation or exhaust. Avoid excessive inhalation of dust and vapours. Contain and recover free product. Dispose of according to the local regulations.

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SECTION 7. HANDLING AND STORAGE

- Handling : Avoid excessive inhalation of concentrated vapors. Follow good manufacturing practices for housekeeping and personal hygiene. Wash any exposed skin immediately after any chemical contact, before breaks and meals, and at the end of each work period. Contaminated clothing and shoes should be thoroughly cleaned before re-use.
- If appropriate, procedures used during the handling of this material should also be used when cleaning equipment or removing residual chemicals from tanks or other containers, especially when steam or hot water is used, as this may increase vapor concentrations in the workplace air. Where chemicals are openly handled, access should be restricted to properly trained employees. Keep all heated processes at the lowest necessary temperature in order to minimize emissions of volatile chemicals into the air.
- Advice on protection against fire and explosion : Keep away from ignition sources and naked flame. Mixture may charge electrostatically: always use earthing leads when transferring from one container to another.
- Requirements for storage areas and containers : Store in a cool, dry, ventilated area away from heat sources. Keep containers upright and tightly closed when not in use.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

Engineering measures

- Engineering measures : Where feasible, isolate mixing rooms and other areas where this material is used or openly handled. Maintain these areas under negative air pressure relative to the rest of the plant.

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Where feasible, use closed systems to transfer and process this material

Personal protective equipment

- Eye protection : Use tight-fitting goggles, face shield or safety glasses with side shields if eye contact might occur.
- Hand protection : Avoid skin contact. Use chemically resistant gloves.
- Respiratory protection : Use local exhaust ventilation around open tanks and other open sources of potential exposures in order to avoid excessive inhalation, including places where this material is openly weighed or measured. In addition, use general dilution ventilation of the work area to eliminate or reduce possible worker exposures. No respiratory protection is required during normal operations in a workplace where engineering controls such as adequate ventilation, etc. are sufficient.

If engineering controls and safe work practices are not sufficient, an approved, properly fitted respirator with organic vapor cartridges or canisters and particulate filters should be used:

- a) while engineering controls and appropriate safe work practices and/or procedures are being implemented; or
- b) during short term maintenance procedures when engineering controls are not in normal operation or are not sufficient; or
- c) if normal operational workplace vapor concentration in the air is increased due to heat ;
- d) during emergencies; or
- e) if engineering controls and operational practices are not sufficient to reduce airborne concentrations below an established occupational exposure limit.

- Hygiene measures : To the extent deemed appropriate, implement pre-placement and regularly scheduled ascertainment of symptoms and spirometry

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testing of lung function for workers who are regularly exposed to this material.

To the extent deemed appropriate, use an experienced air sampling expert to identify and measure volatile chemicals that could be present in the workplace air to determine potential exposures and to ensure the continuing effectiveness of engineering controls and operational practices to minimize exposure.

Protective measures

: In December 2003, the National Institute for Occupational Safety and Health ("NIOSH") published an Alert on preventing lung disease in workers who use or make flavorings [NIOSH Publication Number 2004-110].
In August 2004, the United States Flavor and Extract Manufacturers Association (FEMA) issued a report entitled "Respiratory Safety in the Flavor Manufacturing Workplace".
Both of these reports provide recommendations for reducing employee exposure and for medical surveillance in the workplace. The recommendations in these reports are generally applicable to the use of any chemical in the workplace and you are strongly urged to review both of these reports.
The report published by FEMA also contains a list of "high priority" chemicals. If any of these chemicals are present in this product at a concentration $\geq 1.0\%$ due to an intentional addition by IFF, the chemical(s) will be identified in this safety data sheet.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance

Form : powder
Appearance : POWDER
Colour : off-white to pale yellow

Odour : conforms to standard

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Safety data

Flash point : Note: Not applicable

Freezing point : 167.0 - 181.4 °F (75.0 - 83.0 °C)

Vapour pressure : Note: Not applicable

SECTION 10. STABILITY AND REACTIVITY

Conditions to avoid : Remarks: Direct sources of heat.

Chemical stability : Remarks: Presents no significant reactivity hazard, by itself or in contact with water. Avoid contact with strong acids, alkali or oxidizing agents.

Hazardous decomposition products : Note: Carbon monoxide and unidentified organic compounds may be formed during combustion.

SECTION 11. TOXICOLOGICAL INFORMATION

Acute oral toxicity : Acute toxicity estimate
Dose: 1,660 mg/kg
Method: Calculation method

Acute oral toxicity (Component) : Component: 3658-77-3
LD50 Rat
Dose: 1,660 mg/kg

SECTION 12. ECOLOGICAL INFORMATION

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SECTION 13. DISPOSAL CONSIDERATIONS

Contaminated packaging : Place material into sealed containers and dispose of in accordance with local, state and federal regulations.

SECTION 14. TRANSPORT INFORMATION

DOT Proper shipping name : OTHER REGULATED SUBSTANCES, SOLID, N.O.S.
(4-HYDROXY-2,5-DIMETHYL-3(2H)-FURANONE)
Labels : 9
UN number : 3077
Class : 9
Packing group : III
Emergency Response : 171
Guidebook Number :
IATA UN number : 3335
Description of the goods : Aviation regulated solid, n.o.s.
(4-HYDROXY-2,5-DIMETHYL-3(2H)-FURANONE)
Class : 9
Packing group : III
ICAO-Labels : 9

IMDG Not dangerous goods

SECTION 15. REGULATORY INFORMATION

SARA 311/312 Hazards : Fire Hazard
Acute Health Hazard

Reportable Quantity :

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HMIS Classification : Health hazard: 1
Flammability: 1
Physical and chemical hazards: 0

SECTION 16. OTHER INFORMATION

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Further information

The information in this MSDS was obtained from current and reliable sources. However the data is provided without any warrant, expressed or implied, regarding its correctness or accuracy. Since the use, handling, storage and disposal of this product are beyond IFF control, it is the responsibility of the user both to determine safe conditions for the use of this product and to assume liability of loss, damage, or expense arising out of the product's improper use. No warranty expressed or implied regarding the product described herein shall be created by or inferred from any statement or omission in this MSDS. Various Federal, State or Provincial agencies may have specific regulations concerning the transportation, handling, storage, use, or disposal of this product which may not be reflected in this MSDS. The user should review these regulations to ensure full compliance.

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SAFETY DATA SHEET

KERRY

THYMOL 10059810 - 712030

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier

Product name : THYMOL 10059810
EC number : 201-944-8
CAS number : 89-83-8
Product code : 712030
Product description : Not available.
Product type : Solid.
Other means of identification : Phenol, 5-methyl-2-(1-methylethyl)-
Chemical formula : C10-H14-O

1.2 Relevant identified uses of the substance or mixture and uses advised against

Not applicable.

1.3 Details of the supplier of the safety data sheet

Kerry Inc.

e-mail address of person responsible for this SDS : KAProductSafety@kerry.com

National contact

3400 Millington Road
Beloit, WI, 53511 USA
Tel: +1-608-363-1200

1.4 Emergency telephone number

National advisory body/Poison Center

Telephone number : CHEMTREC
+1-703-527-3887 (24 Hours, Collect Calls Accepted)

Supplier

Telephone number : +1 608-363-1200
Hours of operation : 8 AM to 5 PM CST
Information limitations :

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Product definition : Mono-constituent substance

Classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]

Skin Corr. 1C, H314
Eye Dam. 1, H318
STOT SE 1, H370 (oral)

The product is classified as hazardous according to Regulation (EC) 1272/2008 as amended.

Classification according to Directive 67/548/EEC [DSD]

Xn; R22
C; R34
N; R51/53

See Section 16 for the full text of the R phrases or H statements declared above.

See Section 11 for more detailed information on health effects and symptoms.

SECTION 2: Hazards identification

2.2 Label elements

Hazard pictograms

:



Signal word

: Danger

Hazard statements

: Causes severe skin burns and eye damage.
Causes damage to organs if swallowed.

Precautionary statements

Prevention

: Wear protective gloves. Wear eye or face protection. Wear protective clothing. Do not breathe dust or mist.

Response

: IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER or physician. IF SWALLOWED: Immediately call a POISON CENTER or physician. Do NOT induce vomiting. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower. Immediately call a POISON CENTER or physician. IF IN EYES: Immediately call a POISON CENTER or physician.

Storage

: Store locked up.

Disposal

: Dispose of contents and container in accordance with all local, regional, national and international regulations.

Hazardous ingredients

: thymol

Supplemental label elements

: Not applicable.

Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles

: Not applicable.

Special packaging requirements

Containers to be fitted with child-resistant fastenings

: Not applicable.

Tactile warning of danger

: Not applicable.

2.3 Other hazards

Substance meets the criteria for PBT according to Regulation (EC) No. 1907/2006, Annex XIII

: No.
P: Not available. B: Not available. T: No.

Substance meets the criteria for vPvB according to Regulation (EC) No. 1907/2006, Annex XIII

: Not available.

Other hazards which do not result in classification

: None known.

SECTION 3: Composition/information on ingredients

3.1 Substances

: Mono-constituent substance

SECTION 3: Composition/information on ingredients

Product/ingredient name	Identifiers	%	Classification		Type
			67/548/EEC	Regulation (EC) No. 1272/2008 [CLP]	
thymol	EC: 201-944-8 CAS: 89-83-8 Index: 604-032-00-1	100%	Xn; R22 C; R34 N; R51/53 See Section 16 for the full text of the R-phrases declared above.	Skin Corr. 1C, H314 Eye Dam. 1, H318 STOT SE 1, H370o See Section 16 for the full text of the H statements declared above.	[A]

There are no additional ingredients present which, within the current knowledge of the supplier, are classified and contribute to the classification of the substance and hence require reporting in this section.

Type

[A] Constituent

[B] Impurity

[C] Stabilizing additive

Occupational exposure limits, if available, are listed in Section 8.

SECTION 4: First aid measures

4.1 Description of first aid measures

- Eye contact** : Get medical attention immediately. Call a poison center or physician. Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Chemical burns must be treated promptly by a physician.
- Inhalation** : Get medical attention immediately. Call a poison center or physician. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.
- Skin contact** : Get medical attention immediately. Call a poison center or physician. Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 10 minutes. Chemical burns must be treated promptly by a physician. Wash clothing before reuse. Clean shoes thoroughly before reuse.
- Ingestion** : Get medical attention immediately. Call a poison center or physician. Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Chemical burns must be treated promptly by a physician. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.
- Protection of first-aiders** : No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

4.2 Most important symptoms and effects, both acute and delayed

Potential acute health effects

- Eye contact** : Causes serious eye damage.

SECTION 4: First aid measures

- Inhalation** : No known significant effects or critical hazards.
Skin contact : Causes severe burns.
Ingestion : Causes damage to organs following a single exposure if swallowed.

Over-exposure signs/symptoms

- Eye contact** : Adverse symptoms may include the following:
pain
watering
redness
- Inhalation** : No specific data.
- Skin contact** : Adverse symptoms may include the following:
pain or irritation
redness
blistering may occur
- Ingestion** : Adverse symptoms may include the following:
stomach pains

4.3 Indication of any immediate medical attention and special treatment needed

- Notes to physician** : Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
- Specific treatments** : No specific treatment.

SECTION 5: Firefighting measures

5.1 Extinguishing media

- Suitable extinguishing media** : Use an extinguishing agent suitable for the surrounding fire.
- Unsuitable extinguishing media** : None known.

5.2 Special hazards arising from the substance or mixture

- Hazards from the substance or mixture** : No specific fire or explosion hazard.
- Hazardous thermal decomposition products** : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide

5.3 Advice for firefighters

- Special protective actions for fire-fighters** : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.
- Special protective equipment for fire-fighters** : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

- For non-emergency personnel** : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.
- For emergency responders** : If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

SECTION 6: Accidental release measures

6.2 Environmental precautions : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

6.3 Methods and materials for containment and cleaning up

Small spill : Move containers from spill area. Avoid dust generation. Do not dry sweep. Vacuum dust with equipment fitted with a HEPA filter and place in a closed, labeled waste container. Place spilled material in a designated, labeled waste container. Dispose of via a licensed waste disposal contractor.

Large spill : Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Avoid dust generation. Do not dry sweep. Vacuum dust with equipment fitted with a HEPA filter and place in a closed, labeled waste container. Dispose of via a licensed waste disposal contractor.

6.4 Reference to other sections : See Section 1 for emergency contact information.
See Section 8 for information on appropriate personal protective equipment.
See Section 13 for additional waste treatment information.

SECTION 7: Handling and storage

The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

7.1 Precautions for safe handling

Protective measures : Put on appropriate personal protective equipment (see Section 8). Do not get in eyes or on skin or clothing. Do not ingest. If during normal use the material presents a respiratory hazard, use only with adequate ventilation or wear appropriate respirator. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.

Advice on general occupational hygiene : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

7.2 Conditions for safe storage, including any incompatibilities

Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Store locked up. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

Seveso Directive - Reporting thresholds (in tonnes)

Danger criteria

Category	Notification and MAPP threshold	Safety report threshold
H3: STOT Single exposure 1 C9ii: Toxic for the environment	50 200	200 500

7.3 Specific end use(s)

Recommendations : Not available.

Industrial sector specific solutions : Not available.

SECTION 8: Exposure controls/personal protection

The information in this section contains generic advice and guidance. Information is provided based on typical anticipated uses of the product. Additional measures might be required for bulk handling or other uses that could significantly increase worker exposure or environmental releases.

8.1 Control parameters

Occupational exposure limits

No exposure limit value known.

Recommended monitoring procedures : If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Reference should be made to monitoring standards, such as the following: European Standard EN 689 (Workplace atmospheres - Guidance for the assessment of exposure by inhalation to chemical agents for comparison with limit values and measurement strategy) European Standard EN 14042 (Workplace atmospheres - Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents) European Standard EN 482 (Workplace atmospheres - General requirements for the performance of procedures for the measurement of chemical agents) Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

DNELs/DMELs

No DNELs/DMELs available.

PNECs

No PNECs available.

8.2 Exposure controls

Appropriate engineering controls : If user operations generate dust, fumes, gas, vapor or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

Individual protection measures

Hygiene measures : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/face protection : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles and/or face shield. If inhalation hazards exist, a full-face respirator may be required instead.

Skin protection

Hand protection : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.

Body protection : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Other skin protection : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

SECTION 8: Exposure controls/personal protection

- Respiratory protection** : Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use.
- Environmental exposure controls** : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance

- Physical state** : Solid. [Crystals.]
- Color** : White.
- Odor** : Characteristic.
- Odor threshold** : Not available.
- pH** : Not available.
- Melting point/freezing point** : Not available.
- Initial boiling point and boiling range** : Not available.
- Flash point** : Closed cup: 86.67°C
- Evaporation rate** : Not available.
- Flammability (solid, gas)** : Not available.
- Upper/lower flammability or explosive limits** : Not available.
- Vapor pressure** : Not available.
- Vapor density** : Not available.
- Relative density** : Not applicable.
- Solubility(ies)** : Not available.
- Partition coefficient: n-octanol/water** : 3.3
- Auto-ignition temperature** : Not available.
- Decomposition temperature** : Not available.
- Viscosity** : Not available.
- Explosive properties** : Not available.
- Oxidizing properties** : Not available.

9.2 Other information

No additional information.

SECTION 10: Stability and reactivity

- 10.1 Reactivity** : No specific test data related to reactivity available for this product or its ingredients.
- 10.2 Chemical stability** : The product is stable.
- 10.3 Possibility of hazardous reactions** : Under normal conditions of storage and use, hazardous reactions will not occur.
- 10.4 Conditions to avoid** : No specific data.
- 10.5 Incompatible materials** : No specific data.

SECTION 10: Stability and reactivity

10.6 Hazardous decomposition products : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
thymol	LD50 Oral	Rat	980 mg/kg	-

Conclusion/Summary : Not available.

Irritation/Corrosion

Conclusion/Summary : Not available.

Sensitization

Conclusion/Summary : Not available.

Mutagenicity

Conclusion/Summary : Not available.

Carcinogenicity

Conclusion/Summary : Not available.

Reproductive toxicity

Conclusion/Summary : Not available.

Teratogenicity

Conclusion/Summary : Not available.

Specific target organ toxicity (single exposure)

Product/ingredient name	Category	Route of exposure	Target organs
thymol	Category 1	Oral	Not determined

Specific target organ toxicity (repeated exposure)

Not available.

Aspiration hazard

Not available.

Information on the likely routes of exposure : Not available.

Potential acute health effects

Eye contact : Causes serious eye damage.
Inhalation : No known significant effects or critical hazards.
Skin contact : Causes severe burns.
Ingestion : Causes damage to organs following a single exposure if swallowed.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact : Adverse symptoms may include the following:
pain
watering
redness
Inhalation : No specific data.
Skin contact : Adverse symptoms may include the following:
pain or irritation
redness
blistering may occur
Ingestion : Adverse symptoms may include the following:
stomach pains

SECTION 11: Toxicological information

Delayed and immediate effects and also chronic effects from short and long term exposure

Short term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Long term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Potential chronic health effects

Not available.

Conclusion/Summary : Not available.

General : No known significant effects or critical hazards.

Carcinogenicity : No known significant effects or critical hazards.

Mutagenicity : No known significant effects or critical hazards.

Teratogenicity : No known significant effects or critical hazards.

Developmental effects : No known significant effects or critical hazards.

Fertility effects : No known significant effects or critical hazards.

Other information : Not available.

SECTION 12: Ecological information

12.1 Toxicity

Product/ingredient name	Result	Species	Exposure
thymol	Acute LC50 3200 µg/l Fresh water	Fish - Pimephales promelas - Juvenile (Fledgling, Hatchling, Weanling)	96 hours

Conclusion/Summary : Not available.

12.2 Persistence and degradability

Conclusion/Summary : Not available.

12.3 Bioaccumulative potential

Product/ingredient name	LogP _{ow}	BCF	Potential
thymol	3.3	-	low

12.4 Mobility in soil

Soil/water partition coefficient (K_{oc}) : Not available.

Mobility : Not available.

12.5 Results of PBT and vPvB assessment

PBT : No.
P: Not available. B: Not available. T: No.

vPvB : Not available.
vP: Not available. vB: Not available.

12.6 Other adverse effects : No known significant effects or critical hazards.

SECTION 13: Disposal considerations

The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

13.1 Waste treatment methods

Product

Methods of disposal : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction.

Hazardous waste : The classification of the product may meet the criteria for a hazardous waste.

Packaging

Methods of disposal : The generation of waste should be avoided or minimized wherever possible. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible.

Special precautions : This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

SECTION 14: Transport information

	ADR/RID	ADN	IMDG	IATA
14.1 UN number	UN3261	UN3261	UN3261	UN3261
14.2 UN proper shipping name	Corrosive solid, acidic, organic, n.o.s.(Thymol Crystals) (thymol)	Corrosive solid, acidic, organic, n.o.s.(Thymol Crystals) (thymol)	Corrosive solid, acidic, organic, n.o.s.(Thymol Crystals) (thymol)	Corrosive solid, acidic, organic, n.o.s.(Thymol Crystals) (thymol)
14.3 Transport hazard class(es)	8 	8 	8  	8 
14.4 Packing group	III	III	III	III
14.5 Environmental hazards	No.	No.	Yes.	No.
Additional information	-	-	The marine pollutant mark is not required when transported in sizes of ≤5 L or ≤5 kg.	The environmentally hazardous substance mark may appear if required by other transportation regulations.

14.6 Special precautions for user : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

14.7 Transport in bulk according to Annex II of MARPOL and the IBC Code : Not available.

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

EU Regulation (EC) No. 1907/2006 (REACH)

Annex XIV - List of substances subject to authorization

Annex XIV

None of the components are listed.

Substances of very high concern

None of the components are listed.

Annex XVII - Restrictions : Not applicable.
on the manufacture,
placing on the market and
use of certain dangerous
substances, mixtures and
articles

Other EU regulations

Europe inventory : This material is listed or exempted.

Ozone depleting substances (1005/2009/EU)

Not listed.

Prior Informed Consent (PIC) (649/2012/EU)

Not listed.

Seveso Directive

This product is controlled under the Seveso Directive.

Danger criteria

Category

H3: STOT Single exposure 1
C9ii: Toxic for the environment

International regulations

Chemical Weapon Convention List Schedules I, II & III Chemicals

Not listed.

Montreal Protocol (Annexes A, B, C, E)

Not listed.

Stockholm Convention on Persistent Organic Pollutants

Not listed.

Rotterdam Convention on Prior Inform Consent (PIC)

Not listed.

UNECE Aarhus Protocol on POPs and Heavy Metals

Not listed.

International lists

National inventory

Australia	: This material is listed or exempted.
Canada	: This material is listed or exempted.
China	: This material is listed or exempted.
Japan	: Japan inventory (ENCS) : This material is listed or exempted. Japan inventory (ISHL) : Not determined.
Malaysia	: Not determined.
New Zealand	: This material is listed or exempted.
Philippines	: This material is listed or exempted.
Republic of Korea	: This material is listed or exempted.
Taiwan	: Not determined.

SECTION 15: Regulatory information

Turkey : Not determined.
United States : This material is listed or exempted.

15.2 Chemical Safety Assessment : Not available.

SECTION 16: Other information

✓ Indicates information that has changed from previously issued version.

Abbreviations and acronyms : ATE = Acute Toxicity Estimate
CLP = Classification, Labelling and Packaging Regulation [Regulation (EC) No. 1272/2008]
DMEL = Derived Minimal Effect Level
DNEL = Derived No Effect Level
EUH statement = CLP-specific Hazard statement
PBT = Persistent, Bioaccumulative and Toxic
PNEC = Predicted No Effect Concentration
RRN = REACH Registration Number
vPvB = Very Persistent and Very Bioaccumulative

Procedure used to derive the classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]

Classification	Justification
Skin Corr. 1C, H314	Expert judgment
Eye Dam. 1, H318	Expert judgment
STOT SE 1, H370 (oral)	Expert judgment

Full text of abbreviated H statements

H314	Causes severe skin burns and eye damage.
H318	Causes serious eye damage.
H370 (oral)	Causes damage to organs if swallowed.

Full text of classifications [CLP/GHS]

Eye Dam. 1, H318 Skin Corr. 1C, H314 STOT SE 1, H370 (oral)	SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 1 SKIN CORROSION/IRRITATION - Category 1C SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (oral) - Category 1
---	--

Full text of abbreviated R phrases

R22- Harmful if swallowed.

R34- Causes burns.

R51/53- Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Full text of classifications [DSD/DPD]

C - Corrosive

Xn - Harmful

N - Dangerous for the environment

Date of printing : 4/28/2017

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Date of previous issue : 4/27/2017

Version : 1.01

Notice to reader

To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein.

Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.

Safety Data Sheet



Trade name : TONALID®
Revision date : 07.03.2014
Print date : 27-05-2015

Version (Revision) : 2.0.6 (2.0.5)

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier

TONALID® (W01052)
7-acetyl-1,1,3,4,4,6-hexamethyltetralin ; REACH registration No. : 01-2119539433-40 ; CAS No. : 1506-02-1 ; EC No. : 216-133-4

1.2 Relevant identified uses of the substance or mixture and uses advised against

Relevant identified uses

Fragrance ingredient which may be used in fragrance compounds according to the current legislation and IFRA rules.
Reserved for industrial and professional use. Short title of the exposure scenario

Uses advised against

Not intended for oral consumption.

1.3 Details of the supplier of the safety data sheet

Supplier (manufacturer/importer/only representative/downstream user/distributor)

PFW Aroma Chemicals B.V.

Street : Veemweg 29-31

Postal code/city : NL - 3371 MT Barneveld

Telephone : +31 342 40 77 00

Telefax : +31 342 40 77 20

Information contact : pfw@pfw.nl

1.4 Emergency telephone number

+31 342 40 77 93

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification according to the Globally Harmonised System of Classification and Labelling of Chemicals (GHS)

Aquatic Acute 1 ; H400 - Hazardous to the aquatic environment : Category 1 ; Very toxic to aquatic life.

Aquatic Chronic 1 ; H410 - Hazardous to the aquatic environment : Category 1 ; Very toxic to aquatic life with long lasting effects.

Acute Tox. 4 ; H302 - Acute toxicity (oral) : Category 4 ; Harmful if swallowed.

Hazard classes and hazard categories

Acute Tox. 4 (Oral) · Aquatic Acute 1 · Aquatic Chronic 1

2.2 Label elements

Labelling according to the Globally Harmonised System of Classification and Labelling of Chemicals (GHS)

Hazard pictograms



Environment (GHS09) · Exclamation mark (GHS07)

Safety Data Sheet



Trade name : TONALID®
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Signal word

Warning

Hazard statements

H302 Harmful if swallowed.
H410 Very toxic to aquatic life with long lasting effects.

Precautionary statements

P264 Wash hands thoroughly after handling.
P273 Avoid release to the environment.
P301+P312 IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell.
P391 Collect spillage.
P501 Dispose of contents/container to a chemical waste treatment facility or recycling plant.

2.3 Other hazards

None

SECTION 3: Composition / information on ingredients

3.1 Substances

Substance name : 7-acetyl-1,1,3,4,4,6-hexamethyltetralin
EC No. : 216-133-4
REACH No. : 01-2119539433-40
CAS No. : 1506-02-1
Purity : $\geq 97\%$ [mass]
Synonyms
IUPAC : 1-(3,5,5,6,8,8-Hexamethyl-5,6,7,8-tetrahydronaphthalen-2-yl)ethanone
INCI : ACETYL HEXAMETHYL TETRALIN

SECTION 4: First aid measures

4.1 Description of first aid measures

General information

Medical treatment necessary. Remove victim out of the danger area. Put victim at rest, cover with a blanket and keep warm. Do not leave affected person unattended. If unconscious place in recovery position and seek medical advice.

In case of inhalation

Remove casualty to fresh air and keep warm and at rest. If breathing is irregular or stopped, administer artificial respiration.

In case of skin contact

Wash immediately with: Water Do not wash with: Solvents/Thinner

After eye contact

In case of contact with eyes flush immediately with plenty of flowing water for 10 to 15 minutes holding eyelids apart and consult an ophthalmologist.

After ingestion

Rinse mouth thoroughly with water. Call a physician in any case! Let water be drunken in little sips (dilution effect). Do NOT induce vomiting.

4.2 Most important symptoms and effects, both acute and delayed

No information available.

4.3 Indication of any immediate medical attention and special treatment needed

Safety Data Sheet



Trade name : TONALID®
Revision date : 07.03.2014
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None

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media

alcohol resistant foam. Extinguishing powder. Water mist

Unsuitable extinguishing media

Strong water jet.

5.2 Special hazards arising from the substance or mixture

Hazardous combustion products

In case of fire may be liberated: Carbon dioxide (CO₂) Carbon monoxide (CO).

5.3 Advice for firefighters

Do not inhale explosion and combustion gases. Use water spray jet to protect personnel and to cool endangered containers. Do not allow run-off from fire-fighting to enter drains or water courses. Very toxic to aquatic life. May cause long lasting harmful effects to aquatic life.

Special protective equipment for firefighters

Wear a self-contained breathing apparatus and chemical protective clothing.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Do not breathe dust. Provide adequate ventilation. Remove persons to safety. See protective measures under point 7 and 8.

6.2 Environmental precautions

Ensure all waste water is collected and treated via a waste water treatment plant. In case of entry into waterways, soil or drains, inform the responsible authorities. Very toxic to aquatic life. May cause long lasting harmful effects to aquatic life. Clear up spills immediately and dispose of waste safely.

6.3 Methods and material for containment and cleaning up

Wet clean or vacuum up solids. Avoid generation of dust. Collect in closed and suitable containers for disposal.

6.4 Reference to other sections

See protective measures under point 7 and 8.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

When using do not eat, drink, smoke, sniff. Wash hands before breaks and after work. Provide adequate ventilation as well as local exhaust at critical locations. All work processes must always be designed so that the following is as low as possible: eye contact, skin contact. Wear personal protection equipment (see chapter 8). Ensure operatives are trained to minimise exposures.

7.2 Conditions for safe storage, including any incompatibilities

Technical measures and storage conditions

Ensure adequate ventilation of the storage area. Keep/Store only in original container. Use isolated drainage to prevent discharge to soil. Restrict access to stockrooms. Never use pressure to empty container.

Hints on joint storage

Keep away from oxidising agent . acid and alkali .

7.3 Specific end use(s)

Safety Data Sheet



Trade name : TONALID®
Revision date : 07.03.2014
Print date : 27-05-2015

Version (Revision) : 2.0.6 (2.0.5)

None

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

To date, no national critical limit values exist.

DNEL/DMEL and PNEC values

DNEL/DMEL

Limit value type :	DNEL/DMEL (Consumer) (7-acetyl-1,1,3,4,4,6-hexamethyltetralin ; CAS No. : 1506-02-1)
Exposure route :	Dermal
Exposure frequency :	Short term (acute), systemic
Limit value :	0,915 mg/kg bw/day
Literature information :	Chemical Safety Report
Limit value type :	DNEL/DMEL (Consumer) (7-acetyl-1,1,3,4,4,6-hexamethyltetralin ; CAS No. : 1506-02-1)
Exposure route :	Dermal
Exposure frequency :	Long Term (repeated), systemic
Limit value :	0,305 mg/kg bw/day
Literature information :	Chemical Safety Report
Limit value type :	DNEL/DMEL (Consumer) (7-acetyl-1,1,3,4,4,6-hexamethyltetralin ; CAS No. : 1506-02-1)
Exposure route :	Inhalation
Exposure frequency :	Short term (acute), systemic
Limit value :	0,131 mg/m ³
Literature information :	Chemical Safety Report
Limit value type :	DNEL/DMEL (Consumer) (7-acetyl-1,1,3,4,4,6-hexamethyltetralin ; CAS No. : 1506-02-1)
Exposure route :	Inhalation
Exposure frequency :	Long Term (repeated), systemic
Limit value :	0,0435 mg/m ³
Literature information :	Chemical Safety Report
Limit value type :	DNEL/DMEL (Consumer) (7-acetyl-1,1,3,4,4,6-hexamethyltetralin ; CAS No. : 1506-02-1)
Exposure route :	Oral
Exposure frequency :	Short term (acute), systemic
Limit value :	1,2 mg/kg bw/day
Literature information :	Chemical Safety Report
Limit value type :	DNEL/DMEL (Consumer) (7-acetyl-1,1,3,4,4,6-hexamethyltetralin ; CAS No. : 1506-02-1)
Exposure route :	Oral
Exposure frequency :	Long Term (repeated), systemic
Limit value :	0,0125 mg/kg bw/day
Literature information :	Chemical Safety Report
Limit value type :	DNEL/DMEL (Industrial) (7-acetyl-1,1,3,4,4,6-hexamethyltetralin ; CAS No. : 1506-02-1)
Exposure route :	Dermal
Exposure frequency :	Short term (acute), systemic
Limit value :	1,8 mg/kg bw/day
Literature information :	Chemical Safety Report
Limit value type :	DNEL/DMEL (Industrial) (7-acetyl-1,1,3,4,4,6-hexamethyltetralin ; CAS No. : 1506-02-1)

Safety Data Sheet



Trade name : TONALID®
Revision date : 07.03.2014
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Exposure route : Dermal
Exposure frequency : Long Term (repeated), systemic
Limit value : 0,61 mg/kg bw/day
Literature information : Chemical Safety Report
Limit value type : DNEL/DMEL (Industrial) (7-acetyl-1,1,3,4,4,6-hexamethyltetralin ; CAS No. : 1506-02-1)

Exposure route : Inhalation
Exposure frequency : Short term (acute), systemic
Limit value : 0,525 mg/m³
Literature information : Chemical Safety Report
Limit value type : DNEL/DMEL (Industrial) (7-acetyl-1,1,3,4,4,6-hexamethyltetralin ; CAS No. : 1506-02-1)

Exposure route : Inhalation
Exposure frequency : Long Term (repeated), systemic
Limit value : 0,175 mg/m³
Literature information : Chemical Safety Report

PNEC
Limit value type : PNEC aquatic, freshwater (7-acetyl-1,1,3,4,4,6-hexamethyltetralin ; CAS No. : 1506-02-1)

Exposure route : Water (Including sewage plant)
Limit value : 2,2 µg/l
Literature information : Chemical Safety Report
Limit value type : PNEC aquatic, intermittent release (7-acetyl-1,1,3,4,4,6-hexamethyltetralin ; CAS No. : 1506-02-1)

Exposure route : Water (Including sewage plant)
Limit value : 0,72 µg/l
Literature information : Chemical Safety Report
Limit value type : PNEC aquatic, marine water (7-acetyl-1,1,3,4,4,6-hexamethyltetralin ; CAS No. : 1506-02-1)

Exposure route : Water (Including sewage plant)
Limit value : 0,22 µg/l
Literature information : Chemical Safety Report
Limit value type : PNEC sediment, freshwater (7-acetyl-1,1,3,4,4,6-hexamethyltetralin ; CAS No. : 1506-02-1)

Limit value : 1,72 mg/kg sediment dw
Literature information : Chemical Safety Report
Limit value type : PNEC sediment, marine water (7-acetyl-1,1,3,4,4,6-hexamethyltetralin ; CAS No. : 1506-02-1)

Limit value : 0,345 mg/kg sediment dw
Literature information : Chemical Safety Report
Limit value type : PNEC soil, freshwater (7-acetyl-1,1,3,4,4,6-hexamethyltetralin ; CAS No. : 1506-02-1)

Exposure route : Soil
Limit value : 0,31 mg/kg soil dw
Literature information : Chemical Safety Report
Limit value type : PNEC Secondary Poisoning (7-acetyl-1,1,3,4,4,6-hexamethyltetralin ; CAS No. : 1506-02-1)

Limit value : 1,1 mg/kg food
Literature information : Chemical Safety Report
Limit value type : PNEC sewage treatment plant (STP) (7-acetyl-1,1,3,4,4,6-hexamethyltetralin ; CAS No. : 1506-02-1)

Exposure route : Water (Including sewage plant)
Limit value : 2,2 mg/l
Literature information : Chemical Safety Report

Safety Data Sheet



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Version (Revision) : 2.0.6 (2.0.5)

8.2 Exposure controls

When using do not eat, drink, smoke, sniff. Wash hands before breaks and after work.

Appropriate engineering controls

Provide adequate ventilation as well as local exhaust at critical locations. If technical exhaust or ventilation measures are not possible or insufficient, respiratory protection must be worn.

Personal protection equipment

Eye/face protection

The use of safety glasses is recommended.

Skin protection

Hand protection

Use protective gloves. The quality of the protective gloves resistant to chemicals must be chosen as a function of the specific working place concentration and quantity of hazardous substances. Breakthrough times and swelling properties of the material must be taken into consideration.

Suitable material : NR (natural rubber, natural latex)

Breakthrough time (maximum wearing time) : >480 min.

Thickness of the glove material : 1.60 mm

Body protection

Overall

Respiratory protection

Respiratory protection necessary at: exceeding exposure limit values Type : (FFP2) Handling larger quantities. Container device with compressed air (DIN EN 137) / Filtering device (full mask or mouthpiece) with filter: Filter types: A, B, E, K. Class 1: Maximum permitted contaminant concentration in inhaled air = 1000 mL/m³ (0.1 % by vol.); class 2: maximum permitted contaminant concentration in inhaled air = 5000 mL/m³ (0.5 % by vol.); class 3: maximum permitted contaminant concentration in inhaled air = 10000 mL/m³ (1.0 % by vol.)

General health and safety measures

Full-face mask or mouthpiece with particulate filter: maximum use concentration for substances with exposure limits: P1 filter: up to a max. of 4 times the exposure limit. P2 filter: up to a max. of 15 times the exposure limit. P3 filter: up to a max. of 400 times the exposure limit.

Environmental exposure controls

Send to a hazardous waste incinerator facility under observation of official regulations.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Odour threshold in air : No data available

Safety relevant basis data

Physical state :		solid	
Colour :		off-white	
Odour :		musky	
Melting point/melting range :	(1013 hPa)	54	°C
Boiling temperature/boiling range :	(1013 hPa)	326	°C
Decomposition temperature :	(1013 hPa)	No data available	
Flash point (Closed Cup) :		100	°C
Flammability (solid, gas) :		none	
Auto-ignition temperature :		400	°C
Evaporation rate :		slowly evaporating	
Lower explosion limit :		No data available	
Upper explosion limit :		No data available	

DIN EN 51578

Safety Data Sheet



Trade name : TONALID®
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Explosive properties :		none
Vapour pressure :	(50 °C)	ca. 0,012 hPa
Vapour pressure :	(25 °C)	0,00068 hPa
Vapour Density	(25 °C)	1
Density :	(20 °C)	ca. 0,96 g/cm ³
Solubility in water :	(25 °C)	1,25 mg/l
pH value :		not applicable
Log Pow :		5,4
Viscosity :	(20 °C)	not applicable
Oxidising properties :		none

9.2 Other information

Justification for data waiving. pH value: The substance is not soluble in water. Viscosity: Testing can be waived because substance is a solid.

