

Mr. Michael McCann, Project Manager

Indiana Department of Environmental Management
Voluntary Remediation Program – Office of Land Quality
100 North Senate Avenue
Indianapolis, Indiana 46204

RE: Supplemental Amendment Injection Work Plan
Sherman Park Facility (Former Indianapolis CE Plant), 600 North
Sherman Drive, Indianapolis, IN 46201; VRP #602801

FILE: 1077961/1940102121

Date August 9, 2022

Dear Mr. McCann:

Ramboll Americas Engineering Solutions, Inc. (Ramboll) has prepared this Supplemental Amendment Injection Work Plan (Work Plan) for additional bioremediation injection activities at the Sherman Park facility located at 600 North Sherman Avenue, Indianapolis, Indiana (Site). The primary purpose of the supplemental injections is to treat chlorinated volatile organic compounds (CVOCs) in isolated areas at the Site where evidence of rebound of one or more CVOCs has been observed. Ramboll intends to utilize existing injection points that were previously installed between 2011 and 2017 as well as injection points that will be installed via direct push technology (DPT) in areas where existing infrastructure does not exist.

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USA

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Amendment Mixture

Ramboll proposes to implement the supplemental injections using existing injection points as well as newly installed points that will be installed following approval of the work plan. Similar to the prior injections at the Site, the amendment will be a custom mixture of emulsified vegetable oil (EVO), potassium lactate, diammonium phosphate and vitamin B12 which will continue to enhance abiotic and biotic degradation processes to decrease CVOc concentrations. A separate mixture of potassium bicarbonate will also be injected to mitigate potential pH declines.

This combination of amendments was used during the 2011, 2013 and 2015 injection programs and was shown to be effective at stimulating reductive dechlorination across the site. The amendments should be particularly effective now that the trichloroethene (TCE) and 1,1,1-trichloroethane (TCA) in the highest concentration source areas have been further reduced by the more recent 2017 injection program, which involved the usage of Anaerobic Biochem Plus (ABC+) and zero valent iron (ZVI).

The Safety Data Sheets for the components of the amendment mixture are included as **Attachment A**.

Existing and New Injection Locations

As before, the supplemental amendment injections will target the saturated interval between approximately 20 to 40 feet below ground surface. The existing injection wells at the Site are all dual screened, consisting of a single casing with two screens, a shallower “S” screen and a deeper “D” screen. **Figure 1** shows the existing injection wells at the Site, and also identifies the 43 existing injection wells that will be used for the additional amendment injections described in this Work Plan.

In addition to using 43 of the existing injection wells, injections will also be performed at 30 additional locations, as depicted on **Figure 1**. The injections at these locations will be performed using newly installed injection points via the use of DPT. The estimated diameter of treatment around each injection point is expected to be approximately 12 feet. Depending on the most recent concentrations of CVOCs in the nearby monitoring well(s), the new injection points will be installed in one of three ways:

- Shallow injection points
 - Installed to an approximate total depth of 25 feet with a 10-foot screen
 - A total of three of these temporary injection points will be installed around the existing W-4R monitoring well location
- Deep injection points
 - Installed to total depths ranging from 34 to 41 feet (depending on the location) with a 10-foot screen
 - A total of 15 of these deep temporary injection points will be installed around four existing monitoring wells
 - MW-311 (six locations)
 - MW-419D (three locations)
 - MW-408D (three locations)
 - MW-321 (three locations)
- Dual zone injection points
 - Installed to total depths ranging from 36 to 38 feet with two screens (one at shallow depths and one at deeper depths)
 - A total of 12 of these dual zone injection points will be installed around three existing monitoring wells
 - MW-416S/D (six locations with shallow screens set from 15-22 feet and deep screens set from 27-36 feet)
 - MW-423S/D (three locations with shallow screens set from 19-26 feet and deep screens set from 29-38 feet)
 - MW-428 (three locations with shallow screens set from 19-26 feet and deep screens set from 29-38 feet).

The screen settings of the 30 new injection points are summarized on **Table 1**.

The temporary injection points will be installed using a DPT drilling rig approximately two to three weeks before the scheduled injection activities. To minimize the duration of the installation activities, and because the additional injection points are all located near existing monitoring wells, the boreholes will not be logged. Soils generated during installation of the temporary injection points will be containerized in drums and staged onsite pending characterization and subsequent offsite transportation for proper treatment/disposal. The new injection points will be completed as flush-mount installations. The location of each temporary injection point will be documented using a global positioning system (GPS) unit.