SECTION 10: Stability and reactivity

10.1 Reactivity

No known hazardous reactions.

10.2 Chemical stability

The product is stable under storage at normal ambient temperatures.

10.3 Possibility of hazardous reactions

No hazardous reaction when handled and stored according to provisions.

10.4 Conditions to avoid

Do not expose to temperatures above 50°C in original container.

10.5 Incompatible materials

Exothermic reaction with: oxidising agent strong acid . strong alkali

10.6 Hazardous decomposition products

Decomposition with: Carbon dioxide (CO₂). Carbon monoxide (CO).

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute effects

Acute oral toxicity

Parameter :	LD50 (7-acetyl-1,1,3,4,4,6-hexamethyltetralin ; CAS No. : 1506-02-1)
Exposure route :	Oral
Species :	Rat
Effective dose :	920 mg/kg
Methode :	OECD 401 Acute Oral Toxicity

Acute dermal toxicity

Parameter :	LD50 (7-acetyl-1,1,3,4,4,6-hexamethyltetralin ; CAS No. : 1506-02-1)
Exposure route :	Dermal
Species :	Rat
Effective dose :	7940 mg/kg

Irritant and corrosive effects

Primary irritation to the skin

Parameter :	Irritation of the skin (7-acetyl-1,1,3,4,4,6-hexamethyltetralin ; CAS No. : 1506-02-1)
Parameter :	human
Result :	No irritation

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Trade name : TONALID®
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Parameter : Irritation of the skin (7-acetyl-1,1,3,4,4,6-hexamethyltetralin ; CAS No. : 1506-02-1)
Parameter : Rabbit
Result : No irritation
Methode : Annex V of EEC Directive 79/831

Irritation to eyes

Parameter : Irritation of the eyes (7-acetyl-1,1,3,4,4,6-hexamethyltetralin ; CAS No. : 1506-02-1)
Parameter : Rabbit
Result : No irritation
Methode : OECD 405 Acute Eye Irritation/Corrosion

Irritation to respiratory tract

Parameter : Irritation to respiratory tract (7-acetyl-1,1,3,4,4,6-hexamethyltetralin ; CAS No. : 1506-02-1)
Parameter : human
Result : No irritation

CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)

Carcinogenicity

Parameter : Carcinogenicity (7-acetyl-1,1,3,4,4,6-hexamethyltetralin ; CAS No. : 1506-02-1)
Species : Rat
Test result : negative

Germ cell mutagenicity/Genotoxicity

In vitro mutagenicity

Parameter : Chromosomal aberrations mammalian cells (7-acetyl-1,1,3,4,4,6-hexamethyltetralin ; CAS No. : 1506-02-1)
Exposure route : In vitro mutagenicity
Species : Hamster cells
Test result : Negative (without metabolic activation). Negative (with metabolic activation).
Methode : OECD 473 in vitro mammalian chromosome aberration test

SECTION 12: Ecological information

12.1 Toxicity

Aquatic toxicity

Acute (short-term) algae toxicity

Parameter : EC50 (7-acetyl-1,1,3,4,4,6-hexamethyltetralin ; CAS No. : 1506-02-1)
Species : Daphnia sp. Acute immobilisation test
Evaluation parameter : semi-static
Effective dose : 0,244 mg/l
Exposure time : 21 days
Methode : OECD 211

Terrestrial toxicity

Acute earthworm toxicity

Parameter : Acute earthworm toxicity (7-acetyl-1,1,3,4,4,6-hexamethyltetralin ; CAS No. : 1506-02-1)
Species : Eisenia foetida
Evaluation parameter : Chronical earthworm toxicity (reproduction)
Effective concentration : 105 mg/kg

12.2 Persistence and degradability

Abiotic degradation

Abiotic degradation in Water

Hydrolysis

Safety Data Sheet



Trade name : TONALID®
Revision date : 07.03.2014
Print date : 27-05-2015

Version (Revision) : 2.0.6 (2.0.5)

Parameter : Hydrolysis (7-acetyl-1,1,3,4,4,6-hexamethyltetralin ; CAS No. : 1506-02-1)
Type : pH=4, 7 and 9
Rate constant
Result : ca. 0 d⁻¹
5 days
Methode : OECD 111

Biodegradation

Analytical method : Biodegradation (7-acetyl-1,1,3,4,4,6-hexamethyltetralin ; CAS No. : 1506-02-1)
Evaluation : Inherently biodegradable, not fulfilling specific criteria.

12.3 Bioaccumulative potential

Parameter : Partition coefficient n-octanol/water (log P O/W) (7-acetyl-1,1,3,4,4,6-hexamethyltetralin ; CAS No. : 1506-02-1)
Partition coefficient n-octanol /water (log P O/W)
Result : 5,7
Methode : OECD 117 High Performance Liquid Chromatography (HPLC)
Parameter : Bioconcentration (7-acetyl-1,1,3,4,4,6-hexamethyltetralin ; CAS No. : 1506-02-1)
Species : Lepomis macrochirus (Bluegill)
Bioconcentration factor (BCF)
Result : 597 l/kg ww
Methode : OECD 305 Bioaccumulation in Fish: Aqueous and Dietary Exposure
Based on the n-octanol/water partition coefficient accumulation in organisms is possible.

12.4 Mobility in soil

Adsorption/Desorption

Parameter : Adsorption coefficient (7-acetyl-1,1,3,4,4,6-hexamethyltetralin ; CAS No. : 1506-02-1)
Log K_{oc} : ca. 29512

12.5 Results of PBT and vPvB assessment

This substance does not meet the PBT/vPvB criteria of REACH, annex XIII.

12.6 Other adverse effects

Very toxic to aquatic life. May cause long lasting harmful effects to aquatic life.

12.7 Further ecological information

None

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Send to a hazardous waste incinerator facility under observation of official regulations.

SECTION 14: Transport information

14.1 UN number

UN 3077

14.2 UN proper shipping name

Land transport (ADR/RID)

ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (acetyl hexamethyl tetralin)

Sea transport (IMDG)

ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (acetyl hexamethyl tetralin)

Air transport (ICAO-TI / IATA-DGR)

ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (acetyl hexamethyl tetralin)

Safety Data Sheet



Trade name : TONALID®
Revision date : 07.03.2014
Print date : 27-05-2015

Version (Revision) : 2.0.6 (2.0.5)

14.3 Transport hazard class(es)

Land transport (ADR/RID)

Class(es) : 9
Classification code : M7
Hazard identification number (Kemler No.) : 90
Tunnel restriction code : E
Special provisions : E1
Hazard label(s) : 9 / N

Sea transport (IMDG)

Class(es) : 9
EmS-No. : F-A / S-F
Special provisions : LQ 5 kg · E 1 · Segregation Group: No/none
Hazard label(s) : 9 / N

Air transport (ICAO-TI / IATA-DGR)

Class(es) : 9
Special provisions : E1
Hazard label(s) : 9 / N

14.4 Packing group

III

14.5 Environmental hazards

Land transport (ADR/RID) : Yes
Sea transport (IMDG) : Yes (P)
Air transport (ICAO-TI / IATA-DGR) : Yes

14.6 Special precautions for user

None

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

National regulations

Other regulations, restrictions and prohibition regulations

TSCA (USA) : listed
CEPA (Canada) : DSL
Asia-PAC : listed
India : not applicable
ENCS (Japan) : listed 4 - 1179
ISHL (Japan) : chemical name published
IECSC (China) : listed
ECL (Korea) : listed KE 33464
PICCS (Philippines) : listed
AICS (Australia) : listed
NZIoC (New Zealand) : group standard
FLAVIS (EU) : not listed
CoE (EU) : not listed
JECFA (UN) : not listed
FEMA (USA) : not listed
GRAS (USA) : not listed

Safety Data Sheet



Trade name : TONALID®
Revision date : 07.03.2014
Print date : 27-05-2015

Version (Revision) : 2.0.6 (2.0.5)

15.2 Chemical Safety Assessment

For this substance a chemical safety assessment has been carried out. Further information: see exposure scenarios attached to this safety data sheet.

SECTION 16: Other information

16.1 Indication of changes

None

16.2 Abbreviations and acronyms

a.i. = Active ingredient; ACGIH = American Conference of Governmental Industrial Hygienists (US); ADR = European Agreement concerning the International Carriage of Dangerous Goods by Road; AFFF = Aqueous Film Forming Foam; AICS = Australian Inventory of Chemical Substances; AISE = International Association for Soaps, Detergents and Maintenance Products (joint project of AISE and CEFIC); AOAC = AOAC International (formerly Association of Official Analytical Chemists); aq. = Aqueous; Asia-PAC = Asia Pacific; ASTM = American Society of Testing and Materials (US); atm = Atmosphere(s); B.V. = Beperkt Vennootschap (LTD = Limited); BCF = Bioconcentration Factor; bp = Boiling point at stated pressure; bw = Body weight; ca = (Circa) about; CAS No = Chemical Abstracts Service Number (see ACS - American Chemical Society); CEFIC = European Chemical Industry Council (established 1972); CEPA = Canadian Environmental Protection Act (CAN); CEPA = Canadian Environmental Protection Act (Canada); CIPAC = Collaborative International Pesticides Analytical Council; CLP = REGULATION (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures.; CoE = Council of Europe (EU); Conc = Concentration; cP = CentiPoise; CSNN = Chemical Substance Nomination & Notification (Taiwan); cSt = Centistokes; d = Day(s); DIN = Deutsches Institut für Normung e.V.; DNEL = Derived No-Effect Level; DSL = Domestic Substances List; DT50 = Time for 50% loss; half-life; EbC50 = Median effective concentration (biomass, e.g. of algae); EC = European Community; European Commission; EC50 = Median effective concentration; ECL = Existing Chemicals List (Korea); EINECS = European Inventory of Existing Commercial Chemical Substances (EU, outdated, now replaced by EC Number); ELINCS = European List of Notified (New) Chemicals; ENCS = Existing and New Chemical Substances Inventory (Japan); ErC50 = Median effective concentration (growth rate, e.g. of algae); EU = European Union; EWC = European Waste Catalogue; FAO = Food and Agriculture Organization (United Nations); FEMA = Flavor & Extract Manufacturers Association (USA); FLAVIS = Flavour Information System (EU); GIFAP = Groupement International des Associations Nationales de Fabricants de Produits Agrochimiques (now CropLife International); GRAS = Generally Recognized As Safe (USA); h = Hour(s); hPa = HectoPascal (unit of pressure); IARC = International Agency for Research on Cancer; IATA = International Air Transport Association; IC50 = Concentration that produces 50% inhibition; IECSC = Inventory of Existing Chemical Substances (China); IMDG Code = International Maritime Dangerous Goods Code; IMO = International Maritime Organization; ISO = International Organization for Standardization; IUCLID = International Uniform Chemical Information Database; IUPAC = International Union of Pure and Applied Chemistry; IVIS = In-Vitro Irritancy Score; JECFA = Joint Expert Committee on Food Additives (United Nations); kg = Kilogram; Kow = Distribution coefficient between n-octanol and water; kPa = KiloPascal (unit of pressure); LC50 = Concentration required to kill 50% of test organisms; LD50 = Dose required to kill 50% of test organisms; LEL = Lower Explosive Limit/Lower Explosion Limit; LOAEL = Lowest observed adverse effect level; LVE = Low Volume Exemption; mg = Milligram; min = Minute(s); ml = Milliliter; mmHg = Pressure equivalent to 1 mm of mercury (133.3 Pa); mp = Melting point; MRL = Maximum Residue Limit; MSDS = Material Safety Data Sheet; n.o.s. = Not Otherwise Specified; NDSL = Non-Domestic Substances List; NIOSH = National Institute for Occupational Safety and Health (US); NOAEL = No Observed Adverse Effect Level; NOEC = No observed effect concentration; NOEL = No Observable Effect Level; NOx = Oxides of Nitrogen; NZIoC = New Zealand Inventory of Chemicals; OECD = Organization for Economic Cooperation and Development; OEL = Occupational Exposure Limits; Pa = Pascal (unit of pressure); PBT = Persistent, Bioaccumulative or Toxic; pH = -log10 hydrogen ion concentration; PICCS = Philippine Inventory of Chemicals and Chemical Substances; pKa = -log10 acid dissociation constant; PNEC = Predicted No Effect Concentration; POPs = Persistent Organic Pollutants; ppb = Parts per billion; PPE = Personal Protection Equipment; ppm = Parts per million; ppt = Parts per trillion; PVC = Polyvinyl Chloride; QSAR = Quantitative Structure-Activity Relationship; REACH = Registration, Evaluation and Authorization of Chemicals (EU, see NCP); SI = International System of Units; STEL = Short-Term Exposure Limit; tech. = Technical grade; TSCA = Toxic Substances Control Act (US); TSCA = Toxic Substances Control Act (USA); TWA = Time-Weighted Average; UN = United Nations; vPvB = Very Persistent and Very Bioaccumulative; VwVwS = Verwaltungsvorschrift wassergefährdender Stoffe; WHO = World Health Organization = OMS; y = Year(s);

16.3 Key literature references and sources for data

Safety Data Sheet



Trade name : TONALID®
Revision date : 07.03.2014
Print date : 27-05-2015

Version (Revision) : 2.0.6 (2.0.5)

None

16.4 Relevant R-, H- and EUH-phrases (Number and full text)

H302	Harmful if swallowed.
H410	Very toxic to aquatic life with long lasting effects.
22	Harmful if swallowed.
50/53	Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

16.5 Training advice

None

16.6 Additional information

None

The above information describes exclusively the safety requirements of the product and is based on our present-day knowledge. The information is intended to give you advice about the safe handling of the product named in this safety data sheet, for storage, processing, transport and disposal. The information cannot be transferred to other products. In the case of mixing the product with other products or in the case of processing, the information on this safety data sheet is not necessarily valid for the new made-up material.

Firmenich

GHS Safety Data Sheet - US

According to Regulation HCS 2012

This Safety Data Sheet cancels and replaces all preceding SDS for this product.

1 IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

1.1 Product identifier

990212-90647116

VANINCOL™

© Firmenich product

CAS No: 132638-45-0

EC No:

REACH No: 01-2120109192-69

1.2 Relevant identified uses of the substance or mixture and uses advised against

Fragrance ingredient for use in consumer products.

Not for personal use in this form or concentration.

Intended to be used in the manufacture of products for consumers

1.3 Details of the supplier of the safety data sheet

John Carey

Firmenich Inc.

250 Plainsboro Road

Princeton - New Jersey 08536 - USA

john.carey@firmenich.com

Tel.: +1.609.452.1000

1.4 Emergency telephone number

FOR INFORMATION OR IN AN EMERGENCY CALL NCEC @ +1 215 207 0061.

2 HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

According to Regulation HCS 2012

Not Classified according to the rules of the HCS 2012.

Additional information

Full text of listed statements : See section 16

2.2 Label elements

Firmenich

GHS Safety Data Sheet - US

According to Regulation HCS 2012

This Safety Data Sheet cancels and replaces all preceding SDS for this product.

2.3 Other hazards

No data available at this time.

3 COMPOSITION/INFORMATION ON INGREDIENTS

The exact percentage (concentration) of composition has been withheld as a trade secret.

3.1 Substance

Chemical substance.

Contains :

$\geq 0.1 < 0.5\%$

Phenol, 2-Methoxy-4-Methyl-

N° CAS : 0000093-51-6

N° EINECS: 202-252-9

GHS Classification:

Skin Sensitization - Cat. 1B [H317]

Acute Toxicity (oral) - Cat. 4 [H302]

Skin Irritation - Cat. 2 [H315]

Eye Irritation - Cat.2A [H319]

4 FIRST-AID MEASURES

4.1 Description of first aid measures

General information:

As in all cases of potential poisoning, Obtain medical advice immediately.

In case of eye contact:

In the event of contact with the eyes, irrigate with water for at least 15 minutes; obtain medical advice if irritation persists.

In case of inhalation:

In the event of exposure to vapors, immediately remove from the area to a fresh air environment.

In case of skin contact:

Remove contaminated clothes. Wash skin with large volumes of water.

If irritation persists, or any sign of tissue damage is apparent, obtain medical advice immediately.

In case of ingestion:

In the event of accidental ingestion, rinse mouth with water. Give up to one tumbler (half pint) of milk or water.

Obtain medical advice immediately.

Do not induce vomiting, obtain medical advice immediately.

Firmenich

GHS Safety Data Sheet - US

According to Regulation HCS 2012

This Safety Data Sheet cancels and replaces all preceding SDS for this product.

4.2 Most important symptoms and effects, both acute and delayed

No specific data available.

4.3 Indication of immediate medical attention and special treatment needed

No specific data available.

5 FIRE-FIGHTING MEASURES

5.1 Extinguishing media

In the event of fire, adequate extinguishers should be used. Avoid inhalation of smoke and fumes. In case of insufficient ventilation, wear suitable respiratory equipment.

Use standard procedures and preferred extinguishing media as stated below.

Extinguishing media: Water, foam, carbon dioxide or dry chemical.

5.2 Special hazard arising from the substance or mixture

Product is a combustible powder. Like all combustible powders, it may form explosive mixtures if suspended in air.

5.3 Advice for fire-fighters

No specific advice.

6 ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

For non-emergency personnel:

Impervious gloves should be worn when handling spillages. No smoking. Avoid naked flames or other potential sources of ignition (eg. electrical equipment).

Avoid skin contamination and inhalation of dust.

Individual washing routines should be followed after any potential contact.

Ensure adequate ventilation in working areas following accidental releases.

For emergency personnel:

Apply the same recommendations as section 6.1

6.2 Environmental precautions

Do not discharge directly into drains, air, into soil or into the aquatic environment.

6.3 Methods and material for containment and cleaning up

For containment:

Small Spills can be swept up and disposed of properly.

Do not allow powder to accumulate on horizontal surfaces, as an explosive dust/air mixture could occur if suddenly dispersed into the air.

For cleaning-up:

Spillages should be disposed of in accordance with Governmental Regulations.

7 HANDLING AND STORAGE

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GHS Safety Data Sheet - US

According to Regulation HCS 2012

This Safety Data Sheet cancels and replaces all preceding SDS for this product.

7.1 Precautions for safe handling

Keep strict control of dust accumulation to a minimum.
Avoid contact with skin and eyes.
Wear impervious gloves protection and eye/face protection.
No smoking. Avoid any source of ignition. Use flameproof electrical equipment and spark-reduced tools.
Ensure that all equipments are properly bonding and earthing.
Avoid exposing to high temperature during processing.
Do not ingest or apply to the skin as such. Good personal washing routines should be followed.
Maintain adequate local and general ventilation where product is handled.

Protective measures

Keep strict control of dust accumulation to a minimum. Maintain adequate local and general ventilation where product is handled. Avoid any sources of ignition.

Advice on general occupational hygiene

Good personal washing routines should be followed.

7.2 Conditions for safe storage, including any incompatibilities

It is good general practice to store in closed, preferably full, containers away from heat sources, and protected from extremes of temperature. Do not re-use the empty container.
Respect general rules for compatibility storage.

7.3 Specific end use(s)

Not available at this time.

8 EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters

Contains no substances with occupational exposure limit values

Derived No Effect Level (DNEL)

DNEL Worker (dermal), systemic effects - long-term, = 2.17 mg/kg bw/day
DNEL Worker (inhalation), systemic effects - long-term, = 7.64 mg/m³
DNEL Consumer (oral), systemic effects - long-term, = 1.08 mg/kg bw/day
DNEL Consumer (inhalation), systemic effects - long-term, = 1.88 mg/m³
DNEL Consumer (dermal), systemic effects - long-term, = 1.08 mg/kg bw/day

Predicted No Effect Concentration (PNEC)

PNEC Aqua (freshwater) = 0.004 mg/l
PNEC Aqua (marine water) = 0.41 µg/l
PNEC Water (intermittent release) freshwater = 0.41 mg/l
PNEC Water (intermittent release) = 0.004 mg/l
PNEC Sediment (freshwater) = 0.015 mg/kg sediment dw
PNEC Sediment (marine water) = 0.001 mg/kg sediment dw
PNEC STP = 2.7 mg/l
PNEC Soil = 0.001 mg/kg soil dw
PNEC Air No hazard identified.
PNEC Oral (secondary poisoning) No potential for bioaccumulation

Firmenich

GHS Safety Data Sheet - US

According to Regulation HCS 2012

This Safety Data Sheet cancels and replaces all preceding SDS for this product.

8.2 Exposure controls

Avoid exposing to high temperature during processing.
Maintain adequate local and general ventilation where product is handled.

Appropriate engineering controls

Maintain adequate local and general ventilation where product is handled and dispensed.

Environmental exposure controls

Not available at this time. Minimize release to the environment.

Personal protection

Respiratory protection: Breathing of the vapors or dust particles may be hazardous. In the absence of appropriate engineering controls such as spot ventilation, ventilated enclosures, etc., workers should avail themselves of the appropriate NIOSH approved respiratory protection. OSHA has established limits for Respirable dust (PEL of 5 mg/m³) TWA and Total dust (PEL of 15 mg/m³)TWA. It is recommended that when using powders that air monitoring of the workplace be conducted to ensure that these levels are not exceeded.

Hand protection: Adequate and Impervious Protective Gloves should be worn.

Eye protection: Adequate safety glasses should be used.

Skin protection: Wear protective clothing, overall if necessary to limit the odour contamination of personal clothing. Individual washing routines should be followed after any potential contact.

9 PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Appearance :	POWDER
Colour :	WHITE TO PALE YELLOW
Odour :	Characteristic strong odour according to the commercial description of the substance.
pH :	Not applicable
Melting point/range (°C) :	= 52.3 °C (OECD 102)
Initial boiling point/range (°C) :	= 275.0 °C at 97.6kPa (OECD 103)
Flash point (closed cup) :	= 307 Fahrenheit (= 153 Centigrade)
Evaporation rate :	Not available
Flammability (solid/gas) :	Not applicable
Explosive properties (St class) :	N/A
Vapor pressure (At 20°C in mm Hg) :	< 0.1 mm
Vapour density :	Not available
Relative density (d 20/20) :	= 1.29 at 25°C (OECD 109)
Water solubility (20°C) :	= 376 mg/l at 20.0°C (OECD 105)
Partition coef. (n-octanol/water) :	Log Kow = 2.27 (OECD 117)
Auto-ignition temperature (°C) :	Not available
Decomposition temperature :	Not available
Viscosity :	Not available
Oxidizing properties :	Not available

Firmenich

GHS Safety Data Sheet - US

According to Regulation HCS 2012

This Safety Data Sheet cancels and replaces all preceding SDS for this product.

9.2 Other safety information

9.2.1 Explosive properties (Measured)

No data available at this time.

10 STABILITY AND REACTIVITY

10.1 Reactivity

No reaction known with water.

10.2 Chemical stability

Presents no significant reactivity hazard. Normally stable even at elevated temperatures and pressures. Avoid temperatures above or near to the flash point. Not pyrophoric nor reactive with water. Does not undergo explosive decomposition, is shock stable, and is not an oxygen donor. Does not form explosive mixtures with other organic materials. Will not undergo hazardous exothermic polymerization.

10.3 Possibility of hazardous reactions

Not known.

10.4 Conditions to avoid

Avoid temperatures above or at least 5 °C below flash point for any flammable liquids.
Do not heat closed containers.
Avoid contact with oxidizing agents.

10.5 Incompatible materials

Avoid strong oxidizing agents.

10.6 Hazardous decomposition products

Contact with water or storage under recommended conditions for one year should not produce dangerous decomposition products.

11 TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

(a) acute toxicity

Acute oral toxicity (Rat, OECD 420, Gavage): LD50 > 2000 mg/kg

Acute dermal toxicity (Rat, OECD 402, Semi-occlusive): LD50 > 2000 mg/kg

Acute Toxicity by inhalation (Rat, OECD 436, Dust): LC50 > 3.52 mg/l

(b) skin corrosion/irritation

Primary Skin irritation (Rabbit, OECD 404, Semi-occlusive): Non irritant

(c) serious eye damage/irritation

Acute Eye irritation (Rabbit, OECD 405, No washout): Non irritant

Firmenich

GHS Safety Data Sheet - US

According to Regulation HCS 2012

This Safety Data Sheet cancels and replaces all preceding SDS for this product.

(d) respiratory or skin sensitisation

Local Lymph Node Assay (LLNA) OECD 429: Non-sensitising to skin

(e) germ cell mutagenicity

Bacterial Reverse Mutation test (Ames) (Salmonella + E. Coli, OECD 471, With and without S9, 5 strains): Non mutagenic

In vitro Mammalian Cell Gene Mutation Tests Using the Thymidine Kinase Gene (OECD 490, Mouse lymphoma assay): Non mutagenic

In vitro Mammalian Chromosome Aberration Test (Human, OECD 473): No chromosomal aberration

(f) carcinogenicity

No data available

(g) reproductive toxicity

Reproduction/Developmental Toxicity Screening Test (Rat, OECD 421, Gavage):

NOAEL = 650 mg/kg/day,

NOAEL (male reproduction) = 650 mg/kg/day,

NOAEL (development) = 650 mg/kg/day,

(h) STOT-single exposure

No data available

(i) STOT-repeated exposure

Repeated Dose 28-Day Oral Toxicity Study in Rodents (Rat, OECD 407, Gavage): NOAEL = 650.0 mg/kg/day

(j) aspiration hazard

No data available

12 ECOLOGICAL INFORMATION

12.1 Toxicity

Alga, Growth Inhibition Test (*Pseudokirchneriella subcapitata*, OECD 201, Shake Flask Method):

72 ErC50 62 mg/l (Based on nominal concentrations)

72 ErC10 41 mg/l (Based on nominal concentrations)

Daphnia sp. Acute Immobilisation Test and Reproduction Test (OECD 202, Static):

48 EC50 = 4.1 mg/l (Based on nominal concentration)

48 NOEC = 3.2 mg/l (Based on nominal concentration)

Fish, Acute Toxicity Test (Zebra fish, OECD 203, Semi-static): 96 LC50 = 4.22 mg/l (Based on average measured concentrations)

Activated Sludge, Respiration Inhibition Test (OECD 209, Static): 3 EC50 = 270 mg/l

12.2 Persistence and degradability

Ready Biodegradation - Closed Bottle Test (OECD 301D, Sludge): Readily biodegradable (80.2% in 28 day(s))

Stability as a function of pH: Stable but unstable in basic conditions

Firmenich

GHS Safety Data Sheet - US

According to Regulation HCS 2012

This Safety Data Sheet cancels and replaces all preceding SDS for this product.

12.3 Bioaccumulative potential
Log Kow = 2.27 (OECD 117)

12.4 Mobility in soil
No data available

12.5 Results of PBT and vPvB assessment
Not applicable

12.6 Other adverse effects
No data available

13 DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

Product: The product should be handled according to the instructions given under sections 6, 7 and 8. Dispose of according to local or national regulations. The product should not be allowed to enter drains or the environment.

Contaminated packaging: Empty packaging should be disposed according to local or national regulations by an approved waste handling

14 TRANSPORT INFORMATION

In case of accidental spillage or fire during transport, refer to instructions given under points 5, 6, 7 and 8 above.

UNO

UN-No:	Not regulated
Proper Shipping Name:	N/A
Class:	---
Packing Group:	---

Land transport (ADR/RID)

UN-No:	Not regulated
Proper Shipping Name:	N/A
Class:	---
Packing group:	---

Sea transport (IMDG-Code)

UN-No:	Not regulated
Proper Shipping Name:	N/A
Class:	---
Packing group:	---

Firmenich

GHS Safety Data Sheet - US

According to Regulation HCS 2012

This Safety Data Sheet cancels and replaces all preceding SDS for this product.

Air transport (ICAO-IATA)

UN-No:	Not regulated
Proper Shipping Name:	N/A
Class:	----
Packing group:	---

15 REGULATORY INFORMATION

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture:

This chemical is NOT subject to reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 29 CFR Part 1910.1200.

15.2 Chemical Safety Assessment

No data available at this time.

16 OTHER INFORMATION

Revisions

Jun-2020 : Version 9.2 - Updates to sections 1, 2, 3, 8, 9, 11, 12, 14, 15, 16

Key literature references

RIFM database
OECD SIDS
EU IUCLID
Supplier information

Full text of phrases used under section 2

-

Full text of phrases used under section 3

H317 May cause an allergic skin reaction.

We believe that the information contained herein is current as of the date of this Safety Data Sheet. Since the use of this information and the conditions of use of the product are not within the control of Firmenich, it is the user's obligation to determine conditions of safe use of the product.

Information contained in this document and related material is proprietary to Firmenich. Disclosure to third parties without the prior written consent of Firmenich except where required by applicable laws and regulations and/or reverse engineering are strictly prohibited.

Waste Profile 632774IL SDSs and Lab Data

COAL AND COPPER SLAG

Coal and copper slag have become more in demand due to their cleaning ability, low free silica, and wide array of available mesh sizes. Their granules are angular in shape to enhance their cutting ability and make them suitable for a wide spectrum of uses. All grades of coal and copper slag are washed and can have a Dust Suppressant added to them at your request.

Typical Properties and Applications

<u>Product Grade</u>	<u>Mil Profile</u>	<u>Nozzle Size (min)</u>
#12-40	3.5 – 4.5	5/16"
#16-30	3 – 4	5/16"
#20-40	2 – 3.5	1/4"
#28-50	1.5 – 3	1/4"
#30-60	1 – 2.5	1/8"
#40-80	0.75 – 1.5	1/8"

Product Application

<u>#12-40</u>	<u>#20-40</u>	<u>#30-60</u>	<u>#40-80</u>
Heavy Coatings Epoxy Heavy Rust Heavy Mill Scale Tar, Vinyl, Rubber, etc. Heavy Blast Profile	Rust Mill Scale Enamel Acrylics Exposed Aggregates White Blast to Near-White Blast Moderate Blast Profile	Light Rust Light Mill Scale Light Coatings White Blast Produces Slight Profile	Light Rust Light Coatings Produces Slight Profile

SAFETY DATA SHEET

Product Name: Black Diamond, Black Magnum

Product Description: coal slag particles

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION, AND OF THE COMPANY/UNDERTAKING

1.1 Identification of the substance or preparation

Product Names: Black Diamond

1.2 Other means of identification

1.3 Use of the substance / preparation – Abrasive blasting media

1.4 Supplier

Company Name: AGSCO Corporation
Address: 160 West Hintz Road
Wheeling Illinois 60090

Emergency number: 847-520-4455
Information number: 847-520-4455
Date prepared: January 2015

2. HAZARDS IDENTIFICATION

Classification in accordance with 29 CFR 1910.1200

Acute Toxicity (Oral), Category 4 (20% unknown)

Skin Corrosion / Irritation, Category 3

Eye Damage / Irritation, Category 2A

Carcinogenicity, Category 2

Specific Target Organ Toxicity - Single Exposure, Category 2 (respiratory system)

Specific Target Organ Toxicity - Single Exposure, Category 2 (digestive system and/or systemic toxicity)

Specific Target Organ Toxicity - Repeated Exposure, Category 2 (respiratory system, lungs)

GHS LABEL ELEMENTS

Symbol(s)



NFPA Label



Signal Word

WARNING

Hazard Statement(s)

Harmful if swallowed. Can cause skin irritation.

May cause damage to respiratory system, lungs through prolonged or repeated exposure.

SAFETY DATA SHEET

Precautionary Statement(s)

Prevention

Wash thoroughly after handling. Do not eat, drink or smoke when using this product. Wear protective gloves/clothing and eye/face protection. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Use personal protective equipment as required.

Response

IF ON SKIN: Wash with plenty of soap and water. If skin irritation occurs: Get medical advice/attention.

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists, get medical advice/attention.

IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell. Rinse mouth.

Storage

Store locked up. Store in a secure, controlled area.

Disposal

Dispose in accordance with all applicable regulations.

3. COMPOSITION / INFORMATION ON INGREDIENTS

CAS	Component	Percent %
7631-86-9	Amorphous Silicon Dioxide	48-50
1344-28-1	Aluminum oxide	18-22
1309-37-1	Iron oxide (Fe ₂ O ₃)	18-22
1305-78-8	Calcium Oxide	5-7
12136-45-7	Potassium Oxide	1-2
13463-67-7	Titanium Oxide	0-1
1309-48-4	Magnesium Oxide	0-1
1313-59-3	Sodium Oxide	0-1
14808-60-7	Quartz	0-0.1
14464-46-1	Cristobalite	0-0.1
7440-41-7	Beryllium	0-0.0005

Others

Evidence may exist to indicate that components present in this material in concentrations of less than one percent (or in the case of carcinogens, less than 0.1 percent) could be released in concentrations which would exceed an established OSHA permissible exposure limit or ACGIH Threshold Limit Value, or could present a health risk to employees in those concentrations.

Employee exposure monitoring should be performed to determine exposure levels.

4. FIRST AID MEASURES

Description of Necessary Measures

Inhalation

If adverse effects occur, remove to uncontaminated area. Give artificial respiration if not breathing. If breathing is difficult, oxygen should be administered by qualified personnel. Get immediate medical attention.

SAFETY DATA SHEET

Skin	If adverse effects occur, wash skin with soap and water for at least 15 minutes while removing contaminated clothing and shoes. Get medical attention, if needed.
Eyes	Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Do not rub eyes. Continue rinsing. Then get immediate medical attention.
Ingestion	If a large amount is swallowed, get immediate medical attention. Rinse mouth.

Most Important Symptoms/Effects

Acute Respiratory tract irritation, skin irritation, eye irritation.

Delayed Respiratory system damage, lung damage.

5. FIRE FIGHTING MEASURES

Suitable Extinguishing Media

Use extinguishing agents appropriate for surrounding fire.

Unsuitable Extinguishing Media

None known.

Specific Hazards Arising from the Chemical

Negligible fire hazard.

Hazardous Combustion Products

None known.

Fire Fighting Measures

Use extinguishing agents appropriate for surrounding fire. Stay upwind and keep out of low areas. Avoid inhalation of material or combustion by-products.

Special Protective Equipment and Precautions for Firefighters

Wear full protective firefighting gear including self-contained breathing apparatus (SCBA) for protection against possible exposure.

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment and Emergency Procedures

Wear personal protective clothing and equipment, see Section 8. Avoid release to the environment.

Methods and Materials for Containment and Cleaning Up

Collect spilled material in appropriate container for disposal. Avoid dispersal of dust in the air (i.e., clearing dust surfaces with compressed air). If sweeping of a contaminated area is necessary, use a dust suppressant agent. Move containers away from spill to a safe area. Wet down area with water.

SAFETY DATA SHEET

7. HANDLING AND STORAGE

Precautions for Safe Handling

Wash thoroughly after handling. Do not breathe dust. Do not eat, drink or smoke when using this product. Wear protective gloves/clothing and eye/face protection. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Use personal protective equipment as required.

Conditions for Safe Storage, including any Incompatibilities

Store and handle in accordance with all current regulations and standards. Protect from physical damage.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Component Exposure Limits

Iron oxide (Fe₂O₃) (1309-37-1)

ACGIH: 5 mg/m³ TWA (respirable fraction)

NIOSH: 5 mg/m³ TWA (as Fe, dust and fume)

2500 mg/m³ IDLH (as Fe, dust and fume)

OSHA (US): 10 mg/m³ TWA (fume); 15 mg/m³ TWA (total dust); 5 mg/m³ TWA (respirable fraction)

Mexico: 5 mg/m³ TWA LMPE-PPT

10 mg/m³ STEL [LMPE-CT] (as Fe)

Silicon Dioxide (7631-86-9)

NIOSH: 6 mg/m³ TWA

3000 mg/m³ IDLH

OSHA (US): 20 mppcf TWA; (80)/(%) SiO₂ mg/m³ TWA

Calcium oxide (1305-78-8)

ACGIH: 2 mg/m³ TWA

NIOSH: 2 mg/m³ TWA

25 mg/m³ IDLH

OSHA (US): 5 mg/m³ TWA

Mexico: 2 mg/m³ TWA LMPE-PPT

Aluminum oxide (1344-28-1)

OSHA (US): 15 mg/m³ TWA (total dust); 5 mg/m³ TWA (respirable)

Mexico: 10 mg/m³ TWA LMPE-PPT

Appropriate Engineering Controls

Provide local exhaust or process enclosure ventilation system. Ensure that dust-handling systems (such as exhaust ducts, dust collectors, vessels, and processing equipment) are designed in a manner to prevent the escape of dust into the work area (i.e., there is no leakage from the equipment).

Individual Protection Measures, such as Personal Protective Equipment

Eyes/Face Protection

Wear splash resistant safety goggles with a faceshield. Provide an emergency eye wash fountain and quick drench shower in the immediate work area.

Skin Protection

Wear appropriate chemical resistant clothing.

SAFETY DATA SHEET

Glove Recommendations

Wear appropriate chemical resistant gloves.

Respiratory Protection

Where dust or vapor concentration exceeds or is likely to exceed applicable exposure limits, a NIOSH approved respirator is required.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State:	Coarse Solid	Appearance:	black shiny solid
Color:	Black	Physical Form:	Solid
Odor:	No characteristic odor	Odor Threshold:	Not available
pH:	Not available	Melting Point:	Not available
Boiling Point:	Not applicable	Flash Point:	Non-flammable; non-explosive
Decomposition:	Not available	Evaporation Rate:	Not available
OSHA Flammability Class:	Non - Flammable	LEL:	Not available
UEL:	Not available	Vapor Pressure:	Not applicable
Vapor Density (air = 1):	Not applicable	Density:	Not available
Specific Gravity (water = 1):	Not available	Water Solubility:	Marginal
Log KOW:	Not available	Coeff. Water/Oil Dist:	Not available
Viscosity:	Not available		

Other Property Information

No additional information is available.

10. STABILITY AND REACTIVITY

Reactivity

No reactivity hazard is expected.

Chemical Stability

Stable at normal temperatures and pressure.

Possibility of Hazardous Reactions

Will not polymerize.

Conditions to Avoid

Avoid accumulation of airborne dusts.

Incompatible Materials

None

Hazardous Decomposition

Combustion: miscellaneous decomposition products.

11. TOXICOLOGICAL INFORMATION

Acute and Chronic Toxicity

Component Analysis - LD50/LC50

The components of this material have been reviewed in various sources and the following endpoints are published:

Iron oxide (Fe₂O₃) (1309-37-1)

Oral LD50 Rat >10000 mg/kg

SAFETY DATA SHEET

Silicon Dioxide (7631-86-9)

Oral LD50 Rat >5000 mg/kg; Dermal LD50 Rabbit >2000 mg/kg

Calcium oxide (1305-78-8)

Oral LD50 Rat 500 mg/kg

Aluminum oxide (1344-28-1)

Oral LD50 Rat >5000 mg/kg

Information on Likely Routes of Exposure

Inhalation

Throat irritation, difficulty breathing.

Ingestion

Diarrhea, stomach pain, difficulty breathing

Skin Contact

Skin irritant

Eye Contact

Eye irritant

Immediate Effects

Eye and Skin Irritant, Shortness of Breath

Delayed Effects

Respiratory system damage

Medical Conditions Aggravated by Exposure

Respiratory disorders, eye disorders, skin disorders

Irritation/Corrosivity Data

Respiratory tract irritant, skin irritant, eye irritant.

Local Effects

Calcium oxide (1305-78-8)

Corrosive: inhalation, skin, eye, ingestion

Respiratory Sensitization

No data available.

Dermal Sensitization:

No data available.

Carcinogenicity

Available data characterizes components of this product as possible carcinogen hazards.

Component Carcinogenicity

Iron oxide (Fe₂O₃) (1309-37-1)

ACGIH: A4 - Not Classifiable as a Human Carcinogen

IARC: Supplement 7 [1987]; Monograph 1 [1972] (Group 3 (not classifiable))

DFG: Category 3B (could be carcinogenic for man, with the exception of non-bioavailable ferrous oxides)

Silicon Dioxide (7631-86-9)

IARC: Monograph 68 [1997]; Supplement 7 [1987] (Group 3 (not classifiable))

Aluminum oxide (1344-28-1)

DFG: Category 2 (considered to be carcinogenic for man, fiber dust)

SAFETY DATA SHEET

Mutagenic Data

No data available.

Reproductive Effects Data

No data available.

Tumorigenic Data

No data available.

Specific Target Organ Toxicity - Single Exposure

Respiratory system, digestive system

Specific Target Organ Toxicity - Repeated Exposure

Respiratory system, lungs

Aspiration Hazard

No data available.

12 ECOLOGICAL INFORMATION

Ecotoxicity

Component Analysis - Aquatic Toxicity

Silicon Dioxide (7631-86-9)

Fish: 96 Hr LC50 Brachydanio rerio: 5000 mg/L [static]

Algae: 72 Hr EC50 Pseudokirchneriella subcapitata: 440 mg/L

Invertebrate: 48 Hr EC50 Ceriodaphnia dubia: 7600 mg/L

Calcium oxide (1305-78-8)

Fish: 96 Hr LC50 Cyprinus carpio: 1070 mg/L [static]

Persistence and Degradability

No information available for the product.

Bioaccumulative Potential

No information available for the product.

Mobility

No information available for the product.

13. DISPOSAL CONSIDERATIONS

Disposal Methods

Dispose in accordance with all applicable regulations.

14. TRANSPORT INFORMATION

US DOT Information

Shipping Name: Not Regulated

IMDG Information

Shipping Name: Not Regulated

SAFETY DATA SHEET

15. REGULATORY INFORMATION

Component Analysis

U.S. Federal Regulations

This material contains one or more of the following chemicals required to be identified under SARA Section 302 (40 CFR 355 Appendix A), SARA Section 311/312 (40 CFR 370.21), SARA Section 313 (40 CFR 372.65), CERCLA (40 CFR 302.4), TSCA 12(b), and/or require an OSHA process safety plan.

Aluminum oxide (1344-28-1)

SARA 313: 1.0% de minimis concentration (fibrous forms)

SARA 311/312 Hazardous Categories

Acute Health: Yes **Chronic Health:** Yes **Fire:** No **Pressure:** No **Reactive:** No

U.S. State Regulations

The following components appear on one or more of the following state hazardous substances lists:

Component	CAS	CA	MA	MN	NJ	PA
Iron oxide (Fe ₂ O ₃)	1309-37-1	Yes	Yes	Yes	Yes	Yes
Silicon Dioxide	7631-86-9	Yes	Yes	Yes	Yes	Yes
Calcium oxide	1305-78-8	Yes	Yes	Yes	Yes	Yes
Aluminum oxide	1344-28-1	Yes	Yes	Yes	Yes	Yes
Titanium oxide	13463-67-7	Yes	Yes	No	Yes	Yes
Potassium oxide	12136-45-7	Yes	Yes	No	Yes	Yes
Magnesium oxide	1309-48-4	Yes	Yes	No	Yes	Yes
Sodium oxide	1313-59-3	Yes	Yes	Yes	Yes	Yes

Component Analysis - Inventory

Component	CAS	US	CA	EU	AU	PH	JP	KR	CN	NZ
Iron oxide (Fe ₂ O ₃)	1309-37-1	Yes	DSL	EIN	Yes	Yes	Yes	Yes	Yes	Yes
Silicon Dioxide	7631-86-9	Yes	DSL	EIN	Yes	Yes	Yes	Yes	Yes	Yes
Calcium oxide	1305-78-8	Yes	DSL	EIN	Yes	Yes	Yes	Yes	Yes	Yes
Aluminum oxide	1344-28-1	Yes	DSL	EIN	Yes	Yes	Yes	Yes	Yes	Yes
Titanium oxide	7440-66-6	Yes	DSL	EIN	Yes	Yes	No	Yes	Yes	Yes
Potassium oxide	12136-45-7	Yes	DSL	EIN	Yes	Yes	No	Yes	Yes	Yes
Magnesium oxide	1309-48-4	Yes	DSL	EIN	Yes	Yes	No	Yes	Yes	Yes
Sodium oxide	1313-59-3	Yes	DSL	EIN	Yes	Yes	No	Yes	Yes	Yes

SAFETY DATA SHEET

16. OTHER INFORMATION

NFPA Ratings: Health: 1 Fire: 0 Reactivity: 0

Hazard Scale: 0 = Minimal 1 = Slight 2 = Moderate 3 = Serious 4 = Severe



Key / Legend

ACGIH - American Conference of Governmental Industrial Hygienists; ADR - European Road Transport; AU - Australia; BOD - Biochemical Oxygen Demand; C - Celsius; CA - Canada; CAS - Chemical Abstracts Service; CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act; CN - China; CPR - Controlled Products Regulations; DFG - Deutsche Forschungsgemeinschaft; DOT - Department of Transportation; DSL - Domestic Substances List; EEC - European Economic Community; EINECS - European Inventory of Existing Commercial Chemical Substances; EPA - Environmental Protection Agency; EU - European Union; F - Fahrenheit; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; ICAO - International Civil Aviation Organization; IDL - Ingredient Disclosure List; IDLH - Immediately Dangerous to Life and Health; IMDG - International Maritime Dangerous Goods; JP - Japan; Kow - Octanol/water partition coefficient; KR - Korea; LEL - Lower Explosive Limit; LOLI - List Of Lists™ - ChemADVISOR's Regulatory Database; MAK - Maximum Concentration Value in the Workplace; MEL - Maximum Exposure Limits; NFPA - National Fire Protection Agency; NIOSH - National Institute for Occupational Safety and Health; NJTSR - New Jersey Trade Secret Registry; NTP - National Toxicology Program; NZ - New Zealand; OSHA - Occupational Safety and Health Administration; PH - Philippines; RCRA - Resource Conservation and Recovery Act; RID - European Rail Transport; RTECS - Registry of Toxic Effects of Chemical Substances®; SARA - Superfund Amendments and Reauthorization Act; STEL - Short-term Exposure Limit; TDG - Transportation of Dangerous Goods; TSCA - Toxic Substances Control Act; TWA - Time Weighted Average; UEL - Upper Explosive Limit; US - United States

Other Information

Disclaimer: Supplier gives no warranty whatsoever, including the warranties of merchantability or of fitness for a particular purpose. Any product purchased is sold on the assumption the purchaser shall determine the quality and suitability of the product. Supplier expressly disclaims any and all liability for incidental, consequential or any other damages arising out of the use or misuse of this product. No information provided shall be deemed to be a recommendation to use any product in conflict with any existing patent rights.



Pace Analytical Services, LLC
2231 W. Altorfer Drive
Peoria, IL 61615
(800)752-6651

June 02, 2022

Katie Czappa
Private Residence 2022
W9450 State Rd. 95
Merrillan, WI 54754

Dear Katie Czappa:

Please find enclosed the analytical results for the **1** sample(s) the laboratory received on **5/25/22 9:00 am** and logged in under work order **FE04779**. All testing is performed according to our current TNI accreditations unless otherwise noted. This report cannot be reproduced, except in full, without the written permission of Pace Analytical Services, LLC.

If you have any questions regarding your report, please contact your project manager. Quality and timely data is of the utmost importance to us.

Pace Analytical Services appreciates the opportunity to provide you with analytical expertise . We are always trying to improve our customer service and we welcome you to contact the Director of Client Services, Lisa Grant, with any feedback you have about your experience with our laboratory at 309-683-1764 or lisa.grant@pacelabs.com.

SE Julien

Steve Julien
Project Manager
(309) 692-9688 x1776
Stephen.Julien@pacelabs.com

**SAMPLE RECEIPT CHECK LIST**

Items not applicable will be marked as in compliance

Work Order FE04779

YES	Samples received within temperature compliance when applicable
YES	COC present upon sample receipt
YES	COC completed & legible
YES	Sampler name & signature present
YES	Unique sample IDs assigned
YES	Sample collection location recorded
YES	Date & time collected recorded on COC
YES	Relinquished by client signature on COC
YES	COC & labels match
YES	Sample labels are legible
YES	Appropriate bottle(s) received
YES	Sufficient sample volume received
YES	Sample containers received undamaged
NO	Zero headspace, <6 mm present in VOA vials
NO	Trip blank(s) received
YES	All non-field analyses received within holding times
NO	Short hold time analysis
YES	Current PDC COC submitted
NO	Case narrative provided



ANALYTICAL RESULTS

Sample: FE04779-01
Name: Spent Abrasive
Alias: 2450 Cenntenial

Sampled: 05/25/22 08:30
Received: 05/25/22 09:00
Matrix: Solid - Regular Sample
PO #: PD 225.00 CC 6/1/22

Parameter	Result	Unit	Qualifier	Prepared	Dilution	MRL	Analyzed	Analyst	Method
<u>TCLP Metals - PIA</u>									
Final pH	4.93	pH Units		05/31/22 13:30	1		06/01/22 15:05	TJJ	EPA 1311
Arsenic	< 0.040	mg/L		06/01/22 15:07	20	0.040	06/02/22 08:59	JMW	EPA 6020A
Barium	3.9	mg/L		06/01/22 15:07	20	2.0	06/02/22 08:59	JMW	EPA 6020A
Cadmium	< 0.0040	mg/L		06/01/22 15:07	20	0.0040	06/02/22 08:59	JMW	EPA 6020A
Chromium	< 0.016	mg/L		06/01/22 15:07	20	0.016	06/02/22 08:59	JMW	EPA 6020A
Lead	< 0.020	mg/L		06/01/22 15:07	20	0.020	06/02/22 08:59	JMW	EPA 6020A
Selenium	< 0.010	mg/L		06/01/22 15:07	20	0.010	06/02/22 08:59	JMW	EPA 6020A
Silver	< 0.020	mg/L		06/01/22 15:07	20	0.020	06/02/22 08:59	JMW	EPA 6020A
Mercury	< 0.0020	mg/L		06/01/22 15:07	20	0.0020	06/02/22 08:59	JMW	EPA 6020A



NOTES

Specifications regarding method revisions, method modifications, and calculations used for analysis are available upon request. Please contact your project manager.

* Not a TNI accredited analyte

Certifications

CHI - McHenry, IL - 4314-A W. Crystal Lake Road, McHenry, IL 60050

TNI Accreditation for Drinking Water and Wastewater Fields of Testing through IL EPA Accreditation No. 100279

Illinois Department of Public Health Bacterial Analysis in Drinking Water Approved Laboratory Registry No. 17556

PIA - Peoria, IL - 2231 W. Altorfer Drive, Peoria, IL 61615

TNI Accreditation for Drinking Water, Wastewater, Solid and Hazardous Material Fields of Testing through IL EPA Accreditation No. 100230

Illinois Department of Public Health Bacterial Analysis in Drinking Water Approved Laboratory Registry No. 17553

Drinking Water Certifications/Accreditations: Iowa (240); Kansas (E-10338); Missouri (870)

Wastewater Certifications/Accreditations: Arkansas (88-0677); Iowa (240); Kansas (E-10338)

Solid and Hazardous Material Certifications/Accreditations: Arkansas (88-0677); Iowa (240); Kansas (E-10338)

SPMO - Springfield, MO - 1805 W Sunset Street, Springfield, MO 65807

USEPA DMR-QA Program

STL - Hazelwood, MO - 944 Anglum Rd, Hazelwood, MO 63042

TNI Accreditation for Wastewater, Solid and Hazardous Material Fields of Testing through KS KDHE Certification No. E-10389

TNI Accreditation for Wastewater, Solid and Hazardous Material Fields of Testing through IL EPA Accreditation No. - 200080

Illinois Department of Public Health Bacterial Analysis in Drinking Water Approved Laboratory, Registry No. 171050

Missouri Department of Natural Resources - Certificate of Approval for Microbiological Laboratory Service - No. 1050

Steve Julien



Certified by: Steve Julien, Project Manager

stephen.julien@pacelabs.com / heather.weekley@pacelabs.com / andrea.kollar@pacelabs.com

Steve Julien, Project Manager, 309.683-1776
Heather Weekley, Project Manager, 309.683-1766
Andrea Kollar, Accounts Associate, 309.683-1795

Report To Name: KATIE CZAPPA Phone: 715-333-2282

Address: W9450 STATE RD. 95 City: MERRILLAN State: WI Zip Code: 54754

Email: KCZAPPA@NEUMANNCO.COM

Additional Report to (Name & Email Address):

Sample Address: 2450 CENTINIAL Sample Description (i.e. Faucet): SPENT ABRASIVE

DATE & TIME OF COLLECTION: 5/25/22 & 8:30 AM / PM {circle}

Relinquished By: PAUL OSLAGER Sampler Signature: Paul Oslager

Reports will be e-mailed. If you require a hard copy of a report be mailed there will be a \$5.00 charge.

TEST	BOTTLE TYPES	COST PER SAMPLE	RUSH	QTY	EXTENDED COST
Total Coliform Bacteria & E. Coli	Coliform Bottle	\$125.00	N/A		
Total Coliform Bacteria, E. Coli & Nitrate	Coliform Bottle & Unpreserved Plastic	\$125.00	N/A		
Total Coliform Bacteria, E Coli, Nitrate & Lead {Government Loan - FHA, VHA, HUD}	Coliform Bottle, Unpreserved Plastic & Nitric Preserved Plastic	\$135.00	N/A		
Nitrate	Unpreserved Plastic	\$125.00	N/A		
Iron, copper, manganese	Nitric Acid Preserved Plastic	\$125.00	*		
Complete Well Water Quality		\$235.00	*		
CWWQ, Total Coliform Bacteria, & Nitrate		\$280.25	*		
BTEX/MTBE - Benzene, Ethyl Benzene, Toluene, Xylene & Methyl tert - butyl ether	3 - 40 ml HCL preserved vials & 2 Trip blank vials	\$135.00	*		
Other: <u>TCLP RCRA 8 METAL TEST</u>					

COLIFORM RESAMPLES FOR UNSATISFACTORY RESULTS WILL BE \$75.00 REQUIRES ORIGINAL WORK ORDER # _____

NORMAL TURNAROUND TIME
2 - 3 Business Days - Coliform Bacteria & Nitrate analysis
10 Business Days - all other analysis

*RUSH ANALYSIS WILL BE SURCHARGED AND MUST CALL TO PREARRANGE TURNAROUND TIME & PRICING

FOR LAB USE ONLY - RECEIVED IN LAB

DATE 5/25/22

TIME 9:00

INITIALS DCW

SAMPLE NUMBER FED 4779-01 DCW

Temp Upon Receipt: 20.4 On Ice: Y/N

TOTAL ANALYTICAL CHARGES \$ _____

SHIPPING AND HANDLING _____
(Fees based on testing requested and shipping location)

TOTAL \$ _____

SAFETY DATA SHEET



Starblast™ XL

Version 7.0 Revision Date: 08/02/2017 SDS Number: 1331991-00033 Date of last issue: 05/17/2017
Date of first issue: 02/27/2017

SECTION 1. IDENTIFICATION

Product name : Starblast™ XL

Manufacturer or supplier's details

Company name of supplier : The Chemours Company TT, LLC.

Address : 1007 Market Street
Wilmington, DE 19899 United States of America (USA)

Telephone : 1-844-773-CHEM (outside the U.S. 1-302-773-1000)

Emergency telephone : Medical emergency: 1-866-595-1473 (outside the U.S. 1-302-773-2000) ; Transport emergency: +1-800-424-9300 (outside the U.S. +1-703-527-3887)

Recommended use of the chemical and restrictions on use

Recommended use : Abrasive blasting
Sand blasting

Restrictions on use : For industrial use only.
Do not use or resell Chemours™ materials in medical applications involving implantation in the human body or contact with internal body fluids or tissues unless agreed to by Seller in a written agreement covering such use. For further information, please contact your Chemours representative.

SECTION 2. HAZARDS IDENTIFICATION

GHS classification in accordance with 29 CFR 1910.1200

Not a hazardous substance or mixture.

GHS label elements

Not a hazardous substance or mixture.

Other hazards

None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

Hazardous ingredients

Chemical name	CAS-No.	Concentration (% w/w)
Zircon	14940-68-2	Trade secret ($\geq 1 - < 5$)
Rutile (TiO ₂)	1317-80-2	Trade secret ($\geq 1 - < 5$)
Quartz	14808-60-7	Trade secret ($\geq 0.1 - < 1$)

SAFETY DATA SHEET



Starblast™ XL

Version 7.0	Revision Date: 08/02/2017	SDS Number: 1331991-00033	Date of last issue: 05/17/2017 Date of first issue: 02/27/2017
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SECTION 4. FIRST AID MEASURES

General advice	: In the case of accident or if you feel unwell, seek medical advice immediately. When symptoms persist or in all cases of doubt seek medical advice.
If inhaled	: If inhaled, remove to fresh air. Get medical attention.
In case of skin contact	: Wash with water and soap as a precaution. Get medical attention if symptoms occur.
In case of eye contact	: Flush eyes with water as a precaution. Get medical attention if irritation develops and persists.
If swallowed	: If swallowed, DO NOT induce vomiting. Get medical attention if symptoms occur. Rinse mouth thoroughly with water.
Most important symptoms and effects, both acute and delayed	: irritant effects
Protection of first-aiders	: First Aid responders should pay attention to self-protection, and use the recommended personal protective equipment when the potential for exposure exists.
Notes to physician	: Treat symptomatically and supportively.

SECTION 5. FIRE-FIGHTING MEASURES

Suitable extinguishing media	: Not applicable Will not burn
Unsuitable extinguishing media	: Not applicable Will not burn
Specific hazards during fire fighting	: Exposure to combustion products may be a hazard to health.
Hazardous combustion products	: Silicon oxides Metal oxides
Specific extinguishing methods	: Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. Use water spray to cool unopened containers. Remove undamaged containers from fire area if it is safe to do so. Evacuate area.
Special protective equipment for fire-fighters	: In the event of fire, wear self-contained breathing apparatus. Use personal protective equipment.

SAFETY DATA SHEET



Starblast™ XL

Version 7.0 Revision Date: 08/02/2017 SDS Number: 1331991-00033 Date of last issue: 05/17/2017
Date of first issue: 02/27/2017

SECTION 6. ACCIDENTAL RELEASE MEASURES

- Personal precautions, protective equipment and emergency procedures : Use personal protective equipment.
Follow safe handling advice and personal protective equipment recommendations.
- Environmental precautions : Discharge into the environment must be avoided.
Prevent further leakage or spillage if safe to do so.
Retain and dispose of contaminated wash water.
Local authorities should be advised if significant spillages cannot be contained.
- Methods and materials for containment and cleaning up : Sweep up or vacuum up spillage and collect in suitable container for disposal.
Local or national regulations may apply to releases and disposal of this material, as well as those materials and items employed in the cleanup of releases. You will need to determine which regulations are applicable.
Sections 13 and 15 of this SDS provide information regarding certain local or national requirements.

SECTION 7. HANDLING AND STORAGE

- Technical measures : See Engineering measures under EXPOSURE CONTROLS/PERSONAL PROTECTION section.
- Local/Total ventilation : Use only with adequate ventilation.
- Advice on safe handling : Do not swallow.
Avoid contact with eyes.
Avoid prolonged or repeated contact with skin.
Handle in accordance with good industrial hygiene and safety practice.
Take care to prevent spills, waste and minimize release to the environment.
- Conditions for safe storage : Keep in properly labeled containers.
Store in accordance with the particular national regulations.
- Materials to avoid : Do not store with the following product types:
Strong oxidizing agents

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Ingredients with workplace control parameters

Ingredients	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
Zircon	14940-68-2	TWA	5 mg/m ³ (Zirconium)	OSHA Z-1
		TWA	5 mg/m ³ (Zirconium)	ACGIH

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		STEL	10 mg/m ³ (Zirconium)	ACGIH
		TWA	5 mg/m ³ (Zirconium)	NIOSH REL
		ST	10 mg/m ³ (Zirconium)	NIOSH REL
Rutile (TiO ₂)	1317-80-2	TWA	10 mg/m ³ (Titanium dioxide)	ACGIH
Quartz	14808-60-7	TWA (respirable)	10 mg/m ³ / %SiO ₂ +2	OSHA Z-3
		TWA (respirable)	250 mppcf / %SiO ₂ +5	OSHA Z-3
		TWA (Respirable fraction)	0.025 mg/m ³ (Silica)	ACGIH
		TWA (Respirable dust)	0.05 mg/m ³ (Silica)	NIOSH REL
		TWA (Respirable dust)	0.05 mg/m ³	OSHA Z-1

These substance(s) are inextricably bound in the product and therefore do not contribute to a dust inhalation hazard.

Quartz

Engineering measures : If using this product as an abrasive blast agent in confined areas, airborne dust levels should be controlled by physical enclosure of the abrasive blasting operation. The enclosure should be exhaust ventilated.

Dust formation may be relevant in the processing of this product. In addition to substance-specific OELs, general limitations of concentrations of particulates in the air at workplaces have to be considered in workplace risk assessment. Relevant limits include: OSHA PEL for Particulates Not Otherwise Regulated of 15 mg/m³ - total dust, 5 mg/m³ - respirable fraction; and ACGIH TWA for Particles (insoluble or poorly soluble) Not Otherwise Specified of 3 mg/m³ - respirable particles, 10 mg/m³ - inhalable particles.

Personal protective equipment

Respiratory protection : General and local exhaust ventilation is recommended to maintain vapor exposures below recommended limits. Where concentrations are above recommended limits or are unknown, appropriate respiratory protection should be worn. Follow OSHA respirator regulations (29 CFR 1910.134) and use NIOSH/MSHA approved respirators. Protection provided by air purifying respirators against exposure to any hazardous chemical is limited. Use a positive pressure air supplied respirator if there is any potential for uncontrolled release, exposure levels are unknown, or any other circumstance where air purifying respirators may not provide adequate protection.

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Hand protection

Material : Chemical-resistant gloves

Remarks : Choose gloves to protect hands against chemicals depending on the concentration specific to place of work. Breakthrough time is not determined for the product. Change gloves often! For special applications, we recommend clarifying the resistance to chemicals of the aforementioned protective gloves with the glove manufacturer. Wash hands before breaks and at the end of workday.

Eye protection : Wear the following personal protective equipment:
Safety glasses

Skin and body protection : Select appropriate protective clothing based on chemical resistance data and an assessment of the local exposure potential.
Skin contact must be avoided by using impervious protective clothing (gloves, aprons, boots, etc).

Hygiene measures : Ensure that eye flushing systems and safety showers are located close to the working place.
When using do not eat, drink or smoke.
Wash contaminated clothing before re-use.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance : Solid form, crystalline

Color : red brown

Odor : odorless

Odor Threshold : No data available

pH : No data available

Melting point/freezing point : 1,370 °C

Initial boiling point and boiling range : No data available

Flash point : does not flash

Evaporation rate : Not applicable

Flammability (solid, gas) : Will not burn

Not expected to form explosive dust-air mixtures.

Upper explosion limit / Upper flammability limit : No data available

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Lower explosion limit / Lower flammability limit	:	No data available
Vapor pressure	:	Not applicable
Relative vapor density	:	Not applicable
Relative density	:	3.7
Solubility(ies)	:	
Water solubility	:	insoluble
Partition coefficient: n-octanol/water	:	Not applicable
Autoignition temperature	:	No data available
Decomposition temperature	:	The substance or mixture is not classified self-reactive.
Viscosity	:	
Viscosity, kinematic	:	Not applicable
Explosive properties	:	Not explosive
Oxidizing properties	:	The substance or mixture is not classified as oxidizing.
Particle size	:	No data available

SECTION 10. STABILITY AND REACTIVITY

Reactivity	:	Not classified as a reactivity hazard.
Chemical stability	:	Stable under normal conditions.
Possibility of hazardous reactions	:	Can react with strong oxidizing agents.
Conditions to avoid	:	None known.
Incompatible materials	:	Oxidizing agents
Hazardous decomposition products	:	No hazardous decomposition products are known.

SECTION 11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Skin contact
Ingestion
Eye contact

Acute toxicity

Not classified based on available information.

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Ingredients:

Zircon:

Acute oral toxicity	: LD50 (Rat): > 5,000 mg/kg Remarks: Based on data from similar materials
Acute inhalation toxicity	: LC50 (Rat): > 4.3 mg/l Exposure time: 4 h Test atmosphere: dust/mist Method: OECD Test Guideline 436 Assessment: The substance or mixture has no acute inhalation toxicity Remarks: Based on data from similar materials

Rutile (TiO₂):

Acute oral toxicity	: LD50 (Rat): > 5,000 mg/kg
Acute inhalation toxicity	: LC50 (Rat): > 6.82 mg/l Exposure time: 4 h Test atmosphere: dust/mist Assessment: The substance or mixture has no acute inhalation toxicity

Quartz:

Acute oral toxicity	: LD50 (Rat): > 5,000 mg/kg
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Skin corrosion/irritation

Not classified based on available information.

Ingredients:

Zircon:

Species: Rabbit
Method: OECD Test Guideline 404
Result: No skin irritation
Remarks: Based on data from similar materials

Rutile (TiO₂):

Species: Rabbit
Result: No skin irritation

Serious eye damage/eye irritation

Not classified based on available information.

Ingredients:

Zircon:

Species: Rabbit
Result: No eye irritation
Remarks: Based on data from similar materials

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Rutile (TiO₂):

Species: Rabbit
Result: No eye irritation

Respiratory or skin sensitization

Skin sensitization

Not classified based on available information.

Respiratory sensitization

Not classified based on available information.

Ingredients:

Zircon:

Test Type: Maximization Test
Routes of exposure: Skin contact
Species: Guinea pig
Result: negative
Remarks: Based on data from similar materials

Rutile (TiO₂):

Test Type: Local lymph node assay (LLNA)
Species: Mouse
Result: negative

Test Type: Buehler Test
Species: Guinea pig
Result: negative

Germ cell mutagenicity

Not classified based on available information.

Ingredients:

Zircon:

Genotoxicity in vitro	: Test Type: Chromosome aberration test in vitro Method: OECD Test Guideline 473 Result: negative Remarks: Based on data from similar materials
Genotoxicity in vivo	: Test Type: Mutagenicity (in vivo mammalian bone-marrow cytogenetic test, chromosomal analysis) Species: Rat Application Route: inhalation (dust/mist/fume) Result: negative Remarks: Based on data from similar materials

Rutile (TiO₂):

Germ cell mutagenicity - Assessment	: Weight of evidence does not support classification as a germ cell mutagen.
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Carcinogenicity

Not classified based on available information.

Ingredients:

Zircon:

Species: Rat
Application Route: Ingestion
Exposure time: 103 weeks
Result: negative
Remarks: Based on data from similar materials

Rutile (TiO₂):

Carcinogenicity - Assessment : Weight of evidence does not support classification as a carcinogen

Quartz:

Species: Humans
Application Route: inhalation (dust/mist/fume)
Result: positive
Remarks: IARC: (International Agency for Research on Cancer)
These substance(s) are inextricably bound in the product and therefore do not contribute to a dust inhalation hazard.

Carcinogenicity - Assessment : Positive evidence from human epidemiological studies (inhalation)

IARC

Group 1: Carcinogenic to humans

Quartz 14808-60-7

Group 2B: Possibly carcinogenic to humans

Rutile (TiO₂) 1317-80-2

OSHA

No component of this product present at levels greater than or equal to 0.1% is on OSHA's list of regulated carcinogens.

NTP

Known to be human carcinogen

Quartz 14808-60-7

Reproductive toxicity

Not classified based on available information.

Ingredients:

Zircon:

Effects on fetal development : Test Type: Embryo-fetal development
Species: Rat
Application Route: Ingestion
Result: negative
Remarks: Based on data from similar materials

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STOT-single exposure

Not classified based on available information.

STOT-repeated exposure

Not classified based on available information.

Ingredients:

Zircon:

Routes of exposure: inhalation (dust/mist/fume)

Assessment: No significant health effects observed in animals at concentrations of 0.2 mg/l/6h/d or less.

Rutile (TiO₂):

Assessment: No significant health effects observed in animals at concentrations of 100 mg/kg bw or less.

Quartz:

Routes of exposure: inhalation (dust/mist/fume)

Target Organs: Lungs

Assessment: Shown to produce significant health effects in animals at concentrations of 0.02 mg/l/6h/d or less.

Repeated dose toxicity

Ingredients:

Zircon:

Species: Rat

NOAEL: > 100.8 mg/m³

Application Route: inhalation (dust/mist/fume)

Exposure time: 30 Days

Remarks: Based on data from similar materials

Rutile (TiO₂):

Species: Rat

NOAEL: 24,000 mg/kg

LOAEL: > 24,000 mg/kg

Application Route: Ingestion

Exposure time: 28 d

Remarks: No significant adverse effects were reported

Based on data from similar materials

Quartz:

Species: Humans

LOAEL: 0.053 mg/m³

Application Route: inhalation (dust/mist/fume)

Remarks: These substance(s) are inextricably bound in the product and therefore do not contribute to a dust inhalation hazard.

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Aspiration toxicity

Not classified based on available information.

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

Ingredients:

Zircon:

Toxicity to fish	: LC50 (Danio rerio (zebra fish)): > 100 mg/l Exposure time: 96 h Method: OECD Test Guideline 203 Remarks: Based on data from similar materials
Toxicity to daphnia and other aquatic invertebrates	: EC50 (Daphnia magna (Water flea)): > 100 mg/l Exposure time: 48 h Remarks: Based on data from similar materials
Toxicity to algae	: NOEC (Chlorella vulgaris (Fresh water algae)): > 200 mg/l Exposure time: 15 d Remarks: Based on data from similar materials

Rutile (TiO₂):

Toxicity to fish	: LC50 (Pimephales promelas (fathead minnow)): > 1,000 mg/l Exposure time: 96 h
Toxicity to daphnia and other aquatic invertebrates	: EC50 (Daphnia magna (Water flea)): > 1,000 mg/l Exposure time: 48 h
Toxicity to algae	: EC50 (Pseudokirchneriella subcapitata (green algae)): > 100 mg/l Exposure time: 72 h Remarks: Based on data from similar materials NOEC (algae): 5,600 mg/l Exposure time: 72 h

Quartz:

Ecotoxicology Assessment

Acute aquatic toxicity	: No toxicity at the limit of solubility.
Chronic aquatic toxicity	: No toxicity at the limit of solubility.

Persistence and degradability

No data available

Bioaccumulative potential

No data available

Mobility in soil

No data available

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Other adverse effects

No data available

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods

Waste from residues : Dispose of in accordance with local regulations.

Contaminated packaging : Empty containers should be taken to an approved waste handling site for recycling or disposal.
If not otherwise specified: Dispose of as unused product.

SECTION 14. TRANSPORT INFORMATION

International Regulations

UNRTDG

Not regulated as a dangerous good

IATA-DGR

Not regulated as a dangerous good

IMDG-Code

Not regulated as a dangerous good

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable for product as supplied.

Domestic regulation

49 CFR

Not regulated as a dangerous good

SECTION 15. REGULATORY INFORMATION

EPCRA - Emergency Planning and Community Right-to-Know

CERCLA Reportable Quantity

This material does not contain any components with a CERCLA RQ.

SARA 304 Extremely Hazardous Substances Reportable Quantity

This material does not contain any components with a section 304 EHS RQ.

SARA 302 Extremely Hazardous Substances Threshold Planning Quantity

This material does not contain any components with a section 302 EHS TPQ.

SARA 311/312 Hazards : No SARA Hazards

SARA 313 : This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

US State Regulations

Pennsylvania Right To Know

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Staurolite	12182-56-8
Ilmenite	12168-52-4
Rutile (TiO ₂)	1317-80-2

California Prop. 65

WARNING: This product can expose you to chemicals including Quartz, Quartz, which is/are known to the State of California to cause cancer. For more information go to www.P65Warnings.ca.gov.

California List of Hazardous Substances

Zircon	14940-68-2
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California Permissible Exposure Limits for Chemical Contaminants

Zircon	14940-68-2
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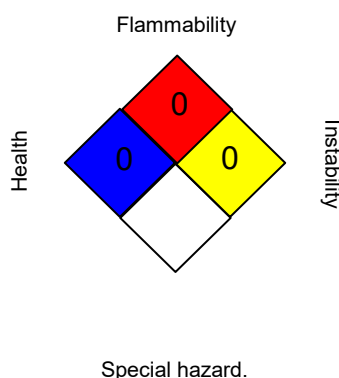
California Regulated Carcinogens

Quartz	14808-60-7
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SECTION 16. OTHER INFORMATION

Further information

NFPA:



HMIS® IV:

HEALTH	/	0
FLAMMABILITY		0
PHYSICAL HAZARD		0

HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. The "*" represents a chronic hazard, while the "/" represents the absence of a chronic hazard.