Amendment Injections

At the 43 existing injection wells and 30 new injection points that are proposed to be used for this supplemental injection event, the injections will be performed in a manner consistent with the 2011, 2013 and 2015 injection events. This includes the use of large onsite containers for the proper mixing of

amendments prior to injections and the use of a dosing/metering pump and a custom manufactured manifolded pump that will allow for the injection efforts at up to ten well screens at a time.

The amendment mixture and buffer mixture will be created by mixing the individual components at the Site. The water needed to create the amendment and buffer mixtures at the Site, as well as the necessary chase water, will be extracted from onsite monitoring wells located near the injection locations.

The total quantities of the amendment mixture that will be targeted for this supplemental injection event (including the 43 existing injection wells and 30 new temporary injection points, as shown on **Figure 1**) are:

- 10,890 gallons (gal) (88,209 pounds [lbs]) of 60% EVO concentrate
- 423.5 gal (4,659 lbs) of 60% sodium lactate solution
- 442 lbs of DAP (0.5% by weight of EVO concentrate)
- Vitamin B12 solution (as specified by the EVO manufacturer)
- 24,200 lbs of potassium bicarbonate
- 290,400 gal of Site groundwater.

The total quantities of the buffer mixture that will be targeted for this supplemental injection event are:

- 24,200 lbs of potassium bicarbonate
- 290,400 gal of Site groundwater.

There will also be a small volume of chase water (200 gallons total per well screen, totaling 24,200 gallons) that will be utilized to flush the mixtures out of the screens and into the aquifer. Although the volume of chase water that will be injected into each screen is relatively small, the volume of buffer mixture that is injected will be significant and will enhance the distribution of the amendment mixture that will be injected before the buffer mixture.

Overall, Ramboll is targeting to inject a total of 5,000 gallons into each injection well screen in the following sequence:

- Amendment mixture: 2,400 gal
- Chase water #1: 100 gal
- Buffer mixture: 2,400 gal
- Chase water #2: 100 gal

Similar to prior injection events, special equipment will be used to perform the injections into the injection wells that have dual screens. Ramboll is targeting to inject a total of 10,000 gallons at each of these locations, in the same sequence but double the amounts used for the single-screen injection wells.

Permitting

Because the supplemental injection activities include new injection well locations, Ramboll will prepare and submit an updated Inventory of Injection Wells form to the United States Environmental Protection Agency (USEPA). This updated form will provide the notification required under the Underground Injection Control (UIC) program for the 30 new injection points. As required by the regulations, the updated form will be submitted to USEPA at least 30 days before installing the new injection wells.

Potential Implementation Contingencies

Several weeks will be required to inject the amendment mixture into the shallow aquifer due to the number of injection locations, the existence of multiple screen depths, and the low rate of injection (1.5 gallons per minute [gpm]). As before, potential issues that could occur during the injection activities include “daylighting” (i.e., amendment discharging to the ground surface) or lower than expected injection rates. While daylighting could occur, it was not observed during the prior injection events at the Site. It also appears that a 1.5 gpm injection rate was achieved during the prior events. Ramboll will re-assess the injection rate after performing the supplemental injections at three to five locations to evaluate if the injection rate can be increased to minimize the duration of the injection activities. As a contingency, if daylighting occurs, Ramboll will reduce the injection rate and/or pressure of the injections and, because the amendment mixture is created at the Site, could also increase the concentration of the amendment.

Proposed Schedule

The Site is currently owned by the City of Indianapolis (City), and the City has established a plan to redevelop the southern portion of Site into an Animal Control Shelter. Some of the existing infrastructure (i.e., monitoring wells, injection wells) will likely need to be decommissioned or modified to support the redevelopment. Therefore, GE prefers to implement a supplemental injection event before the redevelopment activities begin, and requests that the Indiana Department of Environmental Management (IDEM) review and provide comments on or approval of this Work Plan as soon as possible so the supplemental injection activities can be completed by the end of this year. Assuming prompt approval of this Work Plan (i.e., by August 31, 2022), the tentative schedule is:

- August 2022:
 - Prepare and submit an updated Inventory of Injection Wells form to USEPA
 - Procure and schedule delivery of the components of the amendment and buffer mixtures
 - Procure and schedule the drilling/injection subcontractor (currently anticipated to be Cascade Technical Services).
- September 2022 (estimated duration three weeks):
 - Mark and clear utilities at the new injection well locations
 - Utilize DPT drilling rig to install the 30 injection wells (a mixture of shallow, deep and dual-screen injection wells, as shown on **Table 1**).
- October and November 2022 (estimated eight weeks):
 - Onsite preparation of the amendment mixture and buffer mixture and injection of these mixtures (with chase water after each) into the existing injection wells and the newly installed temporary injection points
 - Schedule assumes the use of two crews and drilling rigs to perform the injection activities in an efficient manner; the injection rates will be adjusted upward from 1.5 gpm if possible, or downward if needed to mitigate potential daylighting.
- December 2022:
 - Begin preparation of the summary of the supplemental injections for inclusion in the 2022 APR.

- January 2023:
 - Perform the first post-injection groundwater monitoring event, which will coincide with the first quarterly O&M event.
- March 2023:
 - Submittal of the 2022 APR to IDEM, which will summarize the groundwater performance monitoring activities and results as well as the supplemental injection activities.

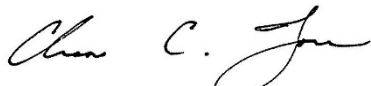
Groundwater Performance Monitoring and Reporting

The groundwater performance monitoring will continue in 2022 and the performance monitoring activities and results will be summarized in the 2022 Annual Progress Report (APR) that will be prepared by Ramboll and submitted to IDEM by January 31, 2023. Assuming the supplemental injection event can be completed before the end of this year, the 2022 APR will also include a summary of the supplemental injection activities. Similar to prior injection events, it may require two to three years of performance monitoring to understand the full effectiveness of this supplemental injection event.

Note that the performance monitoring program will likely need to be adjusted if/when the southern portion of the Site is redeveloped by the City. GE and/or Ramboll will communicate with IDEM regarding the proper decommissioning of existing monitoring and injection wells that cannot be retained through the redevelopment activities based on the City's redevelopment plans.

Ramboll looks forward to receiving comments on and/or approval of this Work Plan from IDEM so the supplemental injection activities at the Sherman Park facility can proceed and be completed by the end of 2022. In the interim, should you have any questions, please contact Chase Forman at Ramboll at (513) 697-2035 or chase.forman@ramboll.com.

Yours sincerely



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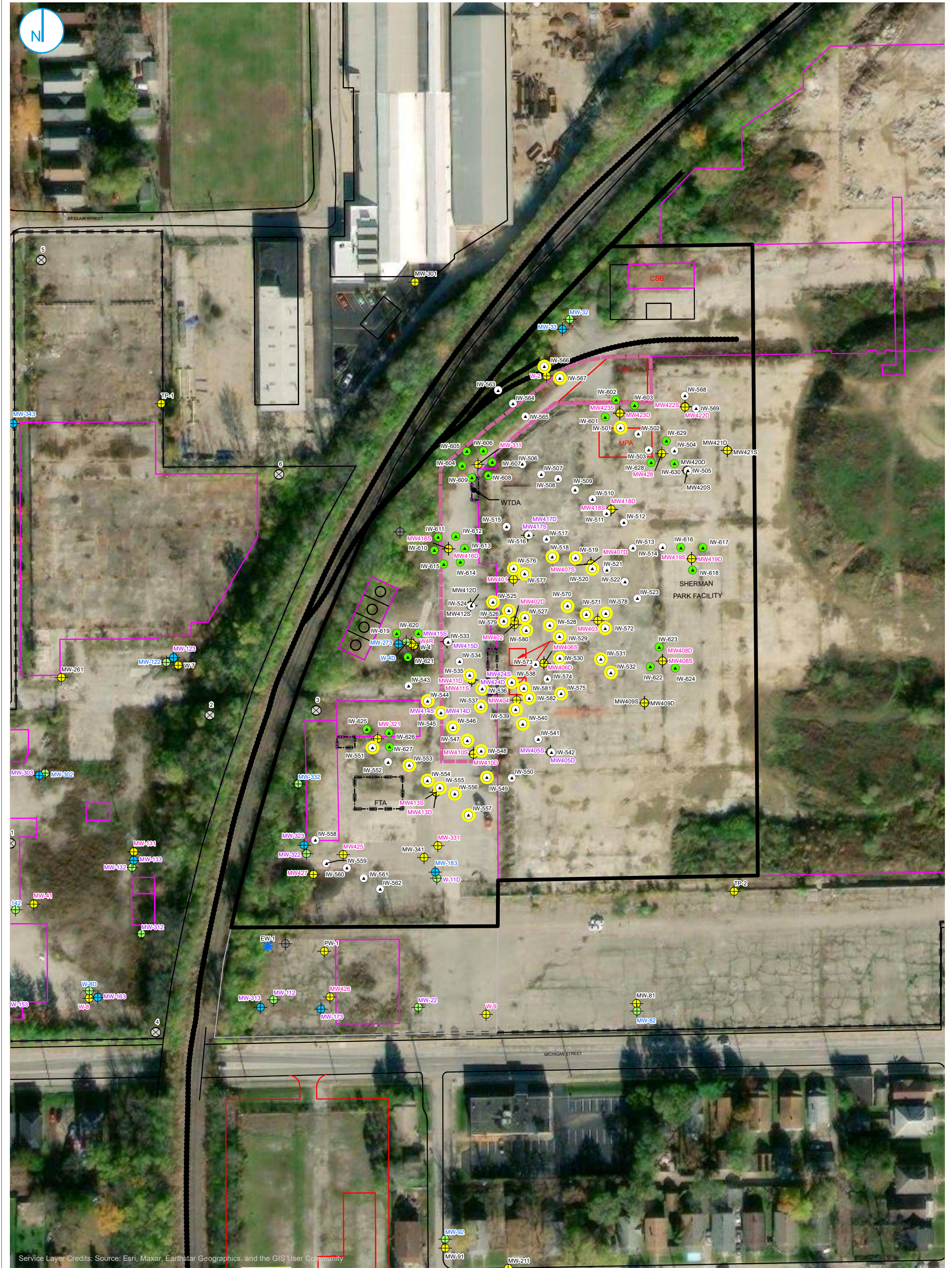
cc: Dawn Varacchi-Ives – GE
Mark Harkness – Ramboll
Piers Kirby – City of Indianapolis