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Chemours™ and the Chemours Logo are trademarks of The Chemours Company.

Before use read Chemours safety information.

For further information contact the local Chemours office or nominated distributors.

All chemical substances in this material are included on or exempted from listing on the TSCA Inventory of Chemical Substances.

Starblast™ XL contains trace quantities of naturally occurring radioactive uranium and thorium (less than or equal to 10 ppm uranium plus 70 ppm thorium = 80 ppm total U + Th or 0.008 % w/w, equivalent to 11 pCi/g or less), and radium (less than or equal to 11 pCi/g). Naturally Occurring Radioactive Material, namely uranium, thorium, and their decay products, including radium, is commonly referred to as "NORM".

The main radiological hazard from the product is internal exposure from small amounts of alpha particles given off by inhaled dust. Industrial hygiene practices aimed at control of airborne dust can lessen the potential for exposure. Overexposure by inhalation to inhaled dusts containing radioactive uranium, thorium, and radium may cause lung cancer. Low level gamma radiation in

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proximity to bulk or bagged stockpiles of these products may present a lesser, external exposure that can be managed by limiting close proximity for long time periods to large volumes of material. With respect to dust exposure, evaluation and calculation based upon dosimetry (ICRP 68) yield the following guidance to ensure that inhalation intake is less than a 100 mrem/yr public dose reference point for radionuclides.

For a total dust with aerodynamic diameter of 1 μm , the calculated reference dust level is 17.4 mg/m³. For a total dust with aerodynamic diameter of 5 μm , the calculated reference dust level is 27.0 mg/m³. For a total dust with aerodynamic diameter of 10 μm , the calculated reference dust level is 39.8 mg/m³.

The calculations noted above are based upon 8 hr/day TWAs. It should be noted that for these products, the actual particle physical diameter is approximately 1/2 the effective aerodynamic diameter. For these products, as shipped, with essentially no particles as small as calculated above, the highest total dust level can provide a conservative limit. However, if during handling or use the particles are broken down to finer particle sizes, lower levels of total dust would apply. These reference calculations for radionuclides may or may not provide the most conservative recommendation vs. other trace contaminants as compared to specific country dust contaminant limit calculations. It is recommended that the user compare and calculate or measure for specific contaminants vs. reference limits, especially if particles are broken down, to determine the most appropriate standard for protection.

Full text of other abbreviations

ACGIH	:	USA. ACGIH Threshold Limit Values (TLV)
NIOSH REL	:	USA. NIOSH Recommended Exposure Limits
OSHA Z-1	:	USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants
OSHA Z-3	:	USA. Occupational Exposure Limits (OSHA) - Table Z-3 Mineral Dusts
ACGIH / TWA	:	8-hour, time-weighted average
ACGIH / STEL	:	Short-term exposure limit
NIOSH REL / TWA	:	Time-weighted average concentration for up to a 10-hour workday during a 40-hour workweek
NIOSH REL / ST	:	STEL - 15-minute TWA exposure that should not be exceeded at any time during a workday
OSHA Z-1 / TWA	:	8-hour time weighted average
OSHA Z-3 / TWA	:	8-hour time weighted average

AICS - Australian Inventory of Chemical Substances; ASTM - American Society for the Testing of Materials; bw - Body weight; CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DOT - Department of Transportation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; EHS - Extremely Hazardous Substance; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; ERG - Emergency Response Guide; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; HMIS - Hazardous Materials Identification System; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; MSHA - Mine Safety and Health Administration; n.o.s. - Not Oth-

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erwise Specified; NFPA - National Fire Protection Association; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NTP - National Toxicology Program; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; RCRA - Resource Conservation and Recovery Act; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RQ - Reportable Quantity; SADT - Self-Accelerating Decomposition Temperature; SARA - Superfund Amendments and Reauthorization Act; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative

Sources of key data used to compile the Material Safety Data Sheet : Internal technical data, data from raw material SDSs, OECD eChem Portal search results and European Chemicals Agency, <http://echa.europa.eu/>

Revision Date : 08/02/2017

Items where changes have been made to the previous version are highlighted in the body of this document by two vertical lines.

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and shall not be considered a warranty or quality specification of any type. The information provided relates only to the specific material identified at the top of this SDS and may not be valid when the SDS material is used in combination with any other materials or in any process, unless specified in the text. Material users should review the information and recommendations in the specific context of their intended manner of handling, use, processing and storage, including an assessment of the appropriateness of the SDS material in the user's end product, if applicable.

US / Z8

Waste Profile 113864IL Lab Data



Pace Analytical Services, LLC

2231 W. Altorfer Drive

Peoria, IL 61615

(800)752-6651

June 20, 2022

Joseph Kotas
Midwest Generation - Powerton Facility
13082 E Manito Road
Pekin, IL 61554

Dear Joseph Kotas:

Please find enclosed the analytical results for the **1** sample(s) the laboratory received on **6/8/22 12:20 pm** and logged in under work order **FF01685**. All testing is performed according to our current TNI accreditations unless otherwise noted. This report cannot be reproduced, except in full, without the written permission of Pace Analytical Services, LLC.

If you have any questions regarding your report, please contact your project manager. Quality and timely data is of the utmost importance to us.

Pace Analytical Services appreciates the opportunity to provide you with analytical expertise. We are always trying to improve our customer service and we welcome you to contact the Director of Client Services, Lisa Grant, with any feedback you have about your experience with our laboratory at 309-683-1764 or lisa.grant@pacelabs.com.

A handwritten signature in black ink, appearing to read 'Jennifer L. Solomon'.

Jennifer L Solomon
Client Services Manager
(309)683-1721
jennifer.solomon@pacelabs.com

**SAMPLE RECEIPT CHECK LIST**

Items not applicable will be marked as in compliance

Work Order FF01685

NO	Samples received within temperature compliance when applicable
YES	COC present upon sample receipt
NO	COC completed & legible
NO	Sampler name & signature present
YES	Unique sample IDs assigned
YES	Sample collection location recorded
YES	Date & time collected recorded on COC
YES	Relinquished by client signature on COC
YES	COC & labels match
YES	Sample labels are legible
YES	Appropriate bottle(s) received
YES	Sufficient sample volume received
YES	Sample containers received undamaged
NO	Zero headspace, <6 mm present in VOA vials
NO	Trip blank(s) received
YES	All non-field analyses received within holding times
NO	Short hold time analysis
YES	Current PDC COC submitted
YES	Case narrative provided



Case Narrative

FF01685 was received 06/08/22 12:20 at

Cooler Temp C°

Default Cooler 7.0

Sample(s) did not meet regulatory thermal preservation requirement.

Sample(s) were:

1. Received on the same day of collection, above allowable maximum temperature, and not received on ice.

OR

2. Received after the day of collection and were above the allowable maximum temperature.

PLEASE NOTE: Results **MAY** not be acceptable to report to a regulatory authority.

Analyses that do not require thermal preservation are Radiochemistry, Drinking Water Bacteriology, Fluoride, Chloride, Bromide, Mercury 245.1/7470, metals methods 200.7/200.8 and 6010/6020.



ANALYTICAL RESULTS

Sample: FF01685-01
Name: Oil ABS22
Matrix: Solid - Composite

Sampled: 06/07/22 13:30
Received: 06/08/22 12:20
PO #: 4502078955

Parameter	Result	Unit	Qualifier	Prepared	Dilution	MRL	Analyzed	Analyst	Method
General Chemistry - STL									
Flashpoint closed	>200	°F		06/14/22 09:52	1	60	06/14/22 15:33	SJP	SW 1010 - ASTM D93
Paint Filter	Pass		Pass	06/10/22 12:08	1	1.0	06/10/22 12:09	SJP	EPA 9095A
pH	6.79	pH Units	FP	06/10/22 11:58	1		06/10/22 14:03	SJP	EPA 9045D
Phenol	7.8	mg/kg dry		06/13/22 10:21	1	5.7	06/13/22 14:10	BCH	EPA 9065
Solids - total solids (TS)	94	%	H	06/17/22 12:17	1	0.050	06/17/22 13:21	SEC	SM 2540G
Cyanide - reactive	< 1.25	mg/kg	X	06/16/22 07:45	1	1.25	06/16/22 14:18	SEC	SW9014 R0 1996
Reactive Sulfide	< 20.0	mg/kg		06/16/22 07:46	1	20.0	06/17/22 10:20	SEC	SW 9034 & 7.3.4.1
Herbicides - TCLP - STL									
2,4-D	< 2.50	ug/L		06/14/22 07:31	1	2.50	06/15/22 09:06	SCI	SW 8321B
Silvex	< 2.50	ug/L		06/14/22 07:31	1	2.50	06/15/22 09:06	SCI	SW 8321B
Pesticides - TCLP - STL									
gamma-BHC (Lindane)	< 0.0100	mg/L		06/14/22 11:21	1	0.0100	06/14/22 16:34	JMH	EPA 8081A
Chlordane (technical)	< 0.0100	mg/L		06/14/22 11:21	1	0.0100	06/14/22 16:34	JMH	EPA 8081A
Endrin	< 0.0100	mg/L		06/14/22 11:21	1	0.0100	06/14/22 16:34	JMH	EPA 8081A
Heptachlor	< 0.00500	mg/L		06/14/22 11:21	1	0.00500	06/14/22 16:34	JMH	EPA 8081A
Heptachlor epoxide	< 0.00500	mg/L		06/14/22 11:21	1	0.00500	06/14/22 16:34	JMH	EPA 8081A
Methoxychlor	< 0.0100	mg/L		06/14/22 11:21	1	0.0100	06/14/22 16:34	JMH	EPA 8081A
Toxaphene	< 0.0200	mg/L		06/14/22 11:21	1	0.0200	06/14/22 16:34	JMH	EPA 8081A
Polychlorinated Biphenyls (PCBs) - STL									
Aroclor 1016	< 140	ug/kg dry		06/13/22 09:56	1	140	06/14/22 11:46	JMH	EPA 8082
Aroclor 1221	< 140	ug/kg dry		06/13/22 09:56	1	140	06/14/22 11:46	JMH	EPA 8082
Aroclor 1232	< 140	ug/kg dry		06/13/22 09:56	1	140	06/14/22 11:46	JMH	EPA 8082
Aroclor 1242	< 140	ug/kg dry		06/13/22 09:56	1	140	06/14/22 11:46	JMH	EPA 8082
Aroclor 1248	< 140	ug/kg dry		06/13/22 09:56	1	140	06/14/22 11:46	JMH	EPA 8082
Aroclor 1254	< 140	ug/kg dry		06/13/22 09:56	1	140	06/14/22 11:46	JMH	EPA 8082
Aroclor 1260	< 140	ug/kg dry		06/13/22 09:56	1	140	06/14/22 11:46	JMH	EPA 8082
Aroclors - Total	< 140	ug/kg dry		06/13/22 09:56	1	140	06/14/22 11:46	JMH	EPA 8082
Semivolatile Organics - TCLP - STL									
2,4,5-Trichlorophenol	< 100	ug/L		06/14/22 08:00	1	100	06/15/22 17:20	JCB	EPA 8270C



ANALYTICAL RESULTS

Sample: FF01685-01
Name: Oil ABS22
Matrix: Solid - Composite

Sampled: 06/07/22 13:30
Received: 06/08/22 12:20
PO #: 4502078955

Parameter	Result	Unit	Qualifier	Prepared	Dilution	MRL	Analyzed	Analyst	Method
2,4,6-Trichlorophenol	< 100	ug/L		06/14/22 08:00	1	100	06/15/22 17:20	JCB	EPA 8270C
2,4-Dinitrotoluene	< 100	ug/L		06/14/22 08:00	1	100	06/15/22 17:20	JCB	EPA 8270C
2-Methylphenol	< 100	ug/L		06/14/22 08:00	1	100	06/15/22 17:20	JCB	EPA 8270C
3- & 4-Methylphenol	< 100	ug/L		06/14/22 08:00	1	100	06/15/22 17:20	JCB	EPA 8270C
Hexachlorobenzene	< 100	ug/L		06/14/22 08:00	1	100	06/15/22 17:20	JCB	EPA 8270C
Hexachlorobutadiene	< 100	ug/L		06/14/22 08:00	1	100	06/15/22 17:20	JCB	EPA 8270C
Hexachloroethane	< 100	ug/L		06/14/22 08:00	1	100	06/15/22 17:20	JCB	EPA 8270C
Nitrobenzene	< 100	ug/L		06/14/22 08:00	1	100	06/15/22 17:20	JCB	EPA 8270C
Pentachlorophenol	< 100	ug/L		06/14/22 08:00	1	100	06/15/22 17:20	JCB	EPA 8270C
Pyridine	< 100	ug/L		06/14/22 08:00	1	100	06/15/22 17:20	JCB	EPA 8270C

TCLP - STL

Final pH	5.0			06/12/22 11:00	1		06/13/22 10:14	RVL	SW 1311
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TCLP Metals - STL

Final pH	5.02	pH Units		06/12/22 11:00	1		06/13/22 10:14	RVL	SW 1311
Final pH	5.0			06/12/22 11:00	1		06/13/22 10:14	RVL	SW 1311
Mercury	< 0.0002	mg/L		06/13/22 11:03	1	0.0002	06/14/22 11:34	CGB	SW 7470
Arsenic	< 0.500	mg/L		06/13/22 09:37	1	0.500	06/13/22 16:15	KAM	EPA 6010B
Barium	< 0.700	mg/L		06/13/22 09:37	1	0.700	06/13/22 16:15	KAM	EPA 6010B
Cadmium	< 0.0500	mg/L		06/13/22 09:37	1	0.0500	06/13/22 16:15	KAM	EPA 6010B
Chromium	< 0.0500	mg/L		06/13/22 09:37	1	0.0500	06/13/22 16:15	KAM	EPA 6010B
Lead	< 0.400	mg/L		06/13/22 09:37	1	0.400	06/13/22 16:15	KAM	EPA 6010B
Selenium	< 0.400	mg/L		06/13/22 09:37	1	0.400	06/13/22 16:15	KAM	EPA 6010B
Silver	< 0.0500	mg/L		06/13/22 09:37	1	0.0500	06/13/22 16:15	KAM	EPA 6010B

Volatile Organics - TCLP - STL

1,1-Dichloroethene	< 50	ug/L		06/14/22 06:29	10	50	06/14/22 12:59	MBM	EPA 8260B
1,2-Dichloroethane	< 50	ug/L		06/14/22 06:29	10	50	06/14/22 12:59	MBM	EPA 8260B
1,4-Dichlorobenzene	< 50	ug/L		06/14/22 06:29	10	50	06/14/22 12:59	MBM	EPA 8260B
2-Butanone	< 100	ug/L		06/14/22 06:29	10	100	06/14/22 12:59	MBM	EPA 8260B
Benzene	< 50	ug/L		06/14/22 06:29	10	50	06/14/22 12:59	MBM	EPA 8260B
Carbon tetrachloride	< 50	ug/L		06/14/22 06:29	10	50	06/14/22 12:59	MBM	EPA 8260B
Chlorobenzene	< 50	ug/L		06/14/22 06:29	10	50	06/14/22 12:59	MBM	EPA 8260B
Chloroform	< 50	ug/L	ME	06/14/22 06:29	10	50	06/14/22 12:59	MBM	EPA 8260B
Tetrachloroethene	< 50	ug/L		06/14/22 06:29	10	50	06/14/22 12:59	MBM	EPA 8260B
Trichloroethene	< 50	ug/L		06/14/22 06:29	10	50	06/14/22 12:59	MBM	EPA 8260B



Pace Analytical Services, LLC

2231 W. Altorfer Drive

Peoria, IL 61615

(800)752-6651

ANALYTICAL RESULTS

Sample: FF01685-01

Name: Oil ABS22

Matrix: Solid - Composite

Sampled: 06/07/22 13:30

Received: 06/08/22 12:20

PO #: 4502078955

Parameter	Result	Unit	Qualifier	Prepared	Dilution	MRL	Analyzed	Analyst	Method
Vinyl chloride	< 50	ug/L		06/14/22 06:29	10	50	06/14/22 12:59	MBM	EPA 8260B



NOTES

Specifications regarding method revisions, method modifications, and calculations used for analysis are available upon request. Please contact your project manager.

* Not a TNI accredited analyte

Certifications

CHI - McHenry, IL - 4314-A W. Crystal Lake Road, McHenry, IL 60050

TNI Accreditation for Drinking Water and Wastewater Fields of Testing through IL EPA Accreditation No. 100279

Illinois Department of Public Health Bacterial Analysis in Drinking Water Approved Laboratory Registry No. 17556

PIA - Peoria, IL - 2231 W. Altorfer Drive, Peoria, IL 61615

TNI Accreditation for Drinking Water, Wastewater, Solid and Hazardous Material Fields of Testing through IL EPA Accreditation No. 100230

Illinois Department of Public Health Bacterial Analysis in Drinking Water Approved Laboratory Registry No. 17553

Drinking Water Certifications/Accreditations: Iowa (240); Kansas (E-10338); Missouri (870)

Wastewater Certifications/Accreditations: Arkansas (88-0677); Iowa (240); Kansas (E-10338)

Solid and Hazardous Material Certifications/Accreditations: Arkansas (88-0677); Iowa (240); Kansas (E-10338)

SPMO - Springfield, MO - 1805 W Sunset Street, Springfield, MO 65807

USEPA DMR-QA Program

STL - Hazelwood, MO - 944 Anglum Rd, Hazelwood, MO 63042

TNI Accreditation for Wastewater, Solid and Hazardous Material Fields of Testing through KS KDHE Certification No. E-10389

TNI Accreditation for Wastewater, Solid and Hazardous Material Fields of Testing through IL EPA Accreditation No. - 200080

Illinois Department of Public Health Bacterial Analysis in Drinking Water Approved Laboratory, Registry No. 171050

Missouri Department of Natural Resources - Certificate of Approval for Microbiological Laboratory Service - No. 1050

Qualifiers

FP Per analytical methodology this analyte is a field parameter that must be analyzed at time of sample collection to meet hold time requirements. The sample was analyzed in the laboratory as soon as possible after receipt. Data is to be viewed with caution.

H Test performed after the expiration of the appropriate regulatory/advisory maximum allowable hold time.

ME The spiked analyte is beyond the Blank Spike control limit (three standard deviations) but is within the marginal exceedance limit of between three and four standard deviations around the mean.

Pass Pass

X CCV outside upper limit with associated Non-Detect samples.

Certified by: Jennifer L. Solomon, Client Services Manager





REGULATORY PROGRAM (CIRCLE):	NPDES
MORBCA	RCRA
CCDD	TACO: RES OR IND/COMM

CHAIN OF CUSTODY RECORD

STATE WHERE SAMPLE COLLECTED

ALL HIGHLIGHTED AREAS MUST BE COMPLETED BY CLIENT (PLEASE PRINT)

[illegible]

SUBCONTRACT ORDER
Transfer Chain of Custody
Pace Analytical Services, LLC
FF01685

2-22

SENDING LABORATORY

PDC Laboratories, Inc.
2231 W Altorfer Dr
Peoria, IL 61615
(800) 752-6651

RECEIVING LABORATORY

PDC Laboratories, Inc. - Hazelwood
944 Anglum Road
Hazelwood, MO 63042
(314) 432-0550

Sample: FF01685-01
Name: Oil ABS22

Sampled: 06/07/22 13:30
Matrix: Oil
Preservative: Cool <6

Analysis	Due	Expires	Comments
04-Ag 6010 TCLP	06/17/22 16:00	12/04/22 13:30	
04-As 6010 TCLP	06/17/22 16:00	12/04/22 13:30	
04-Ba 6010 TCLP	06/17/22 16:00	12/04/22 13:30	
04-Cd 6010 TCLP	06/17/22 16:00	12/04/22 13:30	
04-Cr 6010 TCLP	06/17/22 16:00	12/04/22 13:30	
04-Environmental Fee - Solid	06/20/22 16:00	10/05/22 13:30	
04-Flashpoint Pensky Marten	06/17/22 16:00	07/05/22 13:30	
04-Hg TCLP	06/17/22 16:00	07/05/22 13:30	
04-M8082	06/17/22 16:00	06/21/22 13:30	
04-M8260 TCLP	06/17/22 16:00	06/21/22 13:30	
04-M8270TCLP	06/17/22 16:00	06/21/22 13:30	
04-Metals Prep charge	06/17/22 16:00	10/05/22 13:30	
04-Paint Filt	06/17/22 16:00	12/04/22 13:30	
04-Pb 6010 TCLP	06/17/22 16:00	12/04/22 13:30	
04-pH	06/17/22 16:00	06/07/22 15:54	
04-Phenols	06/17/22 16:00	07/05/22 13:30	
04-Se 6010 TCLP	06/17/22 16:00	12/04/22 13:30	
04-SW TCLP 1311	06/17/22 16:00	07/05/22 13:30	
04-SW1311-TCLP ORGANICS	06/17/22 16:00	06/21/22 13:30	
04-TCLP_ZHE	06/17/22 16:00	06/21/22 13:30	
06-CN-R	06/17/22 16:00	06/21/22 13:30	
06-M8081 TCLP	06/17/22 16:00	06/21/22 13:30	
06-M8321 TCLP Herbicides	06/17/22 16:00	06/14/22 13:30	
06-S2-R	06/17/22 16:00	06/21/22 13:30	
06-SW 1311 - TCLP Organics	06/20/22 16:00	06/21/22 13:30	

SUBCONTRACT ORDER

Transfer Chain of Custody

Pace Analytical Services, LLC

FF01685

Please email results to Jennifer L Solomon at jennifer.solomon@pacelabs.com

Date Shipped: 6/10/22 Total # of Containers: 1 Sample Origin (State): IL PO #: _____

Turn-Around Time Requested ☒ NORMAL ☐ RUSH Date Results Needed: _____

Relinquished By	Date/Time	Received By	Date/Time	Sample Temperature Upon Receipt	2.6 °C
<i>[Signature]</i>	6/10/22 0643	<i>[Signature]</i>	6/10/22 720	Sample(s) Received on Ice	Y or N
Relinquished By	Date/Time	Received By	Date/Time	Proper Bottles Received in Good Condition	Y or N
<i>[Signature]</i>	6/10/22 1100	<i>[Signature]</i>	6/10/22	Bottles Filled with Adequate Volume	Y or N
Relinquished By	Date/Time	Received By	Date/Time	Samples Received Within Hold Time	Y or N
<i>[Signature]</i>	6/10/22	<i>[Signature]</i>	6/10/22	Date/Time Taken From Sample Bottle	Y or N

Waste Profile 626049IL Lab Data



Pace Analytical Services, LLC

2231 W. Altorfer Drive

Peoria, IL 61615

(800)752-6651

June 14, 2022

Joseph Kotas
Midwest Generation - Powerton Facility
13082 E Manito Road
Pekin, IL 61554

Dear Joseph Kotas:

Please find enclosed the analytical results for the **1** sample(s) the laboratory received on **6/8/22 12:20 pm** and logged in under work order **FF02084**. All testing is performed according to our current TNI accreditations unless otherwise noted. This report cannot be reproduced, except in full, without the written permission of Pace Analytical Services, LLC.

If you have any questions regarding your report, please contact your project manager. Quality and timely data is of the utmost importance to us.

Pace Analytical Services appreciates the opportunity to provide you with analytical expertise . We are always trying to improve our customer service and we welcome you to contact the Director of Client Services, Lisa Grant, with any feedback you have about your experience with our laboratory at 309-683-1764 or lisa.grant@pacelabs.com.

A handwritten signature in black ink, appearing to read 'Jennifer L. Solomon'.

Jennifer L Solomon
Client Services Manager
(309)683-1721
jennifer.solomon@pacelabs.com

**SAMPLE RECEIPT CHECK LIST**

Items not applicable will be marked as in compliance

Work Order FF02084

YES	Samples received within temperature compliance when applicable
YES	COC present upon sample receipt
YES	COC completed & legible
YES	Sampler name & signature present
YES	Unique sample IDs assigned
YES	Sample collection location recorded
YES	Date & time collected recorded on COC
YES	Relinquished by client signature on COC
YES	COC & labels match
YES	Sample labels are legible
YES	Appropriate bottle(s) received
YES	Sufficient sample volume received
YES	Sample containers received undamaged
NO	Zero headspace, <6 mm present in VOA vials
NO	Trip blank(s) received
YES	All non-field analyses received within holding times
NO	Short hold time analysis
YES	Current PDC COC submitted
NO	Case narrative provided



ANALYTICAL RESULTS

Sample: FF02084-01
Name: SAND 6722
Matrix: Solid - Composite

Sampled: 06/07/22 11:30
Received: 06/08/22 12:20
PO #: 4502078955

Parameter	Result	Unit	Qualifier	Prepared	Dilution	MRL	Analyzed	Analyst	Method
<u>TCLP Metals - STL</u>									
Final pH	5.3			06/12/22 11:00	1		06/13/22 10:14	RVL	SW 1311
Mercury	< 0.0002	mg/L		06/13/22 11:03	1	0.0002	06/14/22 11:34	CGB	SW 7470
Arsenic	< 0.500	mg/L		06/13/22 09:37	1	0.500	06/13/22 16:42	KAM	EPA 6010B
Barium	< 0.700	mg/L		06/13/22 09:37	1	0.700	06/13/22 16:42	KAM	EPA 6010B
Cadmium	< 0.0500	mg/L		06/13/22 09:37	1	0.0500	06/13/22 16:42	KAM	EPA 6010B
Chromium	0.188	mg/L		06/13/22 09:37	1	0.0500	06/13/22 16:42	KAM	EPA 6010B
Lead	< 0.400	mg/L		06/13/22 09:37	1	0.400	06/13/22 16:42	KAM	EPA 6010B
Selenium	< 0.400	mg/L		06/13/22 09:37	1	0.400	06/13/22 16:42	KAM	EPA 6010B
Silver	< 0.0500	mg/L		06/13/22 09:37	1	0.0500	06/13/22 16:42	KAM	EPA 6010B



NOTES

Specifications regarding method revisions, method modifications, and calculations used for analysis are available upon request. Please contact your project manager.

* Not a TNI accredited analyte

Certifications

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SPMO - Springfield, MO - 1805 W Sunset Street, Springfield, MO 65807

USEPA DMR-QA Program

STL - Hazelwood, MO - 944 Anglum Rd, Hazelwood, MO 63042

TNI Accreditation for Wastewater, Solid and Hazardous Material Fields of Testing through KS KDHE Certification No. E-10389

TNI Accreditation for Wastewater, Solid and Hazardous Material Fields of Testing through IL EPA Accreditation No. - 200080

Illinois Department of Public Health Bacterial Analysis in Drinking Water Approved Laboratory, Registry No. 171050

Missouri Department of Natural Resources - Certificate of Approval for Microbiological Laboratory Service - No. 1050



Certified by: Jennifer L. Solomon, Client Services Manager



REGULATORY PROGRAM (CIRCLE):	NPDES
MORBCA	RCRA
CCDD	TACO: RES OR IND/COMM

CHAIN OF CUSTODY RECORD

STATE WHERE SAMPLE COLLECTED

ALL HIGHLIGHTED AREAS MUST BE COMPLETED BY CLIENT (PLEASE PRINT)

ANALYSIS REQUESTED

PURCHASE ORDER #

PROJECT LOCATION

PROJECT NUMBER

CLIENT

ADDRESS

CITY

STATE

ZIP

PHONE NUMBER

E-MAIL

DATE SHIPPED

SAMPLER (PLEASE PRINT)

SAMPLER'S SIGNATURE

CONTACT PERSON

SAMPLE DESCRIPTION

(UNIQUE DESCRIPTION AS IT WILL APPEAR ON THE ANALYTICAL REPORT)

MATRIX TYPES:

WW- WASTEWATER
DW- DRINKING WATER
GW- GROUND WATER
WWSL- SLUDGE
WWSL- LIQUID
LCL- LEACHATE
OIL- OIL
SO- SOIL
SOL- SOLID

BOTTLE COUNT

MATRIX TYPE

SAMPLE TYPE

DATE COLLECTED

TIME COLLECTED

DATE

TIME

PRES CODE

CLIENT PROVIDED

DATE

TIME

DATE

TIME

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SUBCONTRACT ORDER
Transfer Chain of Custody
Pace Analytical Services, LLC
FF02084

2-32

SENDING LABORATORY

PDC Laboratories, Inc.
2231 W Altorfer Dr
Peoria, IL 61615
(800) 752-6651

RECEIVING LABORATORY

PDC Laboratories, Inc. - Hazelwood
944 Anglum Road
Hazelwood, MO 63042
(314) 432-0550

Sample: FF02084-01
Name: SAND 6722

Sampled: 06/07/22 11:30
Matrix: Solid
Preservative: Cool <6

Analysis	Due	Expires	Comments
04-Ag 6010 TCLP	06/17/22 16:00	12/04/22 11:30	
04-As 6010 TCLP	06/17/22 16:00	12/04/22 11:30	
04-Ba 6010 TCLP	06/17/22 16:00	12/04/22 11:30	
04-Cd 6010 TCLP	06/17/22 16:00	12/04/22 11:30	
04-Cr 6010 TCLP	06/17/22 16:00	12/04/22 11:30	
04-Environmental Fee - Solid	06/20/22 16:00	10/05/22 11:30	
04-Hg TCLP	06/17/22 16:00	07/05/22 11:30	
04-Metals Prep charge	06/17/22 16:00	10/05/22 11:30	
04-Pb 6010 TCLP	06/17/22 16:00	12/04/22 11:30	
04-Se 6010 TCLP	06/17/22 16:00	12/04/22 11:30	
04-SW TCLP 1311	06/17/22 16:00	07/05/22 11:30	

Please email results to Jennifer L Solomon at jennifer.solomon@pacelabs.com

Date Shipped: 6/10/22 Total # of Containers: 1 Sample Origin (State): IL PO #: _____

Turn-Around Time Requested ☒ NORMAL ☐ RUSH Date Results Needed: _____

Relinquished By	Date/Time	Received By	Date/Time	Sample Temperature Upon Receipt	2.6 °C
<i>[Signature]</i>	6/10/22 0643	<i>[Signature]</i>	6/10/22 720	Sample(s) Received on Ice	Y or N
Relinquished By	Date/Time	Received By	Date/Time	Proper Bottles Received in Good Condition	Y or N
<i>[Signature]</i>	6/10/22 1100	<i>[Signature]</i>	6/10/22 410	Bottles Filled with Adequate Volume	Y or N
				Samples Received Within Hold Time	Y or N
				Date/Time Taken From Sample Bottle	Y or N

Waste Profile 632939IL Lab Data

June 20, 2022

Dan Erni
Waste Management, Inc. - Five Oaks RDF
890 E. 1500 North Road
Taylorville, IL 62568
TEL: (217) 824-3942
FAX: (217) 287-7731



Illinois	100226
Kansas	E-10374
Louisiana	05002
Louisiana	05003
Oklahoma	9978

RE: Peoria Hauling - Code R

WorkOrder: 22060526

Dear Dan Erni:

TEKLAB, INC received 1 sample on 6/8/2022 9:50:00 AM for the analysis presented in the following report.

Samples are analyzed on an as received basis unless otherwise requested and documented. The sample results contained in this report relate only to the requested analytes of interest as directed on the chain of custody. NELAP accredited fields of testing are indicated by the letters NELAP under the Certification column. Unless otherwise documented within this report, Teklab Inc. analyzes samples utilizing the most current methods in compliance with 40CFR. All tests are performed in the Collinsville, IL laboratory unless otherwise noted in the Case Narrative.

All quality control criteria applicable to the test methods employed for this project have been satisfactorily met and are in accordance with NELAP except where noted. The following report shall not be reproduced, except in full, without the written approval of Teklab, Inc.

If you have any questions regarding these tests results, please feel free to call.

Sincerely,



Elizabeth A. Hurley
Director of Customer Service
(618)344-1004 ex 33
ehurley@teklabinc.com



Report Contents

<http://www.teklabinc.com/>

Client: Waste Management, Inc. - Five Oaks RDF

Work Order: 22060526

Client Project: Peoria Hauling - Code R

Report Date: 20-Jun-22

This reporting package includes the following:

Cover Letter	1
Report Contents	2
Definitions	3
Case Narrative	5
Accreditations	6
Laboratory Results	7
Receiving Check List	9
Chain of Custody	Appended

Client: Waste Management, Inc. - Five Oaks RDF**Work Order:** 22060526**Client Project:** Peoria Hauling - Code R**Report Date:** 20-Jun-22**Abbr Definition**

* Analytes on report marked with an asterisk are not NELAP accredited

CCV Continuing calibration verification is a check of a standard to determine the state of calibration of an instrument between recalibration.

CRQL A Client Requested Quantitation Limit is a reporting limit that varies according to customer request. The CRQL may not be less than the MDL.

DF Dilution factor is the dilution performed during analysis only and does not take into account any dilutions made during sample preparation. The reported result is final and includes all dilution factors.

DNI Did not ignite

DUP Laboratory duplicate is a replicate aliquot prepared under the same laboratory conditions and independently analyzed to obtain a measure of precision.

ICV Initial calibration verification is a check of a standard to determine the state of calibration of an instrument before sample analysis is initiated.

IDPH IL Dept. of Public Health

LCS Laboratory control sample is a sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes and analyzed exactly like a sample to establish intra-laboratory or analyst specific precision and bias or to assess the performance of all or a portion of the measurement system.

LCSD Laboratory control sample duplicate is a replicate laboratory control sample that is prepared and analyzed in order to determine the precision of the approved test method. The acceptable recovery range is listed in the QC Package (provided upon request).

MBLK Method blank is a sample of a matrix similar to the batch of associated sample (when available) that is free from the analytes of interest and is processed simultaneously with and under the same conditions as samples through all steps of the analytical procedures, and in which no target analytes or interferences should present at concentrations that impact the analytical results for sample analyses.

MDL "The method detection limit is defined as the minimum measured concentration of a substance that can be reported with 99% confidence that the measured concentration is distinguishable from method blank results."

MS Matrix spike is an aliquot of matrix fortified (spiked) with known quantities of specific analytes that is subjected to the entire analytical procedures in order to determine the effect of the matrix on an approved test method's recovery system. The acceptable recovery range is listed in the QC Package (provided upon request).

MSD Matrix spike duplicate means a replicate matrix spike that is prepared and analyzed in order to determine the precision of the approved test method. The acceptable recovery range is listed in the QC Package (provided upon request).

MW Molecular weight

NC Data is not acceptable for compliance purposes

ND Not Detected at the Reporting Limit

NELAP NELAP Accredited

PQL Practical quantitation limit means the lowest level that can be reliably achieved within specified limits of precision and accuracy during routine laboratory operation conditions.

RL The reporting limit the lowest level that the data is displayed in the final report. The reporting limit may vary according to customer request or sample dilution. The reporting limit may not be less than the MDL.

RPD Relative percent difference is a calculated difference between two recoveries (ie. MS/MSD). The acceptable recovery limit is listed in the QC Package (provided upon request).

SPK The spike is a known mass of target analyte added to a blank sample or sub-sample; used to determine recovery deficiency or for other quality control purposes.

Surr Surrogates are compounds which are similar to the analytes of interest in chemical composition and behavior in the analytical process, but which are not normally found in environmental samples.

TIC Tentatively identified compound: Analytes tentatively identified in the sample by using a library search. Only results not in the calibration standard will be reported as tentatively identified compounds. Results for tentatively identified compounds that are not present in the calibration standard, but are assigned a specific chemical name based upon the library search, are calculated using total peak areas from reconstructed ion chromatograms and a response factor of one. The nearest Internal Standard is used for the calculation. The results of any TICs must be considered estimated, and are flagged with a "T". If the estimated result is above the calibration range it is flagged "ET"

TNTC Too numerous to count (> 200 CFU)

Client: Waste Management, Inc. - Five Oaks RDF

Work Order: 22060526

Client Project: Peoria Hauling - Code R

Report Date: 20-Jun-22

Qualifiers

- | | |
|---|--|
| # - Unknown hydrocarbon | B - Analyte detected in associated Method Blank |
| C - RL shown is a Client Requested Quantitation Limit | E - Value above quantitation range |
| H - Holding times exceeded | I - Associated internal standard was outside method criteria |
| J - Analyte detected below quantitation limits | M - Manual Integration used to determine area response |
| ND - Not Detected at the Reporting Limit | R - RPD outside accepted recovery limits |
| S - Spike Recovery outside recovery limits | T - TIC(Tentatively identified compound) |
| X - Value exceeds Maximum Contaminant Level | |



Case Narrative

<http://www.teklabinc.com/>

Client: Waste Management, Inc. - Five Oaks RDF

Work Order: 22060526

Client Project: Peoria Hauling - Code R

Report Date: 20-Jun-22

Cooler Receipt Temp: 3.2 °C

Locations

Collinsville

Address 5445 Horseshoe Lake Road
Collinsville, IL 62234-7425
Phone (618) 344-1004
Fax (618) 344-1005
Email jhriley@teklabinc.com

Collinsville Air

Address 5445 Horseshoe Lake Road
Collinsville, IL 62234-7425
Phone (618) 344-1004
Fax (618) 344-1005
Email EHurley@teklabinc.com

Springfield

Address 3920 Pintail Dr
Springfield, IL 62711-9415
Phone (217) 698-1004
Fax (217) 698-1005
Email KKlostermann@teklabinc.com

Chicago

Address 1319 Butterfield Rd.
Downers Grove, IL 60515
Phone (630) 324-6855
Fax
Email arenner@teklabinc.com

Kansas City

Address 8421 Nieman Road
Lenexa, KS 66214
Phone (913) 541-1998
Fax (913) 541-1998
Email jhriley@teklabinc.com

Client: Waste Management, Inc. - Five Oaks RDF**Work Order:** 22060526**Client Project:** Peoria Hauling - Code R**Report Date:** 20-Jun-22

State	Dept	Cert #	NELAP	Exp Date	Lab
Illinois	IEPA	100226	NELAP	1/31/2023	Collinsville
Kansas	KDHE	E-10374	NELAP	4/30/2023	Collinsville
Louisiana	LDEQ	05002	NELAP	6/30/2023	Collinsville
Louisiana	LDEQ	05003	NELAP	6/30/2023	Collinsville
Oklahoma	ODEQ	9978	NELAP	8/31/2022	Collinsville
Arkansas	ADEQ	88-0966		3/14/2023	Collinsville
Illinois	IDPH	17584		5/31/2023	Collinsville
Iowa	IDNR	430		6/1/2024	Collinsville
Kentucky	UST	0073		1/31/2023	Collinsville
Missouri	MDNR	00930		5/31/2023	Collinsville
Missouri	MDNR	930		1/31/2025	Collinsville



Laboratory Results

<http://www.teklabinc.com/>

Client: Waste Management, Inc. - Five Oaks RDF

Work Order: 22060526

Client Project: Peoria Hauling - Code R

Report Date: 20-Jun-22

Lab ID: 22060526-001

Client Sample ID: Resin Beads and Soil

Matrix: SOLID

Collection Date: 06/07/2022 7:20

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
ASTM D92								
Ignitability, Open Cup	*	60		>200	°F	1	06/09/2022 14:46	R313023
STANDARD METHODS 2540 G 1997, 2011								
Total Solids	*	0.1		79.2	%	1	06/09/2022 12:48	R313057
SW-846 9012A (TOTAL)								
Cyanide	NELAP	0.25		< 0.25	mg/Kg	1	06/13/2022 13:57	193550
SW-846 9034 (REACTIVE)								
Sulfide, Reactive	NELAP	9.8		< 9.8	mg/Kg	1	06/09/2022 13:50	193514
SW-846 9045C								
pH (1:1)	NELAP	1.00		3.24		1	06/09/2022 12:13	R313020
<i>Results are estimated due to sample result being outside the calibration range.</i>								
SW-846 9065								
Phenols	NELAP	2.76		3.44	mg/Kg	1	06/09/2022 10:06	193464
SW-846 9095								
Paint Filter	NELAP	0		Pass	Pass/Fail	1	06/10/2022 14:44	R313103
SW-846 1311, 3010A, 6010B, METALS IN TCLP EXTRACT BY ICP								
Arsenic	NELAP	0.250		< 0.250	mg/L	1	06/15/2022 9:22	193183
Barium	NELAP	0.450		< 0.450	mg/L	1	06/15/2022 9:22	193183
Cadmium	NELAP	0.0200		< 0.0200	mg/L	1	06/15/2022 9:22	193183
Chromium	NELAP	0.100		< 0.100	mg/L	1	06/15/2022 9:22	193183
Lead	NELAP	0.400		< 0.400	mg/L	1	06/15/2022 9:22	193183
Selenium	NELAP	0.500		< 0.500	mg/L	1	06/15/2022 9:22	193183
Silver	NELAP	0.0700		< 0.0700	mg/L	1	06/15/2022 9:22	193183
SW-846 1311, 7470A IN TCLP EXTRACT								
Mercury	NELAP	0.00020		< 0.00020	mg/L	1	06/14/2022 17:15	193529
<i>LCS recovered outside upper control limits for Hg. Sample results are below the reporting limit. Data is reportable per the TNI Standard.</i>								
SW-846 1311, 3510C, 8270C, SEMI-VOLATILES IN TCLP EXTRACT BY GC/MS								
2,4,5-Trichlorophenol	NELAP	0.100		ND	mg/L	1	06/16/2022 14:15	193664
2,4,6-Trichlorophenol	NELAP	0.100		ND	mg/L	1	06/16/2022 14:15	193664
2,4-Dinitrotoluene	NELAP	0.100		ND	mg/L	1	06/16/2022 14:15	193664
Hexachlorobenzene	NELAP	0.100		ND	mg/L	1	06/16/2022 14:15	193664
Hexachlorobutadiene	NELAP	0.100		ND	mg/L	1	06/16/2022 14:15	193664
Hexachloroethane	NELAP	0.100		ND	mg/L	1	06/16/2022 14:15	193664
m,p-Cresol	NELAP	0.100		ND	mg/L	1	06/16/2022 14:15	193664
Nitrobenzene	NELAP	0.100		ND	mg/L	1	06/16/2022 14:15	193664
o-Cresol	NELAP	0.100		ND	mg/L	1	06/16/2022 14:15	193664
Pentachlorophenol	NELAP	0.200		ND	mg/L	1	06/16/2022 14:15	193664
Pyridine	NELAP	0.200		ND	mg/L	1	06/16/2022 14:15	193664
Cresols, Total	NELAP	0.200		ND	mg/L	1	06/16/2022 14:15	193664
Surr: 2,4,6-Tribromophenol	*	48-128		80.1	%REC	1	06/16/2022 14:15	193664
Surr: 2-Fluorobiphenyl	*	56.6-113		67.1	%REC	1	06/16/2022 14:15	193664
Surr: 2-Fluorophenol	*	37.7-88.4		53.4	%REC	1	06/16/2022 14:15	193664
Surr: Nitrobenzene-d5	*	47.6-116		64.2	%REC	1	06/16/2022 14:15	193664
Surr: Phenol-d5	*	30-67.1		38.7	%REC	1	06/16/2022 14:15	193664
Surr: p-Terphenyl-d14	*	41-131		80.2	%REC	1	06/16/2022 14:15	193664

LCS recovered outside upper control limits for Pyridine. Sample results are below the reporting limit. Data is reportable per the TNI Standard.

Client: Waste Management, Inc. - Five Oaks RDF

Work Order: 22060526

Client Project: Peoria Hauling - Code R

Report Date: 20-Jun-22

Lab ID: 22060526-001

Client Sample ID: Resin Beads and Soil

Matrix: SOLID

Collection Date: 06/07/2022 7:20

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
SW-846 3550B, 8082, POLYCHLORINATED BIPHENYLS (PCBS) BY GC/ECD								
Aroclor 1016	NELAP	36.8		ND	µg/Kg	1	06/10/2022 23:06	193471
Aroclor 1221	NELAP	36.8		ND	µg/Kg	1	06/10/2022 23:06	193471
Aroclor 1232	NELAP	36.8		ND	µg/Kg	1	06/10/2022 23:06	193471
Aroclor 1242	NELAP	36.8		ND	µg/Kg	1	06/10/2022 23:06	193471
Aroclor 1248	NELAP	36.8		ND	µg/Kg	1	06/10/2022 23:06	193471
Aroclor 1254	NELAP	36.8		262	µg/Kg	1	06/10/2022 23:06	193471
Aroclor 1260	NELAP	36.8		46.2	µg/Kg	1	06/10/2022 23:06	193471
Surr: Decachlorobiphenyl	*	40.2-131		73.9	%REC	1	06/10/2022 11:37	193471
Surr: Tetrachloro-meta-xylene	*	39-122		75.5	%REC	1	06/10/2022 11:37	193471
SW-846 1311, 5030, 8260B, VOLATILE ORGANIC COMPOUNDS IN TCLP EXTRACT BY GC/MS								
1,1-Dichloroethene	NELAP	0.200		ND	mg/L	100	06/14/2022 14:03	193632
1,2-Dichloroethane	NELAP	0.200		ND	mg/L	100	06/14/2022 14:03	193632
1,4-Dichlorobenzene	NELAP	0.200		ND	mg/L	100	06/14/2022 14:03	193632
2-Butanone	NELAP	1.00		ND	mg/L	100	06/14/2022 14:03	193632
Benzene	NELAP	0.050		ND	mg/L	100	06/14/2022 14:03	193632
Carbon tetrachloride	NELAP	0.200		ND	mg/L	100	06/14/2022 14:03	193632
Chlorobenzene	NELAP	0.200		ND	mg/L	100	06/14/2022 14:03	193632
Chloroform	NELAP	0.200		ND	mg/L	100	06/14/2022 14:03	193632
Tetrachloroethene	NELAP	0.050		ND	mg/L	100	06/14/2022 14:03	193632
Trichloroethene	NELAP	0.200		ND	mg/L	100	06/14/2022 14:03	193632
Vinyl chloride	NELAP	0.200		ND	mg/L	100	06/14/2022 14:03	193632
Surr: 1,2-Dichloroethane-d4	*	80-120		95.4	%REC	100	06/14/2022 14:03	193632
Surr: 4-Bromofluorobenzene	*	80-120		99.8	%REC	100	06/14/2022 14:03	193632
Surr: Dibromofluoromethane	*	80-120		103.0	%REC	100	06/14/2022 14:03	193632
Surr: Toluene-d8	*	80-120		94.4	%REC	100	06/14/2022 14:03	193632
SW-846 9023								
Extractable Organic Halogens (EOX)	NELAP	46.3		< 46.3	mg/Kg	1	06/15/2022 10:53	193642



Receiving Check List

<http://www.teklabinc.com/>

Client: Waste Management, Inc. - Five Oaks RDF

Work Order: 22060526

Client Project: Peoria Hauling - Code R

Report Date: 20-Jun-22

Carrier: UPS

Received By: RMW

Completed by:

On:

08-Jun-22

Ellie Hopkins

Reviewed by:

On:

08-Jun-22

Elizabeth A. Hurley

Elizabeth A. Hurley

Pages to follow:

Chain of custody

1

Extra pages included

0

Shipping container/cooler in good condition?

Yes ☒

No ☐

Not Present ☐

Temp °C 3.2

Type of thermal preservation?

None ☐

Ice ☒

Blue Ice ☐

Dry Ice ☐

Chain of custody present?

Yes ☒

No ☐

Chain of custody signed when relinquished and received?

Yes ☒

No ☐

Chain of custody agrees with sample labels?

Yes ☒

No ☐

Samples in proper container/bottle?

Yes ☒

No ☐

Sample containers intact?

Yes ☒

No ☐

Sufficient sample volume for indicated test?

Yes ☒

No ☐

All samples received within holding time?

Yes ☒

No ☐

Reported field parameters measured:

Field ☐

Lab ☐

NA ☒

Container/Temp Blank temperature in compliance?

Yes ☒

No ☐

When thermal preservation is required, samples are compliant with a temperature between 0.1°C - 6.0°C, or when samples are received on ice the same day as collected.

Water – at least one vial per sample has zero headspace?

Yes ☐

No ☐

No VOA vials ☒

Water - TOX containers have zero headspace?

Yes ☐

No ☐

No TOX containers ☒

Water - pH acceptable upon receipt?

Yes ☐

No ☐

NA ☒

NPDES/CWA TCN interferences checked/treated in the field?

Yes ☐

No ☐

NA ☒

Any No responses must be detailed below or on the COC.

Samples requiring pH should be analyzed as soon as possible after collection. Samples submitted for pH analysis are analyzed as soon as practicable upon arrival at the laboratory. - ehurley - 6/8/2022 1:31:13 PM

pg. 1 of 1 Work order # 22060526

Client: Waste Management, Inc. - Five Oaks RDF		Samples on: ☒ ICE ☐ BLUE ICE ☐ NO ICE ☐ °C LTG# <u>B</u>	
Address: 890 E. 1500 North Road		Preserved in: ☐ LAB ☐ FIELD <u>FOR LAB USE ONLY</u>	
City / State / Zip Taylorville, IL 62568		Lab Notes <u>CET 8-8-22</u>	
Contact: Dan Erni	Phone: (217) 824-3942	Client Comments:	
E-Mail: deml@wm.com	Fax: (217) 287-7731		

Are these samples known to be hazardous? ☐ Yes ☒ No

Are there any required reporting limits to be met on the requested analysis?. If yes, please provide limits in the comment section. ☐ Yes ☒ No

[illegible]

BottleOrder: 72646



CET 6-8-22

Waste Profile 632843IL SDSs and Lab Data

Safety Data Sheet KLA-GARD[†]

1. Identification of the substance/preparation and of the Company/undertaking

1.1 Product identifier

Product name KLA-GARD[†]
Product code MI11168

1.2 Relevant identified uses of the substance or mixture and uses advised against

Recommended Use Shale control agent.

Uses advised against Consumer use

1.3 Details of the supplier of the safety data sheet

Supplier

Schlumberger Drilling Services Sdn Bhd (SDSSB)
Suite 13.2, West Wing, Rohas Perkasa
9 Jalan P. Ramlee
50250 Kuala Lumpur
MISDS@slb.com

1.4 Emergency Telephone Number

Emergency telephone - (24 Hour) Australia +61 2801 44558, Asia Pacific +65 3158 1074, China +86 10 5100 3039, Europe +44 (0) 1235 239 670, Middle East and Africa +44 (0) 1235 239 671, New Zealand +64 9929 1483, USA 001 281 561 1600

2. Hazards identification

2.1 Classification of the substance or mixture

Classification according to (EC) No. 1272/2008

Health hazards Not classified

Environmental hazards Not classified

Physical Hazards Not classified

2.2 Label elements

Signal word

None

Hazard statements

This product is not classified as hazardous therefore no (H) hazard statements assigned.

Precautionary Statements - EU (§28, 1272/2008)

This product is not classified as hazardous therefore has no (P) precautionary statements assigned.

Classification according to EU Directives 67/548/EEC or 1999/45/EC

Indication of danger

Not classified

Contains

For the full text of the R-phrases and H-Statements mentioned in this Section, see Section 16.

2.3 Other data

Not classified as PBT/vPvB by current EU criteria

Australian statement of hazardous/dangerous nature

Classified as Non-Hazardous according to the criteria of NOHSC.
NON-HAZARDOUS SUBSTANCE. NON-DANGEROUS GOODS.

3. Composition/information on ingredients

3.1 Substances

Not Applicable

3.2 Mixtures

Component	EC-No.	CAS-No	Weight % - range	Classification (67/548)	Classification (Reg. 1272/2008)	REACH registration number
	Listed	Proprietary	60-100	-	Not classified	No data available

Comments

The product contains other ingredients which do not contribute to the overall classification.

4. First aid measures

4.1 First-Aid Measures

Inhalation

If inhaled, remove from area to fresh air. Get medical attention if respiratory irritation develops or if breathing becomes difficult.

Ingestion

Rinse mouth. Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person. Get medical attention if symptoms occur.

Skin contact

Wash off immediately with soap and plenty of water removing all contaminated clothes and shoes. Get medical attention immediately if symptoms occur.

Eye contact

Remove contact lenses. Promptly wash eyes with lots of water while lifting eye lids. Continue to rinse for at least 15 minutes. Get medical attention if any discomfort continues.

4.2 Most important symptoms and effects, both acute and delayed

General advice The severity of the symptoms described will vary dependant of the concentration and the length of exposure. If adverse symptoms develop, the casualty should be transferred to hospital as soon as possible.

Main symptoms

Inhalation Please see Section 11. Toxicological Information for further information.

Ingestion Please see Section 11. Toxicological Information for further information.

Skin contact Please see Section 11. Toxicological Information for further information.

Eye contact Please see Section 11. Toxicological Information for further information.

4.3 Indication of any immediate medical attention and special treatment needed

Notes to physician Treat symptomatically.

5. Fire-fighting measures

5.1 Extinguishing media

Suitable extinguishing media

Use extinguishing media appropriate for surrounding material.

Extinguishing media which shall not be used for safety reasons

None known.

5.2 Special hazards arising from the substance or mixture

Unusual fire and explosion hazards

None known.

Hazardous combustion products

Fire or high temperatures create: Carbon oxides (COx), Ammonia, Nitrogen oxides (NOx).

5.3 Advice for firefighters

Special protective equipment for fire-fighters

As in any fire, wear self-contained breathing apparatus and full protective gear.

Special Fire-Fighting Procedures

Containers close to fire should be removed immediately or cooled with water.

6. Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Use personal protective equipment. See also section 8.

6.2 Environmental precautions

The product should not be allowed to enter drains, water courses or the soil.

Environmental exposure controls

Avoid release to the environment. Local authorities should be advised if significant spillages cannot be contained.

6.3 Methods and materials for containment and cleaning up

Methods for containment

Prevent further leakage or spillage if safe to do so. Dike far ahead of liquid spill for later disposal.

Methods for cleaning up

Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal. After cleaning, flush away traces with water.

6.4 Reference to other sections

See section 13 for more information.

7. Handling and storage

7.1 Precautions for safe handling

Handling

Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin and eyes. Do not breathe vapors or spray mist. Avoid spills and splashing during use. Ammonia or amines may be released when this component is heated or exposed to high pH.

Hygiene measures

Use good work and personal hygiene practices to avoid exposure. When using do not smoke, eat or drink. Wash hands before eating, drinking or smoking. Remove contaminated clothing.

7.2 Conditions for safe storage, including any incompatibilities

Technical measures/precautions Ensure adequate ventilation. Keep airborne concentrations below exposure limits.

Storage precautions Keep containers tightly closed in a dry, cool and well-ventilated place. Avoid heat, flames and other sources of ignition. Avoid contact with: Oxidizing agents Acids Bases

Storage class Chemical storage.

Packaging material Use specially constructed containers only

7.3 Specific end uses

See Section 1.2.

8. Exposure controls/personal protection

8.1 Control parameters

Exposure limits No biological limit allocated

Component	EU OEL	Austria	Australia	Denmark
	Not determined	Not determined	Not determined	Not determined

Component	Malaysia	France	Germany	Hungary
	Not determined	Not determined	Not determined	Not determined
Component	New Zealand	Italy	Netherlands	Norway
	Not Determined	Not determined	Not determined	Not determined
Component	Poland	Portugal	Romania	Russia
	Not determined	Not determined	Not determined	10 mg/m ³ MAC
Component	Spain	Switzerland	Turkey	UK
	Not determined	Not determined	Not determined	Not determined

8.2 Exposure controls

All chemical Personal Protective Equipment (PPE) should be selected based on an assessment of both the chemical hazard present and the risk of exposure to those hazards. The PPE recommendations below are based on an assessment of the chemical hazards associated with this product. Where this product is used in a mixture with other products or fluids, additional hazards may be created and as such further assessment of risk may be required. The risk of exposure and need of respiratory protection will vary from workplace to workplace and should be assessed by the user in each situation.

Engineering measures to reduce exposure

Ensure adequate ventilation. Mechanical ventilation or local exhaust ventilation is required.

Personal protective equipment

Eye protection

It is good practice to wear goggles when handling any chemical. Tightly fitting safety goggles.

Hand protection

Repeated or prolonged contact: Use protective gloves made of: Nitrile, Neoprene, Be aware that liquid may penetrate the gloves. Frequent change is advisable.

Respiratory protection

No personal respiratory protective equipment normally required, In case of insufficient ventilation wear suitable respiratory equipment, Chemical respirator with ammonia and amines cartridge (K/P2, green filter).

Skin and body protection

Wear suitable protective clothing, Eye wash and emergency shower must be available at the work place.

Hygiene measures

Wash hands before eating, drinking or smoking, Remove and wash contaminated clothing before re-use.



9. Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical state	Liquid
Appearance	No information available
Odor	Amine
Color	Clear - Blue

Odor threshold Not applicable

<u>Property</u>	<u>Values</u>	<u>Remarks</u>
pH	No information available	
pH @ dilution	6.5 - 8.5	(1% solution)
Melting/freezing point		
Boiling point/range	125 °C	
Flash point	> 98 °C / > 210 °F	Closed cup
Evaporation rate (BuAc =1)		
Flammability (solid, gas)	Not Applicable	
Flammability Limits in Air		
Upper flammability limit	Not applicable	
Lower flammability limit	Not applicable	
Vapor pressure	No information available	
Vapor density	No information available	
Specific gravity	1.1 sg	16 (68°F) °C
Bulk density	No information available	
Relative density	No information available	
Water solubility	Soluble in water	
Solubility in other solvents	No information available	
Autoignition temperature	No information available	
Decomposition temperature	No information available	
Kinematic viscosity		
Dynamic viscosity	No information available	
Log Pow	Not determined	

Explosive properties Not Applicable
Oxidizing properties None known.

9.2 Other information

Pour point	No information available
Molecular weight	No information available
VOC content(%)	None
Density	No information available

10. Stability and reactivity

10.1 Reactivity

No specific reactivity hazards associated with this product.

10.2 Chemical stability

Stable under normal temperature conditions and recommended use.

10.3 Possibility of Hazardous Reactions

Hazardous polymerization

Hazardous polymerization does not occur.

10.4 Conditions to avoid

Avoid heat, flames and other sources of ignition. Ammonia or amines may be released when this component is heated or exposed to high pH.

10.5 Incompatible materials

Oxidizing agents. Acids. Bases.

10.6 Hazardous decomposition products

See also section 5.2.

11. Toxicological information

11.1 Information on toxicological effects

Acute toxicity

Inhalation	Inhalation of vapors in high concentration may cause irritation of respiratory system.
Eye contact	May cause slight irritation.
Skin contact	Prolonged contact may cause redness and irritation.
Ingestion	Ingestion may cause stomach discomfort.
Unknown acute toxicity	Not Applicable.

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
	= 3400 mg/kg (Rat)	No data available	No data available

Sensitization	This product does not contain any components suspected to be sensitizing.
Mutagenic effects	This product does not contain any known or suspected mutagens.
Carcinogenicity	This product does not contain any known or suspected carcinogens.

Reproductive toxicity	None known.
Routes of exposure	None known.
Routes of entry	No route of entry noted.
Specific target organ toxicity (single exposure)	Not classified
Specific target organ toxicity (repeated exposure)	Not classified.
Aspiration hazard	No hazard from product as supplied.

12. Ecological information

12.1 Toxicity

The product component(s) are not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

Toxicity to algae

This product is not considered toxic to algae.

Toxicity to fish

This product is not considered toxic to fish.

Toxicity to daphnia and other aquatic invertebrates

This product is not considered toxic to invertebrates.

Component	Toxicity to fish	Toxicity to algae	Toxicity to daphnia and other aquatic invertebrates
	10000 mg/L LC50 (Leuciscus idus) = 96 h	500 mg/L EC50 (Desmodesmus subspicatus) = 72 h	320 mg/L EC50 (Daphnia magna) = 48 h 500 mg/L EC50 (Daphnia magna Straus) = 48 h

12.2 Persistence and degradability

No product level data available.

12.3 Bioaccumulative potential

No data available.

12.4 Mobility in soil

Mobility

Soluble in water.

12.5 Results of PBT and vPvB assessment

Not classified as PBT/vPvB by current EU criteria.

12.6 Other adverse effects.

None known.

13. Disposal considerations

13.1 Waste treatment methods

Waste from residues / unused products

Dispose of in accordance with local regulations.

Contaminated packaging

Empty containers should be taken for local recycling, recovery or waste disposal.

EWC Waste disposal No.

According to the European Waste Catalogue, Waste Codes are not product specific, but application specific. Waste codes should be assigned by the user based on the application for which the product was used. The following Waste Codes are only suggestions: EWC waste disposal No: 07 01 99.

14. Transport information

The product is not covered by international regulation on the transport of dangerous goods (IMDG, IATA, ADR/RID/ADG).

14.1 UN Number

Not regulated

14.2 Proper shipping name

Not regulated

14.3 Hazard class(es)

ADR/RID/ADN/ADG Hazard class Not regulated

IMDG Hazard class Not regulated

ICAO Hazard class/division Not regulated

14.4 Packing group

ADR/RID/ADN/ADG Packing group Not regulated

IMDG Packing group Not regulated

ICAO Packing group Not regulated

14.5 Environmental hazard

No

14.6 Special precautions

Not Applicable

14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Please contact MISDS@slb.com for info regarding transport in Bulk.

15. Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

Germany, Water Endangering Classes (VwVwS) Water endangering class = 1

Australian Standard for the Uniform Scheduling of Drugs and Poisons

No Poisons Schedule number allocated

New Zealand hazard classification Not classified.

HSNO approval no. Not required.

Group number Not required.

Commission Regulation (EU) No 453/2010 of 20 May 2010 amending Regulation (EC) No 1907/2006 of the European Parliament and of the Council on the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH). Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), establishing a European Chemicals Agency, amending Directive 1999/EC and repealing Council Regulation (EEC) No 793/93 and Commission Regulation (EC) No 1488/94 as well as Council Directive 76/769/EEC and Commission Directives 91/155/EEC, 93/67/EEC, 93/105/EC and 2000/21/EC, including amendments.

This safety data sheet complies with the requirements of Regulation (EC) No. 1272/2008.

National Code of Practice for the Preparation of Material Safety Data Sheets 2nd Edition [NOHSC: 2011 (2003)].

National Occupational Health and Safety Commission's Approved Criteria for Classifying Hazardous Substances [NOHSC:1008 (2004) 3rd Edition].

National Occupational Health and Safety Commission's Exposure Standards for Atmospheric Contaminants in the occupational Environment [NOHSC:1003 (1995)].

Safe Work Australia.

Standard for the Uniform Scheduling of Drugs and Poisons (SUSDP).

Not classified as Dangerous Goods by the criteria of the Australian Dangerous Goods Code (ADG Code) for transport by road or rail.

Occupational Safety and Health (Classification, Labelling and Safety Data Sheet of Hazardous Chemicals) Regulations 2013 [P.U.(A) 310/2013] (CLASS Regulations)

The Industry Code of Practice on Chemical Classification and Hazard Communication 2014 [P.U. (B) 128/2014] (ICOP) International inventories

USA (TSCA)	Complies
European Union (EINECS and ELINCS)	Complies
Canada (DSL)	Complies
Philippines (PICCS)	Complies
Japan (ENCS)	Complies
China (IECSC)	Complies
Australia (AICS)	Complies
Korean (KECL)	Complies
New Zealand (NZIoC)	Complies

Contact REACH@miswaco.slb.com for REACH information.

15.2 Chemical Safety Report

No information available

16. Other information

Prepared by	Global Regulatory Compliance - Chemicals (GRC - Chemicals) , Anne Karin (Anka) Fosse
Supersedes date	31/Jul/2013
Revision date	24/Sep/2014
Version	4
The following sections have been revised:	This SDS have been made in a new database and therefore a new layout. No changes with regard to classification have been made, Updated according to GHS/CLP.

Text of R phrases mentioned in Section 3

Not classified

Full text of H-Statements referred to under sections 2 and 3

This product is not classified as hazardous therefore no (H) hazard statements assigned.

Not classified

†A mark of M-I L.L.C.

Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

Safety data sheet number PID1046

Version 4

Revision date 28/Oct/2016

Supersedes date 14/Feb/2016



Safety Data Sheet MAX GEL*

1. Identification of the substance/preparation and of the Company/undertaking

1.1 Product identifier

Product name MAX GEL*
Product code PID1046

1.2 Relevant identified uses of the substance or mixture and uses advised against

Recommended Use Viscosifier.

Uses advised against Consumer use

1.3 Details of the supplier of the safety data sheet

Supplier

M-I Drilling Fluids UK Limited
C/O Schlumberger
Enterprise Drive
Westhill Industrial Estate
Westhill, AB32 6TQ
Scotland UK
+47 51577424

MISDS@slb.com

1.4 Emergency Telephone Number

Emergency telephone - (24 Hour) Australia +61 2801 44558, Asia Pacific +65 3158 1074, China +86 10 5100 3039, Europe +44 (0) 1235 239 670, Middle East and Africa +44 (0) 1235 239 671, New Zealand +64 9929 1483, USA 001 281 561 1600

Norway	Poison information centre: +47 22 59 13 00
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2. Hazards identification

2.1 Classification of the substance or mixture

Regulation (EC) No. 1272/2008

Health hazards Not classified

Environmental hazards Not classified

Physical Hazards Not classified

2.2 Label elements

Signal word

None

Hazard statements

This product is not classified as hazardous therefore no (H) hazard statements assigned.

Precautionary Statements - EU (§28, 1272/2008)

This product is not classified as hazardous therefore has no (P) precautionary statements assigned.

Contains

Crystalline silica (impurity)

Silica - crystalline, tridymite

2.3 Other data

Not classified as PBT/vPvB by current EU criteria

Australian statement of hazardous/dangerous nature

Classified as Non-Hazardous according to the criteria of NOHSC.
NON-HAZARDOUS SUBSTANCE. NON-DANGEROUS GOODS.

3. Composition/information on ingredients

3.1 Substances

Component	EC-No.	CAS-No	Weight % - range	Classification (67/548)	Classification (Reg. 1272/2008)	REACH registration number
Crystalline silica (impurity)	238-878-4	14808-60-7	1-5	Xn; R48/20	STOT Rep. 2 - H373	Exempt
Silica - crystalline, tridymite	239-487-1	15468-32-3	0-1	Xn; R48/20	STOT RE 2 (H373)	No data available

3.2 Mixtures

Not Applicable

Comments

Naturally occurring mineral.

The product contains other ingredients which do not contribute to the overall classification.

This product contains a small quantity of quartz, crystalline silica. Prolonged and repeated exposure to concentrations of crystalline silica exceeding the workplace exposure limit (WEL) may lead to chronic lung disease such as silicosis. IARC Monographs, Vol. 68, 1997, concludes that there is sufficient evidence that inhaled crystalline silica in the form of quartz or cristobalite from occupational sources causes cancer in humans. IARC Classification Group I.

4. First aid measures

4.1 First Aid

Inhalation	If inhaled, remove from area to fresh air. Get medical attention if respiratory irritation develops or if breathing becomes difficult.
Ingestion	Rinse mouth. Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person. Get medical attention if symptoms occur.
Skin contact	Wash skin thoroughly with soap and water. Get medical attention if irritation persists.
Eye contact	Promptly wash eyes with lots of water while lifting eye lids. Remove contact lenses. Get medical attention if any discomfort continues.

4.2 Most important symptoms and effects, both acute and delayed

General advice	The severity of the symptoms described will vary dependant of the concentration and the length of exposure. If adverse symptoms develop, the casualty should be transferred to hospital as soon as possible.
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Main symptoms

Inhalation	Please see Section 11. Toxicological Information for further information.
Ingestion	Please see Section 11. Toxicological Information for further information.
Skin contact	Please see Section 11. Toxicological Information for further information.
Eye contact	Please see Section 11. Toxicological Information for further information.

4.3 Indication of any immediate medical attention and special treatment needed

Notes to physician	Treat symptomatically.
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5. Fire-fighting measures

5.1 Extinguishing media

Suitable extinguishing media

Use extinguishing media appropriate for surrounding material.

Extinguishing media which shall not be used for safety reasons

None known.

5.2 Special hazards arising from the substance or mixture

Unusual fire and explosion hazards

None known.

Hazardous combustion products

Thermal decomposition can lead to release of irritating gases and vapours

5.3 Advice for firefighters

Special protective equipment for fire-fighters

As in any fire, wear self-contained breathing apparatus and full protective gear.

Special Fire-Fighting Procedures

Containers close to fire should be removed immediately or cooled with water.

6. Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Use personal protective equipment. See also section 8.

6.2 Environmental precautions

Disposal should be in accordance with applicable regional, national and local laws and regulations. Large spills released to the environment may disturb the natural chemical balance of soil/fresh water.

Environmental exposure controls

Avoid release to the environment. Local authorities should be advised if significant spillages cannot be contained.

6.3 Methods and materials for containment and cleaning up

Methods for containment

Prevent further leakage or spillage if safe to do so. Cover powder spill with plastic sheet or tarp to minimise spreading.

Methods for cleaning up

Sweep up and shovel into suitable containers for disposal. After cleaning, flush away traces with water.

6.4 Reference to other sections

See section 13 for more information.

7. Handling and storage

7.1 Precautions for safe handling

Handling

Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin and eyes. Avoid dust formation.

Hygiene measures

Use good work and personal hygiene practices to avoid exposure. When using do not smoke, eat or drink. Wash hands and face before breaks and immediately after handling the product. Remove contaminated clothing.

7.2 Conditions for safe storage, including any incompatibilities

Technical measures/precautions	Ensure adequate ventilation. Keep airborne concentrations below exposure limits.
Storage precautions	Keep containers tightly closed in a dry, cool and well-ventilated place. Protect from moisture.
Storage class	Chemical storage.
Packaging material	Use specially constructed containers only.

7.3 Specific end uses

See Section 1.2.

8. Exposure controls/personal protection

8.1 Control parameters

Exposure Limits No biological limit allocated

Component	EU OEL - Third List	Austria	Australia	Denmark
Crystalline silica (impurity)	Not determined	0.15 mg/m ³ TWA alveolar dust, respirable fraction	0.1mg/m ³ TWArespirable dust	0.1mg/m ³
Silica - crystalline, tridymite	Not determined	0.15 mg/m ³ TWA alveolar dust, respirable fraction	0.1mg/m ³ TWArespirable dust	0.15 mg/m ³ TWA 0.05 mg/m ³ TWA K
Component	Malaysia	France	Germany	Hungary
Crystalline silica (impurity)	0.1 mg/m ³ TWA	0.1 mg/m ³ TWA	Not determined	0.15mg/m ³ TWA
Silica - crystalline, tridymite	0.05 mg/m ³ TWA	0.05 mg/m ³ TWA	Not determined	0.15mg/m ³ TWA
Component	New Zealand	Italy	Netherlands	Norway
Crystalline silica (impurity)	0.2 mg/m ³ TWA Known or presumed human carcinogen	Not determined	0.075 mg/m ³	0.3 mg/m ³ TWA total dust 0.1 mg/m ³ TWA respirable dust 0.3 mg/m ³ STEL total dust 0.1 mg/m ³ STEL respirable dust Carcinogen
Silica - crystalline, tridymite	0.1 mg/m ³ TWA Known or presumed human carcinogen	Not determined	0.075 mg/m ³	0.15 mg/m ³ TWA total dust 0.05 mg/m ³ TWA respirable dust 0.45 mg/m ³ STEL total dust 0.15 mg/m ³ STEL respirable dust Carcinogen
Component	Poland	Portugal	Romania	Russia
Crystalline silica (impurity)	2 mg/m ³ TWA NDS >50% free crystalline silica 0.3 mg/m ³ TWA NDS >50% free crystalline silica 4.0 mg/m ³ TWA NDS 2% to 50% free crystalline silica 1.0 mg/m ³ TWA NDS 2% to 50% free crystalline silica	0.025 mg/m ³ TWA respirable fraction	0.1mg/m ³ TWArespirable fraction, dust	3 mg/m ³ STEL 1123 disintegration aerosol, total mass of aerosols 3 mg/m ³ STEL 1124 total mass of aerosols 1 mg/m ³ TWA 1123 1 mg/m ³ TWA 1124 Fibrogenic substance glass;regulated under Quartz 1123, 1124
Silica - crystalline, tridymite	2 mg/m ³ TWA NDS >50% free crystalline silica 0.3 mg/m ³ TWA NDS >50% free crystalline silica 4.0 mg/m ³ TWA NDS 2% to 50% free crystalline silica 1.0 mg/m ³ TWA NDS 2% to 50% free crystalline silica	Not determined	0.05mg/m ³ TWArespirabl e fraction, dust	3 mg/m ³ STEL 1124 total mass of aerosols 1 mg/m ³ TWA 1124 Fibrogenic substance 1124
Component	Spain	Switzerland	Turkey	UK

Crystalline silica (impurity)	0.05 mg/m ³ TWA VLA-ED	0.15 mg/m ³ TWA MAK	Not determined	Not determined
Silica - crystalline, tridymite	Not determined	0.15 mg/m ³ TWA MAK	Not determined	Not determined

8.2 Exposure controls

All chemical Personal Protective Equipment (PPE) should be selected based on an assessment of both the chemical hazard present and the risk of exposure to those hazards. The PPE recommendations below are based on an assessment of the chemical hazards associated with this product. Where this product is used in a mixture with other products or fluids, additional hazards may be created and as such further assessment of risk may be required. The risk of exposure and need of respiratory protection will vary from workplace to workplace and should be assessed by the user in each situation.