Attachments: Table 1 – Proposed 2022 Supplemental Amendment Injection Locations
Figure 1 – Site Plan with Proposed Supplemental Injection Locations
Attachment A – Amendment Safety Data Sheets

Table 1 - Proposed 2022 Supplemental Amendment Injection Locations

Injection Well ID	Type of Injection Point	Proposed Interval of Injection	Nearby Monitoring Well(s)	Existing/Targeted Total Depth (ft bgs)	Existing/Targeted Screened Interval (ft bgs)
IW-566	Existing	Both	W-2	30	20-30
IW-567	Existing	Both			
IW-501	Existing	Both			
IW-601	New	Both	MW-423S & D	38	19-26 & 29-38
IW-602	New	Both			
IW-603	New	Both			
IW-518	Existing	Both	MW-407S & D	38	19-26 & 29-38
IW-519	Existing	Both			
IW-520	Existing	Both			
IW-576	Existing	Shallow	MW-401	25	15-25
IW-577	Existing	Shallow			
IW-525	Existing	Both	MW-402	25	15-25
IW-526	Existing	Both			
IW-527	Existing	Both			
IW-579	Existing	Shallow			
IW-580	Existing	Shallow			
IW-528	Existing	Both	MW-406S & D	35	15-22 & 26-35
IW-529	Existing	Both			
IW-530	Existing	Both			
IW-531	Existing	Both	None	35	15-22 & 26-35
IW-532	Existing	Both			
IW-535	Existing	Both	MW-411S & D	35	15-22 & 26-35
IW-536	Existing	Both			
IW-537	Existing	Both			
IW-538	Existing	Both			
IW-539	Existing	Both			
IW-540	Existing	Both	MW-404	25	15-25
IW-575	Existing	Both			
IW-581	Existing	Shallow			
IW-582	Existing	Shallow			
IW-570	Existing	Both			
IW-571	Existing	Both	MW-403	25	15-25
IW-572	Existing	Both			
IW-578	Existing	Shallow			
IW-544	Existing	Both	MW414S & D	35	15-22 & 26-35
IW-545	Existing	Both			
IW-546	Existing	Both			
IW-547	Existing	Both	MW-410S & D	35	15-22 & 26-35
IW-548	Existing	Both			
IW-549	Existing	Both			
IW-551	Existing	Both	MW-321	34	15-22 & 25-34
IW-625	New	Deep		34	24-34
IW-626	New	Deep			
IW-627	New	Deep			
IW-553	Existing	Both	None	34	15-22 & 25-34
IW-554	Existing	Both	MW413S & D	35	15-22 & 26-35
IW-555	Existing	Both			
IW-556	Existing	Both			
IW-557	Existing	Both			
IW-604	New	Deep	MW-311	38	28-38
IW-605	New	Deep			
IW-606	New	Deep			
IW-607	New	Deep			
IW-608	New	Deep			
IW-609	New	Deep	MW-416S & D	36	15-22 & 25-36
IW-610	New	Both			
IW-611	New	Both			
IW-612	New	Both			
IW-613	New	Both			
IW-614	New	Both	MW-419D	41	31-41
IW-615	New	Both			
IW-616	New	Deep			
IW-617	New	Deep			
IW-618	New	Deep			
IW-619	New	Shallow	W-4R	25	15-25
IW-620	New	Shallow			
IW-621	New	Shallow			
IW-622	New	Deep	MW-408D	35	26-35
IW-623	New	Deep			
IW-624	New	Deep			
IW-628	New	Both	MW-428	38	19-26 & 29-38
IW-629	New	Both			
IW-630	New	Both			