Engineering measures to reduce exposure

Ensure adequate ventilation. Mechanical ventilation or local exhaust ventilation is required.

Personal protective equipment

Eye protection

Safety glasses with side-shields. Tightly fitting safety goggles.

Hand protection

Repeated or prolonged contact: Use protective gloves made of: Neoprene, Nitrile, Frequent change is advisable.

Respiratory protection

No personal respiratory protective equipment normally required, In case of insufficient ventilation wear suitable respiratory equipment, Suitable mask with particle filter P3 (European Norm 143), At work in confined or poorly ventilated spaces, respiratory protection with air supply must be used.

Skin and body protection

Wear suitable protective clothing, Eye wash and emergency shower must be available at the work place.

Hygiene measures

Wash hands before eating, drinking or smoking, Remove and wash contaminated clothing before re-use.



9. Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical state	Solid
Appearance	Powder
Odour	Odourless
Colour	Tan - Grey
Odour threshold	Not applicable

Property	Values	Remarks
pH	No information available	
pH @ dilution	No information available	
Melting/freezing point	No information available	
Boiling point/range	No information available	
Flash point	No information available	
Evaporation rate	No information available	

Flammability (solid, gas)	Not Applicable	
Flammability Limits in Air		Not applicable
Upper flammability limit	Not applicable	
Lower flammability limit	Not applicable	
Vapour pressure	No information available	
Vapour density	No information available	
Specific gravity	No information available	
Bulk density	No information available	
Relative density	2.3 - 2.5 sg	@ 20 °C.
Water solubility	Insoluble in water	
Solubility in other solvents	No information available	
Autoignition temperature	No information available	
Decomposition temperature	No information available	
Kinematic viscosity	No information available	
Dynamic viscosity	No information available	
Log Pow	No information available	
Explosive properties	Not Applicable	
Oxidising properties	None known	
9.2 Other information		
Pour point	No information available	
Molecular weight	No information available	
VOC content(%)	None	
Density	No information available	

10. Stability and reactivity

10.1 Reactivity

No specific reactivity hazards associated with this product.

10.2 Chemical stability

Stable under normal temperature conditions and recommended use.

10.3 Possibility of Hazardous Reactions

Hazardous polymerisation

Hazardous polymerisation does not occur.

10.4 Conditions to avoid

Avoid dust formation. Protect from moisture.

10.5 Incompatible materials

No materials to be especially mentioned.

10.6 Hazardous decomposition products

See Section 5.

11. Toxicological information

11.1 Information on toxicological effects

Acute toxicity

Product information This product contains a small quantity of quartz, crystalline silica. Prolonged and repeated exposure to concentrations of crystalline silica exceeding the workplace exposure limit (WEL) may lead to chronic lung disease such as silicosis.

Inhalation Inhalation of dust in high concentration may cause irritation of respiratory system.

Eye contact Dust may cause mechanical irritation.

Skin contact Prolonged contact may cause redness and irritation.

Ingestion Ingestion may cause stomach discomfort.

Unknown acute toxicity Not Applicable.

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
Crystalline silica (impurity)	= 500 mg/kg (Rat)	No data available	No data available
Silica - crystalline, tridymite	No data available	No data available	No data available

Sensitisation This product does not contain any components suspected to be sensitizing.

Mutagenic effects This product does not contain any known or suspected mutagens.

Carcinogenicity Crystalline silica dust is listed by IARC in Group 1 as known to cause lung cancer in humans, if inhaled.

Reproductive toxicity This product does not contain any known or suspected reproductive hazards.

Routes of exposure Inhalation.

Routes of entry Inhalation.

Specific target organ toxicity (single exposure) Not classified

Specific target organ toxicity (repeated exposure) Not classified.

Aspiration hazard Not Applicable.

12. Ecological information

12.1 Toxicity

The product component(s) are not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment. Listed on PLONOR list of OSPAR

Toxicity to algae

This product is not considered toxic to algae.

Toxicity to fish

This product is not considered toxic to fish.

Toxicity to daphnia and other aquatic invertebrates

This product is not considered toxic to invertebrates.

Component	Toxicity to fish	Toxicity to algae	Toxicity to daphnia and other aquatic invertebrates
Crystalline silica (impurity)	No information available	No information available	No information available
Silica - crystalline, tridymite	No information available	No information available	No information available

12.2 Persistence and degradability

Not Applicable - Inorganic chemical.

12.3 Bioaccumulative potential

Not Applicable - Inorganic chemical.

12.4 Mobility in soil

Mobility

Insoluble in water.

12.5 Results of PBT and vPvB assessment

Not classified as PBT/vPvB by current EU criteria.

12.6 Other adverse effects.

None known.

13. Disposal considerations

13.1 Waste treatment methods

Waste from residues / unused products	Dispose of in accordance with local regulations.
Contaminated packaging	Empty containers should be transported/delivered using a registered waste carrier for local recycling or waste disposal.
EWC waste disposal No.	According to the European Waste Catalogue, Waste Codes are not product specific, but application specific. Waste codes should be assigned by the user based on the application for which the product was used. The following Waste Codes are only suggestions: EWC waste disposal No: 01 05 99 - wastes not otherwise specified

14. Transport information

14.1 UN number

Not regulated

14.2 Proper shipping name

The product is not covered by international regulation on the transport of dangerous goods

14.3. Hazard class(es)

ADR/RID/ADN/ADG Hazard class	Not regulated
IMDG Hazard class	Not regulated
ICAO Hazard class/division	Not regulated

14.4 Packing group

ADR/RID/ADN/ADG Packing Group	Not regulated
IMDG Packing group	Not regulated
ICAO Packing group	Not regulated

14.5 Environmental hazard

No

14.6 Special precautions

Not Applicable

14.7 Transport in bulk according to Annex I/II of MARPOL 73/78 and the IBC Code

Please contact MISDS@slb.com for info regarding transport in Bulk.

15. Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

Germany, Water Endangering Classes (VwVwS)	Water endangering class = 1
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Australian Standard for the Uniform Scheduling of Drugs and Poisons
No Poisons Schedule number allocated

New Zealand hazard classification Not classified.

HSNO approval no. Not required.

Group number Not required.

Commission Regulation (EU) No 453/2010 of 20 May 2010 amending Regulation (EC) No 1907/2006 of the European Parliament and of the Council on the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH). Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), establishing a European Chemicals Agency, amending Directive 1999/EC and repealing Council Regulation (EEC) No 793/93 and Commission Regulation (EC) No 1488/94 as well as Council Directive 76/769/EEC and Commission Directives 91/155/EEC, 93/67/EEC, 93/105/EC and 2000/21/EC, including amendments.

This safety data sheet complies with the requirements of Regulation (EC) No. 1272/2008.

National Code of Practice for the Preparation of Material Safety Data Sheets 2nd Edition [NOHSC: 2011 (2003)].

National Occupational Health and Safety Commission's Approved Criteria for Classifying Hazardous Substances [NOHSC:1008 (2004) 3rd Edition].

National Occupational Health and Safety Commission's Exposure Standards for Atmospheric Contaminants in the occupational Environment [NOHSC:1003 (1995)].

Safe Work Australia.

Standard for the Uniform Scheduling of Drugs and Poisons (SUSDP).

Not classified as Dangerous Goods by the criteria of the Australian Dangerous Goods Code (ADG Code) for transport by road or rail.

International inventories

USA, Toxic Substances Control Act inventory (TSCA)	Complies
European Union - EINECS and ELINCS	Complies
Canada (DSL)	Complies.
Philippines (PICCS)	Complies
Inventory - Japan - Existing and New Chemicals list	Complies
China (IECSC)	Complies
Australia (AICS)	Complies
Korea (KECL)	Complies
Inventory - New Zealand - Inventory of Chemicals (NZIoC)	Complies

Contact REACH@miswaco.slb.com for REACH information.

15.2 Chemical Safety Report

No information available

16. Other information

Prepared by	Global Regulatory Compliance - Chemicals (GRC - Chemicals) , Anne Karin (Anka) Fosse
Supersedes date	14/Feb/2016
Revision date	28/Oct/2016
Version	4
The following sections have been revised:	3,, 5,, 6,, 7,, 9,, 10,, 11,, 16, No changes with regard to classification have been made.

Text of R phrases mentioned in Section 3

R48/20 - Harmful: danger of serious damage to health by prolonged exposure through inhalation

Full text of H-Statements referred to under sections 2 and 3

This product is not classified as hazardous therefore no (H) hazard statements assigned.

H373 - May cause damage to organs through prolonged or repeated exposure if inhaled

*A mark of M-I L.L.C., a Schlumberger Company

Disclaimer

The information contained herein is considered in good faith as reliable of the date issued and is based upon on measurements, tests or data derived from supplier's own study or furnished by others. In providing this SDS information, Supplier makes no express or implied warranties as to the information or product; merchantability or fitness of purpose; any express or implied warranty; or non-infringement of intellectual property rights; and supplier assumes no responsibility for any direct, special or consequential damages, results obtained, or the activities of others. To the maximum extent permitted by law, supplier's warranty obligations and buyer's sole remedies are as stated in separate agreement between the parties.

Safety Data Sheet

SUPER ABSORBENT POLYMER

Revision date : 2015/02/20

Version: 1.0

Page: 1/8

(30594013/SDS_GEN_US/EN)

1. Identification

Product identifier used on the label

SUPER ABSORBENT POLYMER

Recommended use of the chemical and restriction on use

Recommended use*: Absorbent

Suitable for use in industrial sector: chemical industry

* The "Recommended use identified for this product is provided solely to comply with a US Federal requirement and is not part of the seller's published specification. The terms of this Safety Data Sheet (SDS) do not create or infer any warranty, express or implied, including by incorporation into or reference in the seller's sales agreement.

Details of the supplier of the safety data sheet

Company:

Martlin Distributing, LLC
550 Washington Avenue
Carnegie, Pennsylvania 15106

Telephone: 412-505-0061

Emergency telephone number

Michael Dorsch
724-316-8780

Other means of identification

Chemical family: polyacrylic acid, sodium salt, crosslinked

2. Hazards Identification

According to Regulation 2012 OSHA Hazard Communication Standard; 29 CFR Part 1910.1200

Classification of the product

Combustible Dust Combustible Dust (1) Combustible Dust

Label elements

Signal Word:
Warning

Hazard Statement:

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May form combustible dust concentration in air.

Hazards not otherwise classified

No specific dangers known, if the regulations/notes for storage and handling are considered.

3. Composition / Information on Ingredients

According to Regulation 2012 OSHA Hazard Communication Standard: 29 CFR Part 1910.1200

This product does not contain any components classified as hazardous under the referenced *regulation*.

4. First-Aid Measures

Description of first aid measures

General advice:

Remove contaminated clothing.

If inhaled:

Keep patient calm, remove to fresh air, seek medical attention. Assist in breathing if necessary.

If on skin:

Wash thoroughly with soap and water. If irritation develops, seek medical attention.

If in eyes:

Wash affected eyes for at least 15 minutes under running water with eyelids held open. Seek medical attention.

If swallowed:

Immediately rinse mouth and then drink plenty of water, do not induce vomiting, seek medical attention. Never induce vomiting or give anything by mouth if the victim is unconscious or having convulsions.

Most important symptoms and effects, both acute and delayed

Symptoms: No significant symptoms are expected due to the non-classification of the product.

Indication of any immediate medical attention and special treatment needed

Note to physician

Treatment:

Treat according to symptoms (decontamination, vital functions), no known specific antidote.

5. Fire-Fighting Measures

Extinguishing media

Suitable extinguishing media:

water spray, dry powder, foam

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Unsuitable extinguishing media for safety reasons:
carbon dioxide, water jet

Additional information:
Avoid whirling up the material/product because of the danger of dust explosion.

Special hazards arising from the substance or mixture
Hazards during fire-fighting:
Burning produces harmful and toxic fumes.

Advice for fire-fighters
Protective equipment for fire-fighting:
Firefighters should be equipped with self-contained breathing apparatus and turn-out gear.

Further information:
Dusty conditions may ignite explosively in the presence of an ignition source causing flash fire.

6. Accidental release measures

Further accidental release measures:

Avoid dispersal of dust in the air (i.e., clearing dust surfaces with compressed air). Avoid the formation and build-up of dust - danger of dust explosion. Dust in sufficient concentration can result in an explosive mixture in air. Handle to minimize dusting and eliminate open flame and other sources of ignition.

Personal precautions, protective equipment and emergency procedures
Breathing protection required. Avoid dust formation.

Environmental precautions
Do not discharge into drains/surface waters/groundwater.

Methods and material for containment and cleaning up
Nonsparking tools should be used.

7. Handling and Storage

Precautions for safe handling
Handle in accordance with good industrial hygiene and safety practice.

Breathing must be protected when large quantities are decanted without local exhaust ventilation.
Avoid the formation and deposition of dust.

Protection against fire and explosion:
Avoid dust formation. Dust in sufficient concentration can result in an explosive mixture in air. Handle to minimize dusting and eliminate open flame and other sources of ignition. Routine housekeeping should be instituted to ensure that dusts do not accumulate on surfaces. Dry powders can build static electricity charges when subjected to the friction of transfer and mixing operations. Provide adequate precautions, such as electrical grounding and bonding, or inert atmospheres. Refer to NFPA 654, Standard for the Prevention of Fire and Dust Explosions from the Manufacturing, Processing, and Handling of Combustible Particulate Solids (2013 Edition) for safe handling.

Conditions for safe storage, including any incompatibilities

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Further information on storage conditions: Keep container dry because product takes up the humidity of air.

Keep container tightly closed and dry; store in a cool place.

The packed product is not damaged by low temperatures or by frost.

The packed product will not be damaged by high temperatures.

8. Exposure Controls/Personal Protection

Advice on system design:

It is recommended that all dust control equipment such as local exhaust ventilation and material transport systems involved in handling of this product contain explosion relief vents or an explosion suppression system or an oxygen deficient environment. Ensure that dust-handling systems (such as exhaust ducts, dust collectors, vessels, and processing equipment) are designed in a manner to prevent the escape of dust into the work area (i.e., there is no leakage from the equipment). Use only appropriately classified electrical equipment and powered industrial trucks.

Personal protective equipment

Respiratory protection:

Breathing protection if dusts are formed.

Hand protection:

Chemical resistant protective gloves

Eye protection:

Tightly fitting safety goggles (chemical goggles).

General safety and hygiene measures:

Handle in accordance with good industrial hygiene and safety practice. Wearing of closed work clothing is recommended.

9. Physical and Chemical Properties

Form:	granules	
Odour:	odourless	
Colour:	white	
pH value:	approx. 6.0	
glass transition temperature:	approx. 140 °C	(approx. 101.3 hPa) The substance / product decomposes. The product has not been tested.
		No data available.
Vapour pressure:		No data available.
Thermal decomposition:	No decomposition	n if used as directed.
Viscosity, kinematic:		No data available.
Solubility in water:		insoluble, only capable of swelling

10. Stability and Reactivity

Reactivity

Minimum ignition energy:

> 999 mJ

Chemical stability

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The product is stable if stored and handled as prescribed/indicated.

Possibility of hazardous reactions

The product is not a dust explosion risk as supplied; however the build-up of fine dust can lead to a risk of dust explosions.

The product is stable if stored and handled as prescribed/indicated.

Conditions to avoid

Avoid humidity.

Incompatible materials

water

Hazardous decomposition products

Decomposition products:

Hazardous decomposition products: carbon monoxide, carbon dioxide, hydrocarbons

Thermal decomposition:

No decomposition if used as directed.

11. Toxicological information

Primary routes of exposure

Routes of entry for solids and liquids are ingestion and inhalation, but may include eye or skin contact. Routes of entry for gases include inhalation and eye contact. Skin contact may be a route of entry for liquefied gases.

Acute Toxicity/Effects

Acute toxicity

Assessment of acute toxicity: Virtually nontoxic after a single ingestion. Virtually nontoxic after a single skin contact.

Oral

Type of value: LD50

Species: rat

Value: > 2,000 mg/kg

Dermal

Type of value: LD50

Species: rat

Value: > 2,000 mg/kg

Irritation / corrosion

Assessment of irritating effects: Ingestion may cause irritation of the gastrointestinal tract. Contact with powders or dusts may irritate the eyes, skin and respiratory tract.

Skin

Species: rabbit

Result: non-irritant

Method: OECD Guideline 404

Eye

Species: rabbit

Result: non-irritant

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Method: OECD Guideline 405

Sensitization

No sensitizing effect.

Chronic Toxicity/Effects

Other Information

The statement was derived from products of similar composition.

Symptoms of Exposure

No significant symptoms are expected due to the non-classification of the product.

12. Ecological Information

Toxicity

Toxicity to fish

LC50 (96 h) > 100 mg/l, Brachydanio rerio (OECD Guideline 203, static)

Aquatic invertebrates

EC50 (48 h) > 100 mg/l, Daphnia magna (OECD Guideline 202, part 1, static)

Aquatic plants

EC50 (72 h) > 100 mg/l, Desmodemus subspicatus (OECD Guideline 201)

Nominal concentration.

Soil living organisms

Toxicity to soil dwelling organisms:

LC50 > 1,000 mg/kg, Eisenia foetida (OECD Guideline 207)

Microorganisms/Effect on activated sludge

Toxicity to microorganisms

The inhibition of the degradation activity of activated sludge is not anticipated when introduced to biological treatment plants in appropriate low concentrations.

Persistence and degradability

Assessment biodegradation and elimination (H2O)

The product is not very soluble in water and can thus be removed from water mechanically in suitable effluent treatment plants.

Mobility in soil

Assessment transport between environmental compartments

The substance will not evaporate into the atmosphere from the water surface.

Adsorption to solid soil phase is not expected.

Additional information

The product contains: <= 20 (W/W) PPM total amount of heavy metal as Pb

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Add. remarks environm. fate & pathway:

Due to the consistency of the product, dispersion into the environment is impossible. Therefore no negative effects on the environment may be anticipated based on the present state of knowledge.

Other ecotoxicological advice:

Do not release untreated into natural waters. The ecotoxic effect of the product has not been tested. The information on this was derived from products of similar structure or composition.

13. Disposal considerations

Waste disposal of substance:

Dispose of in accordance with local authority regulations. Do not discharge into drains/surface waters/groundwater.

Container disposal:

Dispose of in a licensed facility. Recommend crushing, puncturing or other means to prevent unauthorized use of used containers.

14. Transport Information

Land transport

USDOT

Not classified as a dangerous good under transport regulations

Sea transport

IMDG

Not classified as a dangerous good under transport regulations

Air transport

IATA/ICAO

Not classified as a dangerous good under transport regulations

15. Regulatory Information

Federal Regulations

Registration status:

Chemical TSCA, US released / listed

EPCRA 311/312 (Hazard categories): Fire (Combustible Dust);

NFPA Hazard codes:

Health : 1 Fire: 1 Reactivity: 0 Special:

HMIS III rating

Health: 1 Flammability: 1 Physical hazard: 0

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POLYMER

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16. Other Information

SDS Prepared by.
Martlin Distributing, LLC
SDS Prepared on: 2015/02/20

We support worldwide Responsible Care® initiatives. We value the health and safety of our employees, customers, suppliers and neighbors, and the protection of the environment. Our commitment to Responsible Care is integral to conducting our business and operating our facilities in a safe and environmentally responsible fashion, supporting our customers and suppliers in ensuring the safe and environmentally sound handling of our products, and minimizing the impact of our operations on society and the environment during production, storage, transport, use and disposal of our products.

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1. Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Martlin Distributing Product Identifier: Power Pellets

1.2. Recommended use of the chemical and restrictions on use

Recommended use : Industrial / Environmental Use

Non-recommended use(s) : None

1.3. Details of the supplier of the safety data sheet

Company : Martlin Distributing
550 Washington Ave
Carnegie PA 15106 USA
Telephone : (412) 505-0061
Telefax :
E-mail : mike.dorsch@martlindistributing.com

1.4. Emergency telephone number

Emergency information : Non-Emergency Phone Number: (724) 316-8780

24 HOUR EMERGENCY TELEPHONE NUMBERS:
CHEMTREC - US & CANADA toll free: +1-800-424-9300
CHEMTREC - MEXICO toll free: 01-800-681-9531
CHEMTREC GLOBAL - Collect calls accepted: +1-703-527-3887

2. Hazards identification

2.1. Classification of the substance or mixture

Not a hazardous substance or mixture.

2.2. Label elements

Not a hazardous substance or mixture.
Other hazards
None known

3. Composition/information on ingredients

3.1. Substances

Classification according to Regulation 29CFR 1910.1200

Chemical Name	CAS-No.	Concentration
2-Propenoic acid, homopolymer, sodium salt (SAP)	9003-04-7	2-10 %
Wood and Agricultural Fibers	9004-34-6	90-98 %

4. First aid measures

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4.1. Description of first aid measures

General advice : Remove soiled or soaked clothing immediately

Inhalation : Ensure supply of fresh air.
In the event of symptoms seek medical advice.

Skin contact : In case of contact with skin wash off with soap and water.
In the event of symptoms seek medical advice.

Eye contact : In case of contact with eyes rinse thoroughly with plenty of water. If symptoms persist, seek medical advice.

Ingestion : Thoroughly clean the mouth with water
In the event of symptoms seek medical advice.

4.2. Most important symptoms and effects, both acute and delayed

Symptoms : No special hints.

4.3. Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

5. Fire-fighting measures

5.1. Extinguishing media

Suitable extinguishing media : foam, carbon dioxide, dry powder, water spray.

Unsuitable extinguishing media : none

5.2. Special hazards arising from the substance or mixture

In the event of fire the following can be released:
- carbon dioxide, carbon monoxide

5.3. Advice for firefighters

Do not inhale explosion and/or combustion gases
Use self-contained breathing apparatus

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6. Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Could form slippery surfaces with water. Use personal protective equipment.

6.2. Environmental precautions

None known

6.3. Methods and material for containment and cleaning up

Pick up mechanically
Dispose of absorbed material in accordance with local regulations.

7. Handling and storage

7.1. Precautions for safe handling

Advice on safe handling : Ensure adequate ventilation.

Hygiene measures : Wash hands before breaks and after work.

General protective measures : Do not inhale dust. Avoid contact with eyes.

7.2. Conditions for safe storage, including any incompatibilities

Prevention of fire and explosion

Information : No special measures required.

Storage

Information : none

Further information on storage conditions : Keep container dry

8. Exposure controls/personal protection

8.1. Control parameters

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Ingredient Name	Exposure Limits
SAP	No occupational exposure limits (US)
Wood Fibers	No occupational exposure limits (US)

8.2. Personal protective equipment

Eye protection : This product is not classified as a hazardous substance. Any necessity for eye protection must be determined within the scope of a risk assessment.

Hand protection : Glove material: protective gloves

Body Protection : protective clothing

Respiratory protection : in case of formation of vapours/dusts: Short term: filter apparatus, Filter P1

9. Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state : solid

Form : granular

Color : tan, brown

Odor : wood

Odor Threshold : no data available

pH : approx. 7

1.0 g/l

Melting point : not applicable

Boiling point : not applicable

Flash point : not applicable

Evaporation rate : no data available

Flammability : no data available

Upper Explosion/ Ignition Limits : not measured

Lower Explosion Limits : not measure

Vapour pressure : < 10 hPa
(20 °C)

Relative vapour density : no data available

Relative density : no data available

Solubility : not measured

Water solubility : insoluble

Partition coefficient (n-octanol/water) : no data available

Autoignition temperature : not measured

Thermal decomposition : not measured

Viscosity, kinematic : not applicable

Viscosity, dynamic : not applicable

BTU/lb., ATSM E711 : 8,600

Density : 37/cf

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9.2. Other information

Other information : none

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10. Stability and reactivity

10.1. Reactivity

see section "Possibility of hazardous reactions"

10.2. Chemical stability

The product is stable under normal conditions.

10.3. Possibility of hazardous reactions

None known

10.4. Conditions to avoid

> 200

10.5. Incompatible materials

None known.

10.6. Hazardous decomposition products

None with proper storage and handling.

11. Toxicological information

11.1. Information on toxicological effects

Acute toxicity(oral) : no data available

Acute toxicity
(inhalation) : no data available

Acute toxicity
(dermal) : no data available

Irritation/corrosion of
the skin : Species: rabbit
Result: non-irritant
Method: OECD404

Serious eye damage/
eye irritation : Species: rabbit
Result: Mild eye irritation
Method: OECD405

Respiratory/skin
sensitization : Species: Guinea pig
Result: non-sensitizing
Method: OECD406

Repeated dose
toxicity : no data available

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US. National Toxicology Program (NTP) Report on Carcinogens

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

US. IARC Monographs on Occupational Exposures to Chemical Agents

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

US. ACGIH Threshold Limit Values

ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

Reprotoxicity / Fertility	: not applicable
Reprotoxicity/Development/Teratogenicity	: not applicable
Specific Target Organ Toxicity - Single exposure	: no data available
Specific Target Organ Toxicity - Repeated exposure	: no data available
Aspiration hazard	: No aspiration toxicity classification
Other information	: Proper use provided, no adverse health effects have been observed or have been come to our knowledge.

12. Ecological information

Ecotoxicology Assessment

Acute aquatic toxicity : no data available

Chronic aquatic toxicity : no data available

12.1. Toxicity

Aquatic toxicity, invertebrates : no data available

Aquatic toxicity, algae/aquatic plants : no data available

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chronic toxicity in fish : no data available

Chronic toxicity in aquatic Invertebrates : no data available

Toxicity in organisms which live in the soil : no data available

12.2. Persistence and degradability

Photodegradation : no data available

Biological degradability : no data available

12.3. Bioaccumulative potential

Bioaccumulation : no data available

12.4. Mobility in soil

Environmental distribution : no data available

12.5. Results of PBT and vPvB assessment

PBT and vPvB assessment : no data available

13. Disposal considerations

13.1. Waste treatment methods

Product : In accordance with local authority regulations.

Contaminated packaging : If empty contaminated containers are recycled or disposed of.

14. Transport information

Not dangerous according to transport regulations.

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15. Regulatory information

Canada:

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulation and the (M)SDS contains all information required by the Controlled Products Regulation

Canada : WHMIS CLASSIFICATION
Not Rated
This product does not contain component(s) on the WHMIS Ingredient Disclosure List.

US regulations:

SARA Title III Section 311/312 Hazard Categories : No SARA Hazard

Other regulations : none

US. California Safe Drinking Water & Toxic Enforcement Act (Proposition 65)

This product does not contain any chemicals known to State of California to cause cancer, birth defects or any other harm.

HMIS Ratings	Health:	1
	Flammability:	0
	Reactivity:	0
	Personal Protection:	X

Notification status

TSCA (USA) : listed/registered or exempted
DSL (CDN) : listed/registered or exempted

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16. Other information

List of references

Other information : Comply with national laws regulating employee instruction.
Revision date : 7/09/2018

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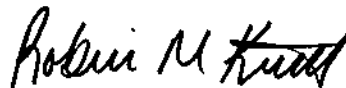
ANALYTICAL REPORT

Eurofins Chicago
2417 Bond Street
University Park, IL 60484
Tel: (708)534-5200

Laboratory Job ID: 500-216983-1
Client Project/Site: BP Illinois River HDD
Revision: 1

For:
Parsons Corporation
10 South Riverside Plaza
Suite 400
Chicago, Illinois 60606

Attn: Laura Green



Authorized for release by:
6/14/2022 1:26:05 PM

Robin Kintz, Project Manager II
(708)534-5200
Robin.Kintz@et.eurofinsus.com

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The test results in this report meet all 2003 NELAC, 2009 TNI, and 2016 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Case Narrative

Client: Parsons Corporation
Project/Site: BP Illinois River HDD

Job ID: 500-216983-1

Job ID: 500-216983-1

Laboratory: Eurofins Chicago

Narrative

Job Narrative 500-216983-1

Comments

No additional comments.

Revision

The report being provided is a revision of the original report sent on 6/8/2022. The report (revision 1) is being revised due to: The report was revised to report PCBs on a dry weight basis.

Receipt

The sample was received on 5/20/2022 10:15 AM. Unless otherwise noted below, the sample arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 3.3° C.

GC/MS VOA

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

GC/MS Semi VOA

Method 8270D: The continuing calibration verification (CCV) analyzed in batch 500-660166 was outside the method criteria for the following analyte(s): 2-Fluorophenol and Pentachlorophenol. A CCV standard at or below the reporting limit (RL) was analyzed with the affected samples and found to be acceptable. As indicated in the reference method, sample analysis may proceed; however, any detection for the affected analyte(s) is considered estimated.

Method 8270D: The following sample was diluted due to the nature of the sample matrix: HA-1 (500-216983-1). Elevated reporting limits (RLs) are provided.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GC Semi VOA

Method 8082A: Surrogate DCB Decachlorobiphenyl recovery for the following samples was outside control limits: (LCS 500-659130/3-A) and (MB 500-659130/1-A). The other surrogate was within limits; therefore, re-analysis was not performed.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Metals

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

General Chemistry

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Organic Prep

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Detection Summary

Client: Parsons Corporation
Project/Site: BP Illinois River HDD

Job ID: 500-216983-1

Client Sample ID: HA-1

Lab Sample ID: 500-216983-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	0.58		0.50	0.050	mg/L	1		6010B	TCLP
Cadmium	0.0041	J	0.0050	0.0020	mg/L	1		6010B	TCLP
Paint Filter	Pass				No Unit	1		9095A	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Chicago

Method Summary

Client: Parsons Corporation
Project/Site: BP Illinois River HDD

Job ID: 500-216983-1

Method	Method Description	Protocol	Laboratory
8260B	TCLP Volatiles	SW846	TAL CHI
8270D	Semivolatile Organic Compounds (GC/MS)	SW846	TAL CHI
8082A	Polychlorinated Biphenyls (PCBs) by Gas Chromatography	SW846	TAL CHI
6010B	TCLP Metals (ICP)	SW846	TAL CHI
7470A	TCLP Mercury	SW846	TAL CHI
9095A	Paint Filter	SW846	TAL CHI
Moisture	Percent Moisture	EPA	TAL CHI
1311	TCLP Extraction	SW846	TAL CHI
3010A	Preparation, Total Metals	SW846	TAL CHI
3510C	Liquid-Liquid Extraction (Separatory Funnel)	SW846	TAL CHI
3541	Automated Soxhlet Extraction	SW846	TAL CHI
5030B	Purge and Trap	SW846	TAL CHI
7470A	Preparation, Mercury	SW846	TAL CHI

Protocol References:

EPA = US Environmental Protection Agency

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL CHI = Eurofins Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200

Sample Summary

Client: Parsons Corporation
Project/Site: BP Illinois River HDD

Job ID: 500-216983-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
500-216983-1	HA-1	Solid	05/18/22 10:15	05/20/22 10:15

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15

Client Sample Results

Client: Parsons Corporation
Project/Site: BP Illinois River HDD

Job ID: 500-216983-1

Client Sample ID: HA-1

Lab Sample ID: 500-216983-1

Date Collected: 05/18/22 10:15

Matrix: Solid

Date Received: 05/20/22 10:15

Method: 8260B - TCLP Volatiles - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<20		20	10	ug/L			06/03/22 13:15	20
Carbon tetrachloride	<20		20	10	ug/L			06/03/22 13:15	20
Chlorobenzene	<20		20	10	ug/L			06/03/22 13:15	20
Chloroform	<40		40	20	ug/L			06/03/22 13:15	20
1,2-Dichloroethane	<20		20	10	ug/L			06/03/22 13:15	20
1,1-Dichloroethene	<20		20	10	ug/L			06/03/22 13:15	20
Methyl Ethyl Ketone	<100		100	50	ug/L			06/03/22 13:15	20
Tetrachloroethene	<20		20	10	ug/L			06/03/22 13:15	20
Trichloroethene	<20		20	10	ug/L			06/03/22 13:15	20
Vinyl chloride	<20		20	10	ug/L			06/03/22 13:15	20

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	116		75 - 126		06/03/22 13:15	20
Toluene-d8 (Surr)	100		75 - 120		06/03/22 13:15	20
4-Bromofluorobenzene (Surr)	116		72 - 124		06/03/22 13:15	20
Dibromofluoromethane	110		75 - 120		06/03/22 13:15	20

Method: 8270D - Semivolatile Organic Compounds (GC/MS) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Methylphenol	<100		100	100	ug/L		06/07/22 07:22	06/07/22 19:26	5
3 & 4 Methylphenol	<100		100	100	ug/L		06/07/22 07:22	06/07/22 19:26	5
1,4-Dichlorobenzene	<100		100	100	ug/L		06/07/22 07:22	06/07/22 19:26	5
2,4-Dinitrotoluene	<50		50	50	ug/L		06/07/22 07:22	06/07/22 19:26	5
Hexachlorobenzene	<25		25	25	ug/L		06/07/22 07:22	06/07/22 19:26	5
Hexachlorobutadiene	<250		250	250	ug/L		06/07/22 07:22	06/07/22 19:26	5
Hexachloroethane	<250		250	250	ug/L		06/07/22 07:22	06/07/22 19:26	5
Nitrobenzene	<50		50	50	ug/L		06/07/22 07:22	06/07/22 19:26	5
Pentachlorophenol	<1000		1000	1000	ug/L		06/07/22 07:22	06/07/22 19:26	5
Pyridine	<1000		1000	1000	ug/L		06/07/22 07:22	06/07/22 19:26	5
2,4,5-Trichlorophenol	<500		500	500	ug/L		06/07/22 07:22	06/07/22 19:26	5
2,4,6-Trichlorophenol	<250		250	250	ug/L		06/07/22 07:22	06/07/22 19:26	5

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorophenol (Surr)	74		27 - 110	06/07/22 07:22	06/07/22 19:26	5
Phenol-d5 (Surr)	27		20 - 100	06/07/22 07:22	06/07/22 19:26	5
Nitrobenzene-d5 (Surr)	96		36 - 120	06/07/22 07:22	06/07/22 19:26	5
2-Fluorobiphenyl (Surr)	87		34 - 110	06/07/22 07:22	06/07/22 19:26	5
2,4,6-Tribromophenol (Surr)	94		40 - 145	06/07/22 07:22	06/07/22 19:26	5
Terphenyl-d14 (Surr)	119		40 - 145	06/07/22 07:22	06/07/22 19:26	5

Method: 6010B - TCLP Metals (ICP) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.050		0.050	0.010	mg/L		06/01/22 19:38	06/02/22 13:27	1
Barium	0.58		0.50	0.050	mg/L		06/01/22 19:38	06/02/22 13:27	1
Cadmium	0.0041	J	0.0050	0.0020	mg/L		06/01/22 19:38	06/02/22 13:27	1
Chromium	<0.025		0.025	0.010	mg/L		06/01/22 19:38	06/02/22 13:27	1
Lead	<0.050		0.050	0.0075	mg/L		06/01/22 19:38	06/02/22 13:27	1
Selenium	<0.050		0.050	0.020	mg/L		06/01/22 19:38	06/02/22 13:27	1
Silver	<0.025		0.025	0.010	mg/L		06/01/22 19:38	06/02/22 13:27	1

Eurofins Chicago

Client Sample Results

Client: Parsons Corporation
Project/Site: BP Illinois River HDD

Job ID: 500-216983-1

Client Sample ID: HA-1

Date Collected: 05/18/22 10:15

Date Received: 05/20/22 10:15

Lab Sample ID: 500-216983-1

Matrix: Solid

Method: 7470A - TCLP Mercury - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.20		0.20	0.20	ug/L		06/01/22 15:10	06/02/22 12:52	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Paint Filter	Pass				No Unit			06/03/22 14:02	1

Client Sample Results

Client: Parsons Corporation
Project/Site: BP Illinois River HDD

Job ID: 500-216983-1

Client Sample ID: HA-1

Date Collected: 05/18/22 10:15

Date Received: 05/20/22 10:15

Lab Sample ID: 500-216983-1

Matrix: Solid

Percent Solids: 92.9

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	<26		26	10	ug/Kg	✱	05/31/22 07:20	06/01/22 14:08	1
PCB-1221	<26		26	10	ug/Kg	✱	05/31/22 07:20	06/01/22 14:08	1
PCB-1232	<26		26	6.9	ug/Kg	✱	05/31/22 07:20	06/01/22 14:08	1
PCB-1242	<26		26	10	ug/Kg	✱	05/31/22 07:20	06/01/22 14:08	1
PCB-1248	<26		26	12	ug/Kg	✱	05/31/22 07:20	06/01/22 14:08	1
PCB-1254	<26		26	8.7	ug/Kg	✱	05/31/22 07:20	06/01/22 14:08	1
PCB-1260	<26		26	9.6	ug/Kg	✱	05/31/22 07:20	06/01/22 14:08	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	71		49 - 129	05/31/22 07:20	06/01/22 14:08	1
DCB Decachlorobiphenyl	101		37 - 121	05/31/22 07:20	06/01/22 14:08	1

Definitions/Glossary

Client: Parsons Corporation
Project/Site: BP Illinois River HDD

Job ID: 500-216983-1

Qualifiers

GC Semi VOA

Qualifier	Qualifier Description
S1+	Surrogate recovery exceeds control limits, high biased.

Metals

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
□	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

QC Association Summary

Client: Parsons Corporation
Project/Site: BP Illinois River HDD

Job ID: 500-216983-1

GC/MS VOA

Analysis Batch: 659291

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LB 500-659293/1-A	Method Blank	TCLP	Solid	8260B	659293
MB 500-659291/6	Method Blank	Total/NA	Solid	8260B	
LCS 500-659291/4	Lab Control Sample	Total/NA	Solid	8260B	

Leach Batch: 659293

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-216983-1	HA-1	TCLP	Solid	1311	
LB 500-659293/1-A	Method Blank	TCLP	Solid	1311	

Analysis Batch: 659659

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-216983-1	HA-1	TCLP	Solid	8260B	659293
MB 500-659659/6	Method Blank	Total/NA	Solid	8260B	
LCS 500-659659/4	Lab Control Sample	Total/NA	Solid	8260B	

GC/MS Semi VOA

Leach Batch: 659285

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-216983-1	HA-1	TCLP	Solid	1311	
LB 500-659285/1-C	Method Blank	TCLP	Solid	1311	

Prep Batch: 660064

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-216983-1	HA-1	TCLP	Solid	3510C	659285
LB 500-659285/1-C	Method Blank	TCLP	Solid	3510C	659285
MB 500-660064/1-A	Method Blank	Total/NA	Solid	3510C	
LCS 500-660064/2-A	Lab Control Sample	Total/NA	Solid	3510C	

Analysis Batch: 660166

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-216983-1	HA-1	TCLP	Solid	8270D	660064
LB 500-659285/1-C	Method Blank	TCLP	Solid	8270D	660064
MB 500-660064/1-A	Method Blank	Total/NA	Solid	8270D	660064
LCS 500-660064/2-A	Lab Control Sample	Total/NA	Solid	8270D	660064

GC Semi VOA

Prep Batch: 659130

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-216983-1	HA-1	Total/NA	Solid	3541	
MB 500-659130/1-A	Method Blank	Total/NA	Solid	3541	
LCS 500-659130/3-A	Lab Control Sample	Total/NA	Solid	3541	

Analysis Batch: 659333

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-216983-1	HA-1	Total/NA	Solid	8082A	659130
MB 500-659130/1-A	Method Blank	Total/NA	Solid	8082A	659130
LCS 500-659130/3-A	Lab Control Sample	Total/NA	Solid	8082A	659130

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QC Association Summary

Client: Parsons Corporation
Project/Site: BP Illinois River HDD

Job ID: 500-216983-1

Metals

Leach Batch: 659285

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-216983-1	HA-1	TCLP	Solid	1311	
LB 500-659285/1-B	Method Blank	TCLP	Solid	1311	
LB 500-659285/2-B	Method Blank	TCLP	Solid	1311	
500-216983-1 MS	HA-1	TCLP	Solid	1311	
500-216983-1 DU	HA-1	TCLP	Solid	1311	

Prep Batch: 659414

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-216983-1	HA-1	TCLP	Solid	7470A	659285
LB 500-659285/1-B	Method Blank	TCLP	Solid	7470A	659285
MB 500-659414/12-A	Method Blank	Total/NA	Solid	7470A	
LCS 500-659414/14-A	Lab Control Sample	Total/NA	Solid	7470A	
500-216983-1 MS	HA-1	TCLP	Solid	7470A	659285
500-216983-1 DU	HA-1	TCLP	Solid	7470A	659285

Prep Batch: 659443

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-216983-1	HA-1	TCLP	Solid	3010A	659285
LB 500-659285/2-B	Method Blank	TCLP	Solid	3010A	659285
LCS 500-659443/2-A	Lab Control Sample	Total/NA	Solid	3010A	
500-216983-1 MS	HA-1	TCLP	Solid	3010A	659285
500-216983-1 DU	HA-1	TCLP	Solid	3010A	659285

Analysis Batch: 659601

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-216983-1	HA-1	TCLP	Solid	6010B	659443
LB 500-659285/2-B	Method Blank	TCLP	Solid	6010B	659443
LCS 500-659443/2-A	Lab Control Sample	Total/NA	Solid	6010B	659443
500-216983-1 MS	HA-1	TCLP	Solid	6010B	659443
500-216983-1 DU	HA-1	TCLP	Solid	6010B	659443

Analysis Batch: 659618

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-216983-1	HA-1	TCLP	Solid	7470A	659414
LB 500-659285/1-B	Method Blank	TCLP	Solid	7470A	659414
MB 500-659414/12-A	Method Blank	Total/NA	Solid	7470A	659414
LCS 500-659414/14-A	Lab Control Sample	Total/NA	Solid	7470A	659414
500-216983-1 MS	HA-1	TCLP	Solid	7470A	659414
500-216983-1 DU	HA-1	TCLP	Solid	7470A	659414

General Chemistry

Analysis Batch: 659981

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-216983-1	HA-1	Total/NA	Solid	9095A	
500-216983-1 DU	HA-1	Total/NA	Solid	9095A	

Analysis Batch: 660988

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-216983-1	HA-1	Total/NA	Solid	Moisture	

Eurofins Chicago

Surrogate Summary

Client: Parsons Corporation
Project/Site: BP Illinois River HDD

Job ID: 500-216983-1

Method: 8260B - TCLP Volatiles

Matrix: Solid

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)			
		DCA (75-126)	TOL (75-120)	BFB (72-124)	DBFM (75-120)
LCS 500-659291/4	Lab Control Sample	123	103	115	103
LCS 500-659659/4	Lab Control Sample	116	103	106	100
MB 500-659291/6	Method Blank	123	100	118	109
MB 500-659659/6	Method Blank	120	100	111	110

Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)

TOL = Toluene-d8 (Surr)

BFB = 4-Bromofluorobenzene (Surr)

DBFM = Dibromofluoromethane

Method: 8260B - TCLP Volatiles

Matrix: Solid

Prep Type: TCLP

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)			
		DCA (75-126)	TOL (75-120)	BFB (72-124)	DBFM (75-120)
500-216983-1	HA-1	116	100	116	110
LB 500-659293/1-A	Method Blank	126	100	119	110

Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)

TOL = Toluene-d8 (Surr)

BFB = 4-Bromofluorobenzene (Surr)

DBFM = Dibromofluoromethane

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Matrix: Solid

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)					
		2FP (27-110)	PHL (20-100)	NBZ (36-120)	FBP (34-110)	TBP (40-145)	TPHL (40-145)
LCS 500-660064/2-A	Lab Control Sample	68	49	99	91	107	111
MB 500-660064/1-A	Method Blank	75	47	96	89	100	120

Surrogate Legend

2FP = 2-Fluorophenol (Surr)

PHL = Phenol-d5 (Surr)

NBZ = Nitrobenzene-d5 (Surr)

FBP = 2-Fluorobiphenyl (Surr)

TBP = 2,4,6-Tribromophenol (Surr)

TPHL = Terphenyl-d14 (Surr)

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Matrix: Solid

Prep Type: TCLP

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)					
		2FP (27-110)	PHL (20-100)	NBZ (36-120)	FBP (34-110)	TBP (40-145)	TPHL (40-145)
500-216983-1	HA-1	74	27	96	87	94	119
LB 500-659285/1-C	Method Blank	72	46	96	91	104	120

Surrogate Legend

Eurofins Chicago

Surrogate Summary

Client: Parsons Corporation
Project/Site: BP Illinois River HDD

Job ID: 500-216983-1

2FP = 2-Fluorophenol (Surr)
PHL = Phenol-d5 (Surr)
NBZ = Nitrobenzene-d5 (Surr)
FBP = 2-Fluorobiphenyl (Surr)
TBP = 2,4,6-Tribromophenol (Surr)
TPHL = Terphenyl-d14 (Surr)

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Matrix: Solid

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	TCX1	DCBP1
		(49-129)	(37-121)
500-216983-1	HA-1	71	101
LCS 500-659130/3-A	Lab Control Sample	117	143 S1+
MB 500-659130/1-A	Method Blank	127	148 S1+

Surrogate Legend

TCX = Tetrachloro-m-xylene
DCBP = DCB Decachlorobiphenyl

QC Sample Results

Client: Parsons Corporation
Project/Site: BP Illinois River HDD

Job ID: 500-216983-1

Method: 8260B - TCLP Volatiles

Lab Sample ID: MB 500-659291/6

Matrix: Solid

Analysis Batch: 659291

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<1.0		1.0	0.50	ug/L			06/01/22 10:00	1
Carbon tetrachloride	<1.0		1.0	0.50	ug/L			06/01/22 10:00	1
Chlorobenzene	<1.0		1.0	0.50	ug/L			06/01/22 10:00	1
Chloroform	<2.0		2.0	1.0	ug/L			06/01/22 10:00	1
1,2-Dichloroethane	<1.0		1.0	0.50	ug/L			06/01/22 10:00	1
1,1-Dichloroethene	<1.0		1.0	0.50	ug/L			06/01/22 10:00	1
Methyl Ethyl Ketone	<5.0		5.0	2.5	ug/L			06/01/22 10:00	1
Tetrachloroethene	<1.0		1.0	0.50	ug/L			06/01/22 10:00	1
Trichloroethene	<1.0		1.0	0.50	ug/L			06/01/22 10:00	1
Vinyl chloride	<1.0		1.0	0.50	ug/L			06/01/22 10:00	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	123		75 - 126		06/01/22 10:00	1
Toluene-d8 (Surr)	100		75 - 120		06/01/22 10:00	1
4-Bromofluorobenzene (Surr)	118		72 - 124		06/01/22 10:00	1
Dibromofluoromethane	109		75 - 120		06/01/22 10:00	1

Lab Sample ID: LCS 500-659291/4

Matrix: Solid

Analysis Batch: 659291

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	40.0	34.4		ug/L		86	70 - 120
Carbon tetrachloride	40.0	41.9		ug/L		105	59 - 133
Chlorobenzene	40.0	35.2		ug/L		88	70 - 120
Chloroform	40.0	36.6		ug/L		92	70 - 120
1,2-Dichloroethane	40.0	38.3		ug/L		96	68 - 127
1,1-Dichloroethene	40.0	33.7		ug/L		84	67 - 122
Methyl Ethyl Ketone	40.0	33.3		ug/L		83	46 - 144
Tetrachloroethene	40.0	37.2		ug/L		93	70 - 128
Trichloroethene	40.0	32.3		ug/L		81	70 - 125
Vinyl chloride	40.0	33.2		ug/L		83	64 - 126

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	123		75 - 126
Toluene-d8 (Surr)	103		75 - 120
4-Bromofluorobenzene (Surr)	115		72 - 124
Dibromofluoromethane	103		75 - 120

Lab Sample ID: MB 500-659659/6

Matrix: Solid

Analysis Batch: 659659

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<1.0		1.0	0.50	ug/L			06/03/22 09:38	1
Carbon tetrachloride	<1.0		1.0	0.50	ug/L			06/03/22 09:38	1
Chlorobenzene	<1.0		1.0	0.50	ug/L			06/03/22 09:38	1
Chloroform	<2.0		2.0	1.0	ug/L			06/03/22 09:38	1

Eurofins Chicago

QC Sample Results

Client: Parsons Corporation
Project/Site: BP Illinois River HDD

Job ID: 500-216983-1

Method: 8260B - TCLP Volatiles (Continued)

Lab Sample ID: MB 500-659659/6

Matrix: Solid

Analysis Batch: 659659

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane	<1.0		1.0	0.50	ug/L			06/03/22 09:38	1
1,1-Dichloroethene	<1.0		1.0	0.50	ug/L			06/03/22 09:38	1
Methyl Ethyl Ketone	<5.0		5.0	2.5	ug/L			06/03/22 09:38	1
Tetrachloroethene	<1.0		1.0	0.50	ug/L			06/03/22 09:38	1
Trichloroethene	<1.0		1.0	0.50	ug/L			06/03/22 09:38	1
Vinyl chloride	<1.0		1.0	0.50	ug/L			06/03/22 09:38	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	120		75 - 126		06/03/22 09:38	1
Toluene-d8 (Surr)	100		75 - 120		06/03/22 09:38	1
4-Bromofluorobenzene (Surr)	111		72 - 124		06/03/22 09:38	1
Dibromofluoromethane	110		75 - 120		06/03/22 09:38	1

Lab Sample ID: LCS 500-659659/4

Matrix: Solid

Analysis Batch: 659659

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	40.0	39.9		ug/L		100	70 - 120
Carbon tetrachloride	40.0	47.9		ug/L		120	59 - 133
Chlorobenzene	40.0	39.4		ug/L		99	70 - 120
Chloroform	40.0	40.1		ug/L		100	70 - 120
1,2-Dichloroethane	40.0	40.6		ug/L		102	68 - 127
1,1-Dichloroethene	40.0	39.4		ug/L		98	67 - 122
Methyl Ethyl Ketone	40.0	31.9		ug/L		80	46 - 144
Tetrachloroethene	40.0	44.4		ug/L		111	70 - 128
Trichloroethene	40.0	35.7		ug/L		89	70 - 125
Vinyl chloride	40.0	34.3		ug/L		86	64 - 126

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	116		75 - 126
Toluene-d8 (Surr)	103		75 - 120
4-Bromofluorobenzene (Surr)	106		72 - 124
Dibromofluoromethane	100		75 - 120

Lab Sample ID: LB 500-659293/1-A

Matrix: Solid

Analysis Batch: 659291

Client Sample ID: Method Blank

Prep Type: TCLP

Analyte	LB Result	LB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<20		20	10	ug/L			06/01/22 13:15	20
Carbon tetrachloride	<20		20	10	ug/L			06/01/22 13:15	20
Chlorobenzene	<20		20	10	ug/L			06/01/22 13:15	20
Chloroform	<40		40	20	ug/L			06/01/22 13:15	20
1,2-Dichloroethane	<20		20	10	ug/L			06/01/22 13:15	20
1,1-Dichloroethene	<20		20	10	ug/L			06/01/22 13:15	20
Methyl Ethyl Ketone	<100		100	50	ug/L			06/01/22 13:15	20
Tetrachloroethene	<20		20	10	ug/L			06/01/22 13:15	20

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QC Sample Results

Client: Parsons Corporation
Project/Site: BP Illinois River HDD

Job ID: 500-216983-1

Method: 8260B - TCLP Volatiles (Continued)

Lab Sample ID: LB 500-659293/1-A

Matrix: Solid

Analysis Batch: 659291

Client Sample ID: Method Blank

Prep Type: TCLP

Analyte	LB Result	LB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Trichloroethene	<20		20	10	ug/L			06/01/22 13:15	20
Vinyl chloride	<20		20	10	ug/L			06/01/22 13:15	20
Surrogate	LB %Recovery	LB Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	126		75 - 126					06/01/22 13:15	20
Toluene-d8 (Surr)	100		75 - 120					06/01/22 13:15	20
4-Bromofluorobenzene (Surr)	119		72 - 124					06/01/22 13:15	20
Dibromofluoromethane	110		75 - 120					06/01/22 13:15	20

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Lab Sample ID: MB 500-660064/1-A

Matrix: Solid

Analysis Batch: 660166

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 660064

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Methylphenol	<2.0		2.0	2.0	ug/L		06/07/22 07:22	06/07/22 15:04	1
3 & 4 Methylphenol	<2.0		2.0	2.0	ug/L		06/07/22 07:22	06/07/22 15:04	1
1,4-Dichlorobenzene	<2.0		2.0	2.0	ug/L		06/07/22 07:22	06/07/22 15:04	1
2,4-Dinitrotoluene	<1.0		1.0	1.0	ug/L		06/07/22 07:22	06/07/22 15:04	1
Hexachlorobenzene	<0.50		0.50	0.50	ug/L		06/07/22 07:22	06/07/22 15:04	1
Hexachlorobutadiene	<5.0		5.0	5.0	ug/L		06/07/22 07:22	06/07/22 15:04	1
Hexachloroethane	<5.0		5.0	5.0	ug/L		06/07/22 07:22	06/07/22 15:04	1
Nitrobenzene	<1.0		1.0	1.0	ug/L		06/07/22 07:22	06/07/22 15:04	1
Pentachlorophenol	<20		20	20	ug/L		06/07/22 07:22	06/07/22 15:04	1
Pyridine	<20		20	20	ug/L		06/07/22 07:22	06/07/22 15:04	1
2,4,5-Trichlorophenol	<10		10	10	ug/L		06/07/22 07:22	06/07/22 15:04	1
2,4,6-Trichlorophenol	<5.0		5.0	5.0	ug/L		06/07/22 07:22	06/07/22 15:04	1
Surrogate	MB %Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac
2-Fluorophenol (Surr)	75		27 - 110				06/07/22 07:22	06/07/22 15:04	1
Phenol-d5 (Surr)	47		20 - 100				06/07/22 07:22	06/07/22 15:04	1
Nitrobenzene-d5 (Surr)	96		36 - 120				06/07/22 07:22	06/07/22 15:04	1
2-Fluorobiphenyl (Surr)	89		34 - 110				06/07/22 07:22	06/07/22 15:04	1
2,4,6-Tribromophenol (Surr)	100		40 - 145				06/07/22 07:22	06/07/22 15:04	1
Terphenyl-d14 (Surr)	120		40 - 145				06/07/22 07:22	06/07/22 15:04	1

Lab Sample ID: LCS 500-660064/2-A

Matrix: Solid

Analysis Batch: 660166

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 660064

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
2-Methylphenol	40.0	42.3		ug/L		106	53 - 115
3 & 4 Methylphenol	40.0	37.0		ug/L		93	50 - 116
1,4-Dichlorobenzene	40.0	30.0		ug/L		75	23 - 110
2,4-Dinitrotoluene	40.0	44.7		ug/L		112	63 - 129
Hexachlorobenzene	40.0	42.7		ug/L		107	61 - 126
Hexachlorobutadiene	40.0	31.5		ug/L		79	20 - 100

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QC Sample Results

Client: Parsons Corporation
Project/Site: BP Illinois River HDD

Job ID: 500-216983-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 500-660064/2-A

Matrix: Solid

Analysis Batch: 660166

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 660064

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Hexachloroethane	40.0	28.3		ug/L		71	20 - 100
Nitrobenzene	40.0	38.4		ug/L		96	54 - 121
Pentachlorophenol	80.0	56.7		ug/L		71	42 - 148
Pyridine	80.0	35.1		ug/L		44	15 - 110
2,4,5-Trichlorophenol	40.0	43.4		ug/L		108	63 - 124
2,4,6-Trichlorophenol	40.0	42.7		ug/L		107	62 - 121

Surrogate	LCS %Recovery	LCS Qualifier	Limits
2-Fluorophenol (Surr)	68		27 - 110
Phenol-d5 (Surr)	49		20 - 100
Nitrobenzene-d5 (Surr)	99		36 - 120
2-Fluorobiphenyl (Surr)	91		34 - 110
2,4,6-Tribromophenol (Surr)	107		40 - 145
Terphenyl-d14 (Surr)	111		40 - 145

Lab Sample ID: LB 500-659285/1-C

Matrix: Solid

Analysis Batch: 660166

Client Sample ID: Method Blank

Prep Type: TCLP

Prep Batch: 660064

Analyte	LB Result	LB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Methylphenol	<20		20	20	ug/L		06/07/22 07:22	06/07/22 16:39	1
3 & 4 Methylphenol	<20		20	20	ug/L		06/07/22 07:22	06/07/22 16:39	1
1,4-Dichlorobenzene	<20		20	20	ug/L		06/07/22 07:22	06/07/22 16:39	1
2,4-Dinitrotoluene	<10		10	10	ug/L		06/07/22 07:22	06/07/22 16:39	1
Hexachlorobenzene	<5.0		5.0	5.0	ug/L		06/07/22 07:22	06/07/22 16:39	1
Hexachlorobutadiene	<50		50	50	ug/L		06/07/22 07:22	06/07/22 16:39	1
Hexachloroethane	<50		50	50	ug/L		06/07/22 07:22	06/07/22 16:39	1
Nitrobenzene	<10		10	10	ug/L		06/07/22 07:22	06/07/22 16:39	1
Pentachlorophenol	<200		200	200	ug/L		06/07/22 07:22	06/07/22 16:39	1
Pyridine	<200		200	200	ug/L		06/07/22 07:22	06/07/22 16:39	1
2,4,5-Trichlorophenol	<100		100	100	ug/L		06/07/22 07:22	06/07/22 16:39	1
2,4,6-Trichlorophenol	<50		50	50	ug/L		06/07/22 07:22	06/07/22 16:39	1

Surrogate	LB %Recovery	LB Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorophenol (Surr)	72		27 - 110	06/07/22 07:22	06/07/22 16:39	1
Phenol-d5 (Surr)	46		20 - 100	06/07/22 07:22	06/07/22 16:39	1
Nitrobenzene-d5 (Surr)	96		36 - 120	06/07/22 07:22	06/07/22 16:39	1
2-Fluorobiphenyl (Surr)	91		34 - 110	06/07/22 07:22	06/07/22 16:39	1
2,4,6-Tribromophenol (Surr)	104		40 - 145	06/07/22 07:22	06/07/22 16:39	1
Terphenyl-d14 (Surr)	120		40 - 145	06/07/22 07:22	06/07/22 16:39	1

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QC Sample Results

Client: Parsons Corporation
Project/Site: BP Illinois River HDD

Job ID: 500-216983-1

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Lab Sample ID: MB 500-659130/1-A

Matrix: Solid

Analysis Batch: 659333

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 659130

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	<17		17	6.6	ug/Kg		05/31/22 07:20	06/01/22 09:31	1
PCB-1221	<17		17	6.6	ug/Kg		05/31/22 07:20	06/01/22 09:31	1
PCB-1232	<17		17	4.5	ug/Kg		05/31/22 07:20	06/01/22 09:31	1
PCB-1242	<17		17	6.5	ug/Kg		05/31/22 07:20	06/01/22 09:31	1
PCB-1248	<17		17	7.9	ug/Kg		05/31/22 07:20	06/01/22 09:31	1
PCB-1254	<17		17	5.7	ug/Kg		05/31/22 07:20	06/01/22 09:31	1
PCB-1260	<17		17	6.3	ug/Kg		05/31/22 07:20	06/01/22 09:31	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	127		49 - 129	05/31/22 07:20	06/01/22 09:31	1
DCB Decachlorobiphenyl	148	S1+	37 - 121	05/31/22 07:20	06/01/22 09:31	1

Lab Sample ID: LCS 500-659130/3-A

Matrix: Solid

Analysis Batch: 659333

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 659130

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
PCB-1016	167	176		ug/Kg		106	57 - 120
PCB-1260	167	192		ug/Kg		115	61 - 125

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Tetrachloro-m-xylene	117		49 - 129
DCB Decachlorobiphenyl	143	S1+	37 - 121

Method: 6010B - TCLP Metals (ICP)

Lab Sample ID: LCS 500-659443/2-A

Matrix: Solid

Analysis Batch: 659601

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 659443

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Arsenic	0.100	0.112		mg/L		112	80 - 120
Barium	0.500	0.513		mg/L		103	80 - 120
Cadmium	0.0500	0.0525		mg/L		105	80 - 120
Chromium	0.200	0.193		mg/L		96	80 - 120
Lead	0.100	0.0940		mg/L		94	80 - 120
Selenium	0.100	0.113		mg/L		113	80 - 120
Silver	0.0500	0.0538		mg/L		108	80 - 120

Lab Sample ID: LB 500-659285/2-B

Matrix: Solid

Analysis Batch: 659601

Client Sample ID: Method Blank

Prep Type: TCLP

Prep Batch: 659443

Analyte	LB Result	LB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.050		0.050	0.010	mg/L		06/01/22 19:38	06/02/22 12:04	1
Barium	<0.50		0.50	0.050	mg/L		06/01/22 19:38	06/02/22 12:04	1
Cadmium	<0.0050		0.0050	0.0020	mg/L		06/01/22 19:38	06/02/22 12:04	1
Chromium	<0.025		0.025	0.010	mg/L		06/01/22 19:38	06/02/22 12:04	1

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QC Sample Results

Client: Parsons Corporation
Project/Site: BP Illinois River HDD

Job ID: 500-216983-1

Method: 6010B - TCLP Metals (ICP) (Continued)

Lab Sample ID: LB 500-659285/2-B

Matrix: Solid

Analysis Batch: 659601

Client Sample ID: Method Blank

Prep Type: TCLP

Prep Batch: 659443

Analyte	LB Result	LB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	<0.050		0.050	0.0075	mg/L		06/01/22 19:38	06/02/22 12:04	1
Selenium	<0.050		0.050	0.020	mg/L		06/01/22 19:38	06/02/22 12:04	1
Silver	<0.025		0.025	0.010	mg/L		06/01/22 19:38	06/02/22 12:04	1

Lab Sample ID: 500-216983-1 MS

Matrix: Solid

Analysis Batch: 659601

Client Sample ID: HA-1

Prep Type: TCLP

Prep Batch: 659443

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Arsenic	<0.050		0.100	0.110		mg/L		110	75 - 125
Barium	0.58		0.500	1.10		mg/L		103	75 - 125
Cadmium	0.0041	J	0.0500	0.0557		mg/L		103	75 - 125
Chromium	<0.025		0.200	0.183		mg/L		91	75 - 125
Lead	<0.050		0.100	0.0910		mg/L		91	75 - 125
Selenium	<0.050		0.100	0.114		mg/L		114	75 - 125
Silver	<0.025		0.0500	0.0525		mg/L		105	75 - 125

Lab Sample ID: 500-216983-1 DU

Matrix: Solid

Analysis Batch: 659601

Client Sample ID: HA-1

Prep Type: TCLP

Prep Batch: 659443

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Arsenic	<0.050		<0.050		mg/L		NC	20
Barium	0.58		0.590		mg/L		1	20
Cadmium	0.0041	J	0.00426	J	mg/L		4	20
Chromium	<0.025		<0.025		mg/L		NC	20
Lead	<0.050		<0.050		mg/L		NC	20
Selenium	<0.050		0.0209	J	mg/L		NC	20
Silver	<0.025		<0.025		mg/L		NC	20

Method: 7470A - TCLP Mercury

Lab Sample ID: MB 500-659414/12-A

Matrix: Solid

Analysis Batch: 659618

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 659414

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.20		0.20	0.20	ug/L		06/01/22 15:10	06/02/22 12:07	1

Lab Sample ID: LCS 500-659414/14-A

Matrix: Solid

Analysis Batch: 659618

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 659414

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Mercury	2.00	1.92		ug/L		96	80 - 120

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QC Sample Results

Client: Parsons Corporation
Project/Site: BP Illinois River HDD

Job ID: 500-216983-1

Method: 7470A - TCLP Mercury (Continued)

Lab Sample ID: LB 500-659285/1-B
Matrix: Solid
Analysis Batch: 659618

Client Sample ID: Method Blank
Prep Type: TCLP
Prep Batch: 659414

Analyte	LB Result	LB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.20		0.20	0.20	ug/L		06/01/22 15:10	06/02/22 12:09	1

Lab Sample ID: 500-216983-1 MS
Matrix: Solid
Analysis Batch: 659618

Client Sample ID: HA-1
Prep Type: TCLP
Prep Batch: 659414

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Mercury	<0.20		1.00	0.802		ug/L		80	75 - 125

Lab Sample ID: 500-216983-1 DU
Matrix: Solid
Analysis Batch: 659618

Client Sample ID: HA-1
Prep Type: TCLP
Prep Batch: 659414

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Mercury	<0.20		<0.20		ug/L		NC	20

Method: 9095A - Paint Filter

Lab Sample ID: 500-216983-1 DU
Matrix: Solid
Analysis Batch: 659981

Client Sample ID: HA-1
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Paint Filter	Pass		Pass		No Unit		NC	

Lab Chronicle

Client: Parsons Corporation
Project/Site: BP Illinois River HDD

Job ID: 500-216983-1

Client Sample ID: HA-1

Date Collected: 05/18/22 10:15

Date Received: 05/20/22 10:15

Lab Sample ID: 500-216983-1

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
TCLP	Leach	1311			659293	05/31/22 17:24	EA	TAL CHI
TCLP	Analysis	8260B		20	659659	06/03/22 13:15	PSP	TAL CHI
TCLP	Leach	1311			659285	05/31/22 17:24	EA	TAL CHI
TCLP	Prep	3510C			660064	06/07/22 07:22	KN	TAL CHI
TCLP	Analysis	8270D		5	660166	06/07/22 19:26	SS	TAL CHI
TCLP	Leach	1311			659285	05/31/22 17:24	EA	TAL CHI
TCLP	Prep	3010A			659443	06/01/22 19:38	LMB	TAL CHI
TCLP	Analysis	6010B		1	659601	06/02/22 13:27	JJB	TAL CHI
TCLP	Leach	1311			659285	05/31/22 17:24	EA	TAL CHI
TCLP	Prep	7470A			659414	06/01/22 15:10	MJG	TAL CHI
TCLP	Analysis	7470A		1	659618	06/02/22 12:52	MJG	TAL CHI
Total/NA	Analysis	9095A		1	659981		TMS	TAL CHI
					(Start)	06/03/22 14:02		
					(End)	06/03/22 14:07		
Total/NA	Analysis	Moisture		1	660988	06/13/22 14:13	LWN	TAL CHI

Client Sample ID: HA-1

Date Collected: 05/18/22 10:15

Date Received: 05/20/22 10:15

Lab Sample ID: 500-216983-1

Matrix: Solid

Percent Solids: 92.9

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3541			659130	05/31/22 07:20	FRG	TAL CHI
Total/NA	Analysis	8082A		1	659333	06/01/22 14:08	SS	TAL CHI

Laboratory References:

TAL CHI = Eurofins Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200

Accreditation/Certification Summary

Client: Parsons Corporation
Project/Site: BP Illinois River HDD

Job ID: 500-216983-1

Laboratory: Eurofins Chicago

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
California	State	2903	04-29-22 *
Georgia	State	N/A	04-29-22 *
Georgia (DW)	State	939	04-30-23
Hawaii	State	NA	04-29-23
Illinois	NELAP	IL00035	04-30-23
Indiana	State	C-IL-02	04-29-22 *
Iowa	State	082	05-01-22 *
Kansas	NELAP	E-10161	10-31-22
Kentucky (UST)	State	AI # 108083	04-29-22 *
Kentucky (WW)	State	KY90023	12-31-22
Louisiana	NELAP	02046	06-30-22
Mississippi	State	NA	04-30-22 *
North Carolina (WW/SW)	State	291	12-31-22
North Dakota	State	R-194	04-29-22 *
Oklahoma	State	8908	08-31-22
South Carolina	State	77001003	04-29-22 *
USDA	US Federal Programs	P330-18-00018	02-11-24
Wisconsin	State	999580010	08-31-22
Wyoming	State	8TMS-Q	04-30-22 *

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

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2417 Bond Street
University Park IL 60484
Phone 708-534-5200 Fax 708-534-5211

 eurofins Environment Testing
America

[illegible]

ORIGIN ID: JOTA (709) 5200
LAURA GREEN
PARSONS CORPORATION
4324 JUNIATA STREET
APT. 1
SAINT LOUIS, MO 63116
UNITED STATES US

SHIP DATE: 16MAY22
ACTWGT: 15.00 LB MAN
CAD: 033264/CAFE3512



500-216983 Wayb

TO **SAMPLE LOGIN**
TESTAMERICA LABS
2417 BOND ST

57005/1806/6F4D

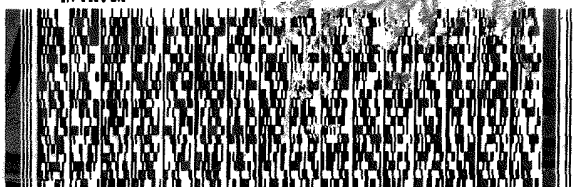
UNIVERSITY PARK IL 60484

(709) 684-5200

REF:

INVT
PO:

RMA: ||| ||| |||



FedEx
Express



J-11020121101W

FedEx

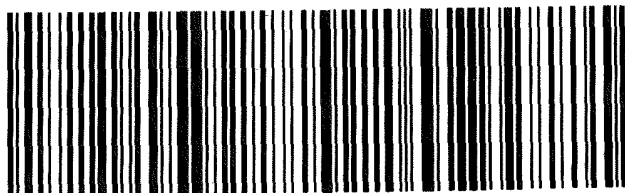
TRK# 1893 4457 4504
0221

FRI - 20 MAY 10:30
PRIORITY OVERNIGHT

NA JOTA

60484

IL-US OR



07/00 JV

Login Sample Receipt Checklist

Client: Parsons Corporation

Job Number: 500-216983-1

Login Number: 216983

List Source: Eurofins Chicago

List Number: 1

Creator: Hernandez, Stephanie

Question	Answer	Comment
Radioactivity wasn't checked or is $\leq$ background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	3.3
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



REQUEST FOR DISCUSSION

To: Peoria City/County Landfill Committee Members

From: Shaun Schoonover, Public Works Finance Manager

AGENDA DATE REQUESTED: July 13, 2022

ACTION REQUESTED: RECEIVE AND FILE MONTHLY FINANCIAL REPORT

BACKGROUND: Attached is the unaudited revenue and expense financial report for financial transactions through June 2022. The report includes prior year actual and current year budget for comparability. The combined May/June 2022 cash flow statement is also provided.