ft bgs - feet below ground surface



Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

- Proposed Existing Injection Well for Supplemental Injection
- Proposed New Injection Point Location
- Existing Injection Well
- Abandoned/Not Located Monitoring Well Location
- ★ Extraction Well
- Lower Water-Bearing Unit Monitoring Well Location
- Middle Water-Bearing Unit Monitoring Well Location
- Upper Water-Bearing Unit Monitoring Well Location
- ⊗ Historical Water Supply Well

PROPOSED SUPPLEMENTAL INJECTION LOCATIONS

SUPPLEMENTAL AMENDMENT INJECTION WORK PLAN

FIGURE 01

Sherman Park Facility
 600 N Sherman Dr.
 Indianapolis, Indiana


0 75 150
 Feet

RAMBOLL AMERICAS
 ENGINEERING SOLUTIONS, INC.
 A RAMBOLL COMPANY



ATTACHMENT A
AMENDMENT SAFETY DATA SHEETS

Section 1: Identification	
Product Name:	EOS Pro
Chemical Description:	Mixture; vegetable oil emulsion
Manufacturer:	EOS Remediation PO Box 14266 Research Triangle Park NC 27709 (P): 919-873-2204 www.eosremediation.com
Recommended Use:	Groundwater bioremediation (environmental applications)
Restricted Use:	Not for human consumption.
24-Hour Emergency Contact:	ChemTel: United States (P): 800-255-3924 ChemTel: International (P): 813-248-0585

Section 2: Hazard(s) Identification	
Hazard Classification:	Irritant (skin and eye)
Signal Word:	Warning
Hazard Statement(s):	Potential eye and skin irritant.
Pictograms:	
Precautionary Statement(s):	Not for human consumption. Do not store near excessive heat or oxidizers. Avoid contact with eyes and skin. Wear protective gloves and eye protection.

Section 3: Composition/Information on Ingredients		
Common Name(s)	CAS NO.	% by Weight
Soybean Oil	8001-22-7	60
Food Grade Emulsifiers Trade Secret ^{1,2}	111-03-5	10
Soluble Substrates (glycerol) Trade Secret ^{1,2}	56-81-5	4
Water	7732-18-5	26

1 – The precise composition of this product is proprietary information. A more complete disclosure will be provided to a physician in the event of a medical emergency.

2 – The soluble substrates and emulsifiers are generally recognized as safe for food contact.

Section 4: First-Aid Measures

Routes of Exposure	Emergency First-Aid Procedures
Inhalation	Remove to fresh air.
Eye Contact	Flush with water for 15 minutes; if irritation persists see a physician.
Skin Contact	Wash with mild soap and water.
Ingestion	Product is non-toxic. If nausea occurs, induce vomiting and seek medical attention.

Section 5: Fire-Fighting Measures

Extinguishing Media:	CO ₂ , foam, dry chemical Note: Water, fog and foam may cause frothing and spattering.
Special Fire Fighting Procedures:	Wear self-contained breathing apparatus and chemical resistant clothing. Use water spray to cool fire exposed containers.
Fire Hazard(s):	Burning will cause oxides of carbon.

Section 6: Accidental Release Measures

Personal Precautions:	Avoid contact with eyes and skin. Do not consume.
Emergency Procedures:	N/A
Methods & Materials used for Containment:	Compatible granular absorbent
Cleanup Procedures:	Spread compatible granular absorbent over spill area and sweep using broom and pan; dispose in appropriate receptacle. Clean area with water.