LANDFILL FUND MONTHLY
REVENUE & EXPENSE BUDGET VS ACTUAL

FOR YEARS ENDING DECEMBER 31, 2021 & 2022

DESCRIPTION	JANUARY			FEBRUARY			MARCH			APRIL		
	2021 Actual	2022 Budget	2022 Actual	2021 Actual	2022 Budget	2022 Actual	2021 Actual	2022 Budget	2022 Actual	2021 Actual	2022 Budget	2022 Actual
REVENUES												
Host Fees	\$ 31,898.72	\$ 37,966.67	\$ 38,683.18	\$ 24,740.45	\$ 37,966.67	\$ 26,431.15	\$ 22,625.70	\$ 37,966.67	\$ 22,840.33	\$ 36,700.25	\$ 37,966.67	\$ 41,915.95
Leases	\$ -	\$ 1,854.17	\$ -	\$ 2,042.56	\$ 1,854.17	\$ 1,041.71	\$ -	\$ 1,854.17	\$ 2,083.42	\$ 2,042.56	\$ 1,854.17	\$ -
Interest Earned - On Cash Balance	\$ 76.46	\$ 208.33	\$ 58.39	\$ 63.74	\$ 208.33	\$ 56.81	\$ 64.58	\$ 208.33	\$ 68.87	\$ 56.78	\$ 208.33	\$ 96.84
TOTAL REVENUES	\$ 31,975.18	\$ 40,029.17	\$ 38,741.57	\$ 26,846.75	\$ 40,029.17	\$ 27,529.67	\$ 22,690.28	\$ 40,029.17	\$ 24,992.62	\$ 38,799.59	\$ 40,029.17	\$ 42,012.79
EXPENSES												
Municipal Reimbursements												
City Personnel	\$ -	\$ 6,333.33	\$ -	\$ -	\$ 6,333.33	\$ -	\$ -	\$ 6,333.33	\$ -	\$ -	\$ 6,333.33	\$ -
County Personnel	\$ -	\$ 708.33	\$ -	\$ -	\$ 708.33	\$ -	\$ -	\$ 708.33	\$ -	\$ -	\$ 708.33	\$ -
City Audit	\$ -	\$ 208.33	\$ -	\$ -	\$ 208.33	\$ -	\$ -	\$ 208.33	\$ -	\$ -	\$ 208.33	\$ -
Consultant Guidance and Operational Costs												
General Guidance & Compliance (Clean Air Act Permit Rpt)	\$ -	\$ 9,583.33	\$ -	\$ -	\$ 9,583.33	\$ -	\$ 12,344.72	\$ 9,583.33	\$ -	\$ 6,096.57	\$ 9,583.33	\$ 34,069.33
Groundwater Support/Reporting	\$ -	\$ 3,916.67	\$ -	\$ -	\$ 3,916.67	\$ -	\$ 8,713.80	\$ 3,916.67	\$ -	\$ 5,987.63	\$ 3,916.67	\$ 7,989.32
LF#1 Gas System & Leache Management Ops.	\$ -	\$ 9,833.33	\$ -	\$ -	\$ 9,833.33	\$ -	\$ 8,834.34	\$ 9,833.33	\$ -	\$ 8,053.81	\$ 9,833.33	\$ 53,983.73
IEPA Coordination / Reporting	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 5,256.61
LF#1 Construction Engineering	\$ -	\$ 416.67	\$ -	\$ -	\$ 416.67	\$ -	\$ 4,339.29	\$ 416.67	\$ -	\$ 6,943.64	\$ 416.67	\$ -
LF #2 to LF #3 Transition Activities	\$ -	\$ 1,666.67	\$ -	\$ -	\$ 1,666.67	\$ -	\$ 3,689.46	\$ 1,666.67	\$ -	\$ 373.38	\$ 1,666.67	\$ 2,898.42
Liquids & Gas Replacement Materials	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Offsite Liquids Disposal	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Contracted/Capital Improvements												
Post Closure Care	\$ -	\$ 416.67	\$ -	\$ -	\$ 416.67	\$ -	\$ -	\$ 416.67	\$ -	\$ -	\$ 416.67	\$ -
Leachate Extraction Improvements	\$ -	\$ 416.67	\$ -	\$ -	\$ 416.67	\$ -	\$ -	\$ 416.67	\$ -	\$ -	\$ 416.67	\$ -
GCCS Improvement Projects	\$ -	\$ 416.67	\$ -	\$ -	\$ 416.67	\$ -	\$ -	\$ 416.67	\$ -	\$ -	\$ 416.67	\$ -
Remediation Capital Project - \$150,000 budget	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 38,360.00	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Committee's Operational Expenses												
Off-Site Liquids Disposal(Transport & Leachate Treatment	\$ -	\$ 1,270.83	\$ -	\$ -	\$ 1,270.83	\$ -	\$ 733.78	\$ 1,270.83	\$ 902.62	\$ 139.32	\$ 1,270.83	\$ 1,778.92
Telephone	\$ -	\$ 41.67	\$ -	\$ -	\$ 41.67	\$ 36.03	\$ 36.01	\$ 41.67	\$ 36.01	\$ 36.01	\$ 41.67	\$ 36.01
Electricity	\$ -	\$ 500.00	\$ 362.84	\$ 414.15	\$ 500.00	\$ 385.50	\$ 642.04	\$ 500.00	\$ 424.91	\$ -	\$ 500.00	\$ 355.74
Unplanned/Contingency												
Groundwater Assessments/Contingency	\$ -	\$ 666.67	\$ -	\$ -	\$ 666.67	\$ -	\$ -	\$ 666.67	\$ -	\$ -	\$ 666.67	\$ -
GCCS Contingency	\$ -	\$ 833.33	\$ -	\$ -	\$ 833.33	\$ -	\$ 5,839.60	\$ 833.33	\$ -	\$ 5,313.42	\$ 833.33	\$ -
Unplanned Services and Repairs	\$ -	\$ 1,666.67	\$ -	\$ -	\$ 1,666.67	\$ 223.50	\$ 4,039.33	\$ 1,666.67	\$ -	\$ -	\$ 1,666.67	\$ 714.07
TOTAL EXPENSES	\$ -	\$ 38,895.83	\$ 362.84	\$ 414.15	\$ 38,895.83	\$ 39,005.03	\$ 49,212.37	\$ 38,895.83	\$ 1,363.54	\$ 32,943.78	\$ 38,895.83	\$ 107,082.15
EXCESS REVENUES OVER EXPENSES	\$ 31,975.18	\$ 1,133.33	\$ 38,378.73	\$ 26,432.60	\$ 1,133.33	\$ (11,475.36)	\$ (26,522.09)	\$ 1,133.33	\$ 23,629.08	\$ 5,855.81	\$ 1,133.33	\$ (65,069.36)
BEGINNING FUND BALANCE	\$ 399,984.02		\$ 336,531.96	\$ 431,959.20		\$ 374,910.69	\$ 458,391.80		\$ 363,435.33	\$ 431,869.71		\$ 387,064.41
ENDING FUND BALANCE	\$ 431,959.20		\$ 374,910.69	\$ 458,391.80		\$ 363,435.33	\$ 431,869.71		\$ 387,064.41	\$ 437,725.52		\$ 321,995.05

LANDFILL FUND MONTHLY
REVENUE & EXPENSE BUDGET VS ACTUAL

FOR YEARS ENDING DECEMBER 31, 2021 & 2022

DESCRIPTION	MAY			JUNE			JULY			AUGUST		
	2021 Actual	2022 Budget	2022 Actual	2021 Actual	2022 Budget	2022 Actual	2021 Actual	2022 Budget	2022 Actual	2021 Actual	2022 Budget	2022 Actual
REVENUES												
Host Fees	\$ 38,106.05	\$ 37,966.67	\$ 34,547.93	\$ 35,430.28	\$ 37,966.67	\$ 39,825.44	\$ 39,044.97	\$ 37,966.67		\$ 36,672.61	\$ 37,966.67	
Leases	\$ -	\$ 1,854.17	\$ 2,104.25	\$ 1,041.71	\$ 1,854.17	\$ 1,062.54	\$ 4,862.16	\$ 1,854.17		\$ 1,865.93	\$ 1,854.17	
Interest Earned - On Cash Balance	\$ 61.41	\$ 208.33	\$ 124.05	\$ 57.19	\$ 208.33		\$ 61.06	\$ 208.33		\$ 72.02	\$ 208.33	
TOTAL REVENUES	\$ 38,167.46	\$ 40,029.17	\$ 36,776.23	\$ 36,529.18	\$ 40,029.17	\$ 40,887.98	\$ 43,968.19	\$ 40,029.17	\$ -	\$ 38,610.56	\$ 40,029.17	\$ -
EXPENSES												
Municipal Reimbursements												
City Personnel	\$ -	\$ 6,333.33	\$ -	\$ -	\$ 6,333.33	\$ -	\$ -	\$ 6,333.33		\$ -	\$ 6,333.33	
County Personnel	\$ -	\$ 708.33	\$ -	\$ 8,500.00	\$ 708.33	\$ -	\$ -	\$ 708.33		\$ -	\$ 708.33	
City Audit	\$ -	\$ 208.33	\$ -	\$ -	\$ 208.33	\$ -	\$ -	\$ 208.33		\$ -	\$ 208.33	
Consultant Guidance and Operational Costs												
General Guidance & Compliance (Clean Air Act Permit Rpt)	\$ -	\$ 9,583.33	\$ 16,778.74	\$ -	\$ 9,583.33	\$ 6,394.76	\$ 34,245.10	\$ 9,583.33		\$ 19,634.02	\$ 9,583.33	
Groundwater Support/Reporting	\$ -	\$ 3,916.67	\$ 4,872.35	\$ -	\$ 3,916.67	\$ 514.72	\$ 12,400.10	\$ 3,916.67		\$ 5,022.31	\$ 3,916.67	
LF#1 Gas System & Leache Management Ops.	\$ -	\$ 9,833.33	\$ 9,145.14	\$ -	\$ 9,833.33	\$ 7,349.70	\$ 25,498.80	\$ 9,833.33		\$ 23,688.05	\$ 9,833.33	
IEPA Coordination / Reporting	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -		\$ -	\$ -	
LF#1 Construction Engineering	\$ -	\$ 416.67	\$ -	\$ -	\$ 416.67	\$ -	\$ 1,892.01	\$ 416.67		\$ 406.85	\$ 416.67	
LF #2 to LF #3 Transition Activities	\$ -	\$ 1,666.67	\$ 3,524.66	\$ -	\$ 1,666.67	\$ 2,097.60	\$ 4,614.41	\$ 1,666.67		\$ 650.96	\$ 1,666.67	
Liquids & Gas Replacement Materials	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -		\$ -	\$ -	
Offsite Liquids Disposal	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -		\$ -	\$ -	
Contracted/Capital Improvements												
Post Closure Care	\$ -	\$ 416.67	\$ -	\$ -	\$ 416.67	\$ -	\$ -	\$ 416.67		\$ -	\$ 416.67	
Leachate Extraction Improvements	\$ -	\$ 416.67	\$ 150,900.90	\$ -	\$ 416.67	\$ -	\$ -	\$ 416.67		\$ -	\$ 416.67	
GCCS Improvement Projects	\$ -	\$ 416.67	\$ -	\$ -	\$ 416.67	\$ -	\$ -	\$ 416.67		\$ -	\$ 416.67	
Remediation Capital Project - \$150,000 budget	\$ -	\$ -	\$ -	\$ 16,502.71	\$ -	\$ -	\$ -	\$ -		\$ -	\$ -	
Committee's Operational Expenses												
Off-Site Liquids Disposal(Transport & Leachate Treatment	\$ -	\$ 1,270.83	\$ 169.22	\$ 45.69	\$ 1,270.83	\$ 1,837.06	\$ 2,270.74	\$ 1,270.83		\$ 876.93	\$ 1,270.83	
Telephone	\$ 144.04	\$ 41.67	\$ -	\$ -	\$ 41.67	\$ 72.02	\$ 36.01	\$ 41.67		\$ -	\$ 41.67	
Electricity	\$ 675.59	\$ 500.00	\$ 390.71	\$ -	\$ 500.00	\$ 412.52	\$ 354.82	\$ 500.00		\$ 488.36	\$ 500.00	
Unplanned/Contingency												
Groundwater Assessments/Contingency	\$ -	\$ 666.67	\$ -	\$ -	\$ 666.67	\$ -	\$ -	\$ 666.67		\$ -	\$ 666.67	
GCCS Contingency	\$ -	\$ 833.33	\$ -	\$ -	\$ 833.33	\$ -	\$ -	\$ 833.33		\$ -	\$ 833.33	
Unplanned Services and Repairs	\$ 6,050.00	\$ 1,666.67	\$ 5,119.10	\$ -	\$ 1,666.67	\$ -	\$ 3,452.56	\$ 1,666.67		\$ 1,149.00	\$ 1,666.67	
TOTAL EXPENSES	\$ 6,869.63	\$ 38,895.83	\$ 190,900.82	\$ 25,048.40	\$ 38,895.83	\$ 18,678.38	\$ 84,764.55	\$ 38,895.83	\$ -	\$ 51,916.48	\$ 38,895.83	\$ -
EXCESS REVENUES OVER EXPENSES	\$ 31,297.83	\$ 1,133.33	\$ (154,124.59)	\$ 11,480.78	\$ 1,133.33	\$ 22,209.60	\$ (40,796.36)	\$ 1,133.33	\$ -	\$ (13,305.92)	\$ 1,133.33	\$ -
BEGINNING FUND BALANCE	\$ 437,725.52		\$ 321,995.05	\$ 469,023.35		\$ 167,870.46	\$ 480,504.13		\$ 190,080.06	\$ 439,707.77		\$ 190,080.06
ENDING FUND BALANCE	\$ 469,023.35		\$ 167,870.46	\$ 480,504.13		\$ 190,080.06	\$ 439,707.77		\$ 190,080.06	\$ 426,401.85		\$ 190,080.06

LANDFILL FUND MONTHLY
REVENUE & EXPENSE BUDGET VS ACTUAL

FOR YEARS ENDING DECEMBER 31, 2021 & 2022

DESCRIPTION	SEPTEMBER			OCTOBER			NOVEMBER			DECEMBER		
	2021 Actual	2022 Budget	2022 Actual	2021 Actual	2022 Budget	2022 Actual	2021 Actual	2022 Budget	2022 Actual	2021 Actual	2022 Budget	2022 Actual
REVENUES												
Host Fees	\$ 38,086.95	\$ 37,966.67		\$ 38,304.73	\$ 37,966.67		\$ 36,119.14	\$ 37,966.67		\$ 35,369.99	\$ 37,966.67	
Leases	\$ -	\$ 1,854.17		\$ 2,083.42	\$ 1,854.17		\$ 2,083.42	\$ 1,854.17		\$ 1,041.71	\$ 1,854.17	
Interest Earned - On Cash Balance	\$ 70.90	\$ 208.33		\$ 61.46	\$ 208.33		\$ 107.65	\$ 208.33		\$ 51.62	\$ 208.33	
TOTAL REVENUES	\$ 38,157.85	\$ 40,029.17	\$ -	\$ 40,449.61	\$ 40,029.17	\$ -	\$ 38,310.21	\$ 40,029.17	\$ -	\$ 36,463.32	\$ 40,029.17	\$ -
EXPENSES												
Municipal Reimbursements												
City Personnel	\$ -	\$ 6,333.33		\$ -	\$ 6,333.33		\$ 76,000.00	\$ 6,333.33		\$ -	\$ 6,333.33	
County Personnel	\$ -	\$ 708.33		\$ -	\$ 708.33		\$ -	\$ 708.33		\$ 8,500.00	\$ 708.33	
City Audit	\$ -	\$ 208.33		\$ -	\$ 208.33		\$ 2,500.00	\$ 208.33		\$ -	\$ 208.33	
Consultant Guidance and Operational Costs												
General Guidance & Compliance (Clean Air Act Permit Rpt)	\$ 6,149.62	\$ 9,583.33		\$ 11,818.12	\$ 9,583.33		\$ 13,933.02	\$ 9,583.33		\$ 20,096.97	\$ 9,583.33	
Groundwater Support/Reporting	\$ 1,390.70	\$ 3,916.67		\$ 2,441.90	\$ 3,916.67		\$ 2,952.38	\$ 3,916.67		\$ 8,012.85	\$ 3,916.67	
LF#1 Gas System & Leache Management Ops.	\$ 4,576.49	\$ 9,833.33		\$ 8,275.52	\$ 9,833.33		\$ 7,015.53	\$ 9,833.33		\$ 13,872.61	\$ 9,833.33	
IEPA Coordination / Reporting	\$ -	\$ -		\$ -	\$ -		\$ -	\$ -		\$ -	\$ -	
LF#1 Construction Engineering	\$ 509.13	\$ 416.67		\$ 6,348.81	\$ 416.67		\$ 8,353.40	\$ 416.67		\$ -	\$ 416.67	
LF #2 to LF #3 Transition Activities	\$ -	\$ 1,666.67		\$ 456.81	\$ 1,666.67		\$ 325.48	\$ 1,666.67		\$ 1,045.97	\$ 1,666.67	
Liquids & Gas Replacement Materials	\$ -	\$ -		\$ -	\$ -		\$ -	\$ -		\$ -	\$ -	
Offsite Liquids Disposal	\$ -	\$ -		\$ -	\$ -		\$ -	\$ -		\$ -	\$ -	
Contracted/Capital Improvements												
Post Closure Care	\$ -	\$ 416.67		\$ -	\$ 416.67		\$ -	\$ 416.67		\$ -	\$ 416.67	
Leachate Extraction Improvements	\$ -	\$ 416.67		\$ -	\$ 416.67		\$ -	\$ 416.67		\$ -	\$ 416.67	
GCCS Improvement Projects	\$ -	\$ 416.67		\$ -	\$ 416.67		\$ -	\$ 416.67		\$ -	\$ 416.67	
Remediation Capital Project - \$150,000 budget	\$ -	\$ -		\$ -	\$ -		\$ 791.00	\$ -		\$ -	\$ -	
Committee's Operational Expenses												
Off-Site Liquids Disposal(Transport & Leachate Treatment	\$ -	\$ 1,270.83		\$ -	\$ 1,270.83		\$ 770.42	\$ 1,270.83		\$ 929.70	\$ 1,270.83	
Telephone	\$ 36.01	\$ 41.67		\$ 36.01	\$ 41.67		\$ -	\$ 41.67		\$ 144.04	\$ 41.67	
Electricity	\$ 868.41	\$ 500.00		\$ 162.67	\$ 500.00		\$ 309.33	\$ 500.00		\$ 380.49	\$ 500.00	
Unplanned/Contingency												
Groundwater Assessments/Contingency	\$ -	\$ 666.67		\$ -	\$ 666.67		\$ -	\$ 666.67		\$ -	\$ 666.67	
GCCS Contingency	\$ -	\$ 833.33		\$ -	\$ 833.33		\$ 14,139.55	\$ 833.33		\$ -	\$ 833.33	
Unplanned Services and Repairs	\$ -	\$ 1,666.67		\$ 7,218.66	\$ 1,666.67		\$ 2,828.14	\$ 1,666.67		\$ 10,061.14	\$ 1,666.67	
TOTAL EXPENSES	\$ 13,530.36	\$ 38,895.83	\$ -	\$ 36,758.50	\$ 38,895.83	\$ -	\$ 129,918.25	\$ 38,895.83	\$ -	\$ 63,043.77	\$ 38,895.83	\$ -
EXCESS REVENUES OVER EXPENSES	\$ 24,627.49	\$ 1,133.33	\$ -	\$ 3,691.11	\$ 1,133.33	\$ -	\$ (91,608.04)	\$ 1,133.33	\$ -	\$ (26,580.45)	\$ 1,133.33	\$ -
BEGINNING FUND BALANCE	\$ 426,401.85		\$ 190,080.06	\$ 451,029.34		\$ 190,080.06	\$ 454,720.45		\$ 190,080.06	\$ 363,112.41		\$ 190,080.06
ENDING FUND BALANCE	\$ 451,029.34		\$ 190,080.06	\$ 454,720.45		\$ 190,080.06	\$ 363,112.41		\$ 190,080.06	\$ 336,531.96		\$ 190,080.06

LANDFILL FUND MONTHLY**REVENUE & EXPENSE BUDGET VS ACTUAL**

FOR YEARS ENDING DECEMBER 31, 2021 & 2022

DESCRIPTION	FY2021 ACTUAL	FY2022 BUDGET	FY2022 YTD ACTUAL
REVENUES			
Host Fees	\$ 413,099.84	\$ 455,600.00	\$ 204,243.98
Leases	\$ 17,063.47	\$ 22,250.00	\$ 6,291.92
Interest Earned - On Cash Balance	\$ 804.87	\$ 2,500.00	\$ 404.96
TOTAL REVENUES	\$ 430,968.18	\$ 480,350.00	\$ 210,940.86
EXPENSES			
Municipal Reimbursements			
City Personnel	\$ 76,000.00	\$ 76,000.00	\$ -
County Personnel	\$ 17,000.00	\$ 8,500.00	\$ -
City Audit	\$ 2,500.00	\$ 2,500.00	\$ -
Consultant Guidance and Operational Costs			
General Guidance & Compliance (Clean Air Act Permit Rpt)	\$ 124,318.14	\$ 115,000.00	\$ 57,242.83
Groundwater Support/Reporting	\$ 46,921.67	\$ 47,000.00	\$ 13,376.39
LF#1 Gas System & Leache Management Ops.	\$ 99,815.15	\$ 118,000.00	\$ 70,478.57
IEPA Coordination / Reporting	\$ -	\$ -	\$ 5,256.61
LF#1 Construction Engineering	\$ 28,793.13	\$ 5,000.00	\$ -
LF #2 to LF #3 Transition Activities	\$ 11,156.47	\$ 20,000.00	\$ 8,520.68
Liquids & Gas Replacement Materials	\$ -	\$ -	\$ -
Offsite Liquids Disposal	\$ -	\$ -	\$ -
Contracted/Capital Improvements			
Post Closure Care	\$ -	\$ 5,000.00	\$ -
Leachate Extraction Improvements	\$ -	\$ 5,000.00	\$ 150,900.90
GCCS Improvement Projects	\$ -	\$ 5,000.00	\$ -
Remediation Capital Project - \$150,000 budget	\$ 17,293.71	\$ -	\$ 38,360.00
Committee's Operational Expenses			
Off-Site Liquids Disposal(Transport & Leachate Treatment	\$ 5,766.58	\$ 15,250.00	\$ 4,687.82
Telephone	\$ 468.13	\$ 500.00	\$ 180.07
Electricity	\$ 4,295.86	\$ 6,000.00	\$ 2,332.22
Unplanned/Contingency			
Groundwater Assessments/Contingency	\$ -	\$ 8,000.00	\$ -
GCCS Contingency	\$ 25,292.57	\$ 10,000.00	\$ -
Unplanned Services and Repairs	\$ 34,798.83	\$ 20,000.00	\$ 6,056.67
TOTAL EXPENSES	\$ 494,420.24	\$ 466,750.00	\$ 357,392.76
EXCESS REVENUES OVER EXPENSES	\$ (63,452.06)	\$ 13,600.00	\$ (146,451.90)
BEGINNING FUND BALANCE	\$ 399,984.02		\$ 336,531.96
ENDING FUND BALANCE	\$ 336,531.96		\$ 190,080.06

2020 Capital Project		
Landfill Remediation Project		
Budget	Spent	Avail Budget
\$ 150,000.00	\$ 55,653.71	\$ 94,346.29

**Peoria City/County Landfill
Cash Flow Statement - Cash Basis
May & June 2022**

Beginning Balance May 1, 2022	\$321,995.05
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Plus Deposits:

	5/3/2022 SBA Steel	\$1,041.71	
	5/25/2022 Waste Management - Host Fee	\$34,547.93	
	5/31/2022 SBA Steel	\$1,062.54	
	5/31/2022 Interest	\$124.05	
	6/15/2022 Waste Management - Host Fee	\$39,825.44	
	6/29/2022 SBA Steel	\$1,062.54	
	6/30/2022 Interest - Not Posted Yet		
		\$77,664.21	\$77,664.21

Less Electronic Debits & A/P Checks

	5/6/2022 JC Dillon, Inc	\$150,900.90	
	5/20/2022 Ameren Illinois	\$390.71	
	5/27/2022 GPSD	\$169.22	
	5/27/2022 Foth Infrastructure & Environmental	\$39,439.99	
	6/17/2022 GFL - Green for Life	\$1,837.06	
	6/10/2022 Verizon Wireless	\$72.02	
	6/17/2022 Foth Infrastructure & Environmental	\$16,356.78	
	6/24/2022 Ameren Illinois	\$412.52	
		\$209,579.20	\$209,579.20

Ending Cash Balance June 30, 2022	\$190,080.06
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REQUEST FOR DISCUSSION

To: Peoria City/County Landfill Committee Members

From: Chris Peters & Ian Johnson, Waste Management

AGENDA DATE REQUESTED: July 13, 2022

ACTION REQUESTED: Receive and File Monthly Reports

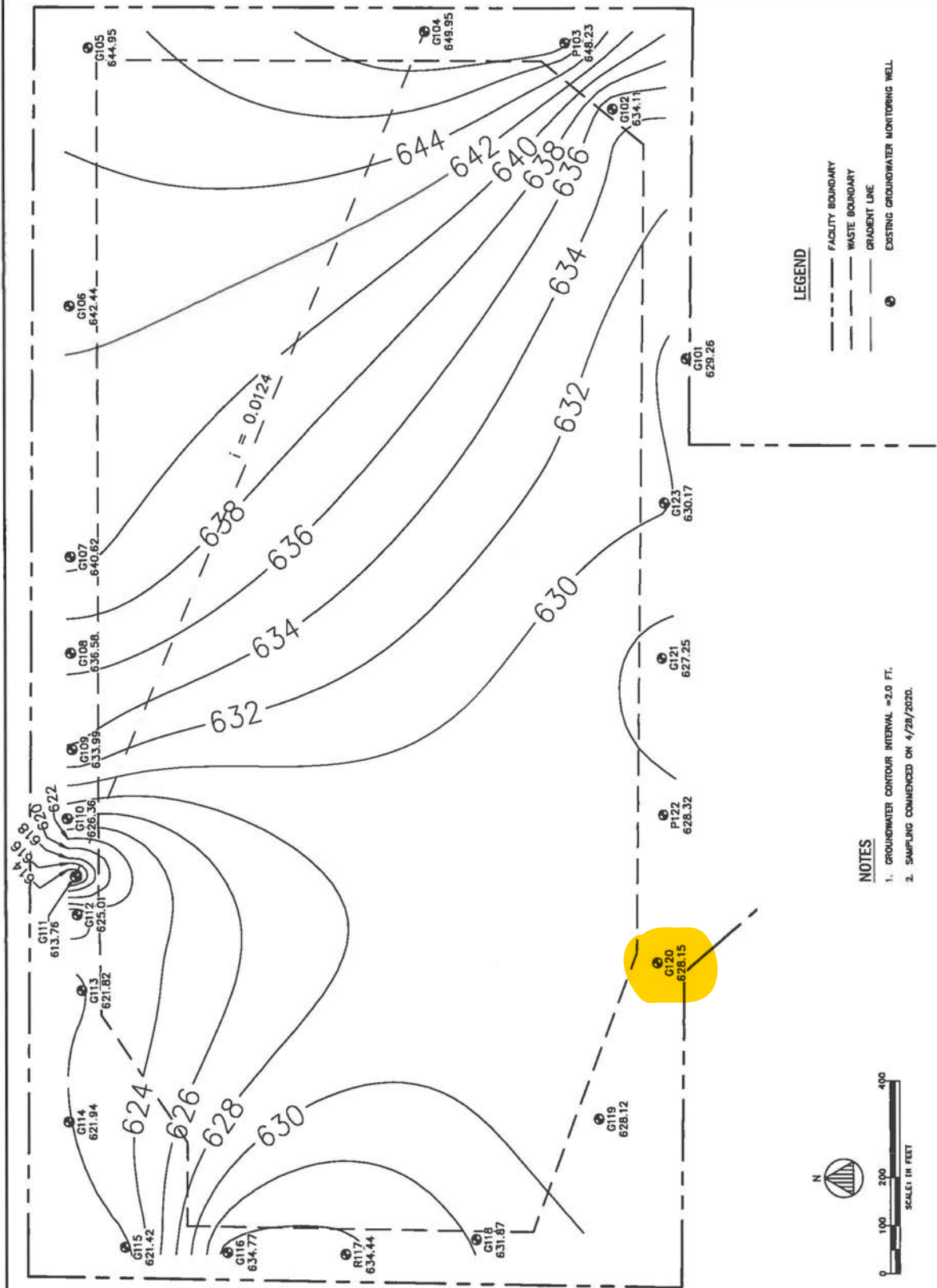
BACKGROUND: Attached is the monthly activity report through **June 2022**.

1. All weekly random load checks were completed and documented with no issues to report.
2. We are requesting Chairman Morris' signature on the following regulatory submittal, subject to review and approval in advance by Foth:
 - a. **Permit application forms for a groundwater quality evaluation at well G120.** In accordance with the IEPA permit, groundwater quality evaluation application is due on July 30, 2022 for exceedances of sulfate at monitoring well G120. This well is an upgradient well and the cause of the sulfate is due to previous mining activities and natural conditions within the aquifer.
3. To allow sufficient time to respond to short-term submittal requirements that may arise prior to the next Landfill Committee meeting, we respectfully request authorization for the Committee chairperson to sign such documents, subject to review and approval in advance by Foth.

FINANCIAL IMPACT: NA

Peoria City/County Landfill No. 2
Waste Management of Illinois, Inc.
Monthly Activity Report
June-2022

Tonnage:		Current Month		Landfill #2 Year to Date	Landfill #2 Year to Date
				2022	2021
	General Refuse				
	Haulers	15,578.28		73,414.94	74,952.53
	County Res. Free Loads	256.28		1,093.68	1,163.92
	County Res. \$5 Loads	0.00		0.79	4.34
	Roadside	41.18		158.23	7.50
	T O T A L	15,875.74		74,667.64	76,128.29
	Special Wastes				
	Industrial (Declassified)	244.28		4,184.04	673.00
	Industrial (Exempt)	0.00		0.00	0.00
	T O T A L	244.28		4,184.04	673.00
TOTAL LANDFILL RECEIPTS		16,120.02		78,851.68	76,801.29
Yard Waste Receipts					
	City Contract -	0.00		0.00	0.00
	All Other	0.00		0.00	0.00
	T O T A L	0.00		0.00	0.00
Payments:	Payable to City/County Committee				
	General Refuse	Tons 15,578.28			
		Rate \$ 2.68			
		\$41,749.79	\$41,749.79	\$196,752.04	\$195,626.10
	Special Waste - Ind.	Tons 244.28			
		Rate \$ 2.68			
		\$654.67	\$654.67	\$11,213.23	\$1,756.53
	T O T A L		\$42,404.46	\$207,965.27	\$197,382.63
	Payable to County				
	General Refuse	Tons 15,578.28			
		Rate \$ 1.27			
		\$19,784.42	\$19,784.42	\$93,236.97	\$95,189.71
	Special Waste - Ind.	Tons 244.28			
		Rate \$ 1.27			
		\$310.24	\$310.24	\$5,313.73	\$854.71
	T O T A L		\$20,094.65	\$98,550.70	\$96,044.42
	Payable to/Receivable From County				
	\$5 Loads	Loads 6.00			
		Rate \$ 5.00			
		\$30.00	\$30.00	\$105.00	\$130.00
	Less:				
	State Fee on Free and \$5 Loads	Tons 256.28			
		Rate \$ 2.22			
		(\$568.94)	(\$568.94)	(\$2,429.72)	(\$2,593.54)
	T O T A L		(\$538.94)	(\$2,324.72)	(\$2,463.54)
Tonnage:	General Refuse & Special Waste				
	In county	9,795.89	60.77%	47,763.86	43,652.01
	Out of county	6,324.13	39.23%	31,087.82	33,149.28
	Mixed	-	0.00%	-	-
	T O T A L	16,120.02	100.00%	78,851.68	76,801.29



NOTES

1. GROUNDWATER CONTOUR INTERVAL = 2.0 FT.
2. SAMPLING COMMENCED ON 4/28/2020.





REQUEST FOR DISCUSSION

To: Peoria City/County Landfill Committee Members

**From: Becca Cottrell, Peoria County
Peoria County**

AGENDA DATE REQUESTED: July 13, 2022

ACTION REQUESTED: Discussion

BACKGROUND: Southern Illinois University is requesting permission to use Landfill property for bobcat research. They are specifically interested in the land south of Cottonwood Road, as well as the property north of the landfill. This project picks up where the Western Illinois University project ended. The following information was provided by SIU to explain their objectives and methodology of the project. More information can be found at <https://ncillinoisbobcats.siu.edu>

The waiver for property use follows and is the same as that used for the previous bobcat project. SIU will provide a memorandum of understanding to all property owners granting access to the research.

FINANCIAL IMPACT: none

North Central Illinois Bobcat Project

Need: Research on bobcat ecology necessary to inform management decisions in Illinois is largely based on research from southern and west-central portions of the state. Limited suitable habitat exists for bobcats in north-central Illinois and bobcats remain unstudied in this landscape consisting of a matrix of unsuitable habitat with likely different ecology than the rest of the state. We will study bobcat ecology on a 6-county study area in north-central Illinois and provide important information on population dynamics, spatial ecology, and genetics. Our research will provide information that biologists can use to manage and monitor bobcat populations in north-central Illinois and other similar landscapes in the Midwest.

Objectives: Specific objectives include: (1) estimate seasonal and annual survival of bobcats, (2) quantify dispersal movements of juvenile bobcats, (3) estimate reproductive parameters of bobcats, (4) quantify spatial ecology and habitat selection of bobcats, (5) evaluate genetic structure and natural recolonization of bobcats, and (6) provide 1 popular article about this project to the Illinois Department of Natural Resources.

Field Methodology:

We will first visit the property to determine if bobcats are present by deploying game cameras and allowing them to capture images for approximately one month.

If we determine bobcats are present on the property after game camera surveys, we will capture bobcats using wire cage traps or padded foothold traps. We will use both visual and scent-based attractants to lure bobcats to traps. Cage traps have a guillotine style door and will have a coroplast cubby for privacy and insulation for any trapped animal, and foothold traps will be padded, and have springs and swivels to protect bobcats and other animals from injury. Traplines won't be open if weather is not suitable (ie freezing rain), and traps will be checked at least once every 24hrs. Signs will be present on cage traps or near footholds to inform the public and will have a contact number if an off leash dog is trapped.

Upon capture, bobcats will be chemically immobilized using hydrochloride (10 mg/kg) and xylazine HCL (1.5 mg/kg). Temperature of anesthetized animals will be closely monitored with a rectal thermometer and kept warm via heating pad while under sedation. Animal will be monitored during the recovery period to ensure safety upon release. We will ear tag, sex, weigh, and estimate age of bobcats. Tissue samples (ear punch and/or blood) also will be collected. Adult bobcats will be fitted with GPS collars equipped with mortality sensors. Juveniles will be fitted with expandable or neoprene vinyl VHF collars equipped with mortality sensors. All capture, handling, and immobilization of bobcats will be carried out under a protocol designed by Dr. Clay Nielsen under the guidance of >20 years of experience and peer reviewed literature, and approved by the Southern Illinois University at Carbondale Institutional Animal Care and Use Committee (IACUC). All personnel working with animals will wear a N95 facemask and be vaccinated against rabies. By catch will be released immediately unless the animal has been injured, which is unlikely but possible. If injured, we will follow protocols to

immobilize and tend to wounds on the animal. If the animal's wounds cannot be treated and we determine it should be euthanized, we will follow strict procedures to do so and dispose of the remains securely off property. If a bobcat is found deceased, we will transport it back to SIUC for further analyses.

Records to be kept: Bobcat weight, sex, size, age, dentition, capture method, handling time, vitals, overall health (i.e., body condition, pelage, and parasites), blood/tissue samples, identifying information (i.e., collar number, ear tags), location of capture, COVID nose swab and buccal swab

WAIVER, RELEASE AND ASSUMPTION OF RISK

I, an employee, agent, volunteer, Wildlife Research Volunteer, affiliate, and/or guest of Southern Illinois University at Carbondale (the "Indemnitor"), acknowledge and agree to the following:

1. Entering onto the property (the "Landfill Property") owned and/or controlled by the Peoria City/County Landfill, the City of Peoria, and/or Peoria County (the "Indemnitees") may involve risk and understand that hazardous conditions may exist in performing these activities.
2. My participation in this activity is voluntary, and I chose to participate despite the risks. The Indemnitees nor their employees or agents requested that I perform any of these activities.
3. I expressly and voluntarily agree and promise to assume and accept all risks associated with and existing in any activities at the Landfill Property, whether such risks are known or unknown.
4. I hereby forever release, forever discharge, agree to indemnify the Indemnitees and their employees and officials as well as hold harmless the Indemnitees and their employees and officials from any and all liability, claims, demands, and causes of action that are in any way connected to my participation in the activities for which I am present at the Landfill Property, including any claims of personal injury, bodily injury, death, illness or damage to property, whether such claims arise now or in the future, and whether known or unknown, of whatsoever kind of nature, whether in law or in equity. I release the Indemnitees and their employees and officials from any and all liability, even if the Indemnitees' and/or their employees' and/or officials' negligence is the cause of any accident, injuries, damages or any other claims.
5. The Indemnitees do not assume any responsibility for or obligations to provide financial assistance or other assistance, including but not limited to medical, health, or disability insurance in the event of injury or illness.
6. Should the Indemnitees, their employees and officials, or anyone acting upon the Indemnitees' behalf incur attorneys' fees, court costs, or any other costs to enforce this agreement, I agree to indemnify and hold harmless the Indemnitees and their employees and officials for all such fees and costs. I further agree to defend and protect the Indemnitees and their employees and officials from any claims of liability related to this Waiver, Release and Assumption of Risk.
7. I agree with the validity and enforceability of this Waiver, Release and Assumption of Risk.
8. I agree that in the event that any clause or provision of this Waiver, Release and Assumption of Risk shall be held to be invalid by any court of competent jurisdiction, the invalidity of such clause or provision shall not otherwise affect the remaining provisions of this Waiver, Release and Assumption of Risk which shall continue to be enforceable.

I certify that I have read and understand the above terms and provisions.

Indemnitor Signature: _____

Date: _____

Printed Name: _____

Phone #: _____

Address: _____

I certify that I am over the age of eighteen (18): ____ Yes ____ No