Section 7: Handling and Storage

Safe Handling & Storage:	Do not store near excessive heat or oxidizers.
Other Precautions:	Consumption of food and beverages should be prevented in work area where product is being used. After handling product, always wash hands and face thoroughly with soap and water before eating, drinking, or smoking.

Section 8: Exposure Controls/Personal Protection

Exposure Limits	
OSHA PEL:	NE
ACGIH TLV:	NE
NIOSH REL:	NE
Personal Protective Measures	
Respiratory Protection:	Not normally required. P95 respirator if aerosols might be generated.
Hand Protection:	Protective gloves are recommended
Eye Protection:	Recommended
Engineering Measures:	Local exhaust ventilation if aerosols are generated
Hygiene Measures:	Wash promptly with soap & water if skin becomes irritated from contact.
Other Protection:	Wear appropriate clothing to prevent skin contact.

Section 9: Physical and Chemical Properties

Appearance:	White Liquid	Explosive Limits:	NE
Odor:	Vegetable Oil	Vapor Pressure:	NE
Odor Threshold:	NE	Vapor Density:	Heavier than air
pH:	6.0-7.0 (su)	Relative Density:	0.96-0.98
Melting Point/Freezing Point:	Liquid at room temperature	Solubility:	Dispersible
Boiling Point:	212°F (100°C)	Partition coefficient:	NE
Flash Point:	>300°F (149°C)	Auto-ignition Temperature:	NE
Evaporation Rate:	NE	Decomposition Temperature:	N/A
Flammability (solid, gas):	NE	Viscosity:	500-1500 cP

NE – Not Established

Section 10: Stability and Reactivity

Stability:	Stable
Incompatibility:	Strong acids and oxidizers
Hazardous Decomposition Products:	Thermal decomposition may produce oxides of carbon
Hazardous Reactions/Polymerization:	Will not occur
Conditions to Avoid:	None known

Section 11: Toxicological Information

Likely Routes of Exposure:	Ingestion, dermal and eye contact
Signs and Symptoms of Exposure:	None known
Health Hazards	
Acute:	Potential eye and skin irritant
Chronic:	None known
Carcinogenicity	
NTP:	No
IARC:	No
OSHA:	No

Section 12: Ecological Information (non-mandatory)

There is no data on the ecotoxicity of this product.

Section 13: Disposal Considerations (non-mandatory)

Waste Disposal Methods:	Dispose of according to Federal and local regulations for non-hazardous waste. Recycle, if practical.
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Section 14: Transport Information (non-mandatory)

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

No transport warning required.

Section 15: Regulatory Information (non-mandatory)

N/A

Section 16: Other Information

Date of Preparation:	29 May 2014
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Last Modified Date:	27 June 2019
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The information contained herein is based on available data and is believed to be correct. However, EOS Remediation, LLC makes no warranty, expressed or implied, regarding the accuracy of this data or the results to be obtained thereof. This information and product are furnished on the condition that the person receiving them shall make his/her own determination as to the suitability of the product for his/her particular purpose.



SAFETY DATA SHEET



1. IDENTIFICATION OF MATERIAL AND SUPPLIER

Product Identifier: Wilclear Plus[®] Lactate with Accelerite[®]
Recommended Use: In-situ Bioremediation
Recommended Restrictions: none known

Supplier Name: JRW Bioremediation, LLC
Address: 14321 W. 96th Terrace
Lenexa, KS 66215
Telephone: 913-438-5544
EMERGENCY Telephone: 800-779-5545 x 116 (Mon-Fri 9am-5pm CST)
913-961-6644 (afterhours)

2. HAZARD IDENTIFICATION

Health & Physical Hazards:
This product contains no substances in their current physical state that are considered to be hazardous to health and has a low order of toxicity. While the chemical, physical, and toxicological properties have not been thoroughly examined, no acute or delayed symptoms or effects have been observed to date.

Flammability Hazards:
This is a Non-Flammable liquid but it is recommended to avoid temperatures above 150°C.

Reactivity Hazards:
This product is considered stable. Thermal decomposition may lead to release of irritating gases and vapors. Hazardous polymerization is not expected to occur. Fermentation can occur when diluted with water.

OSHA Hazards:
This material is not considered hazardous by OSHA. No labels or signage are known to be required.

3. COMPOSITION / INFORMATION ON INGREDIENTS

Components	CAS #	% by Weight
Sodium lactate	72-17-3	33-40%
Sodium propionate	137-40-6	0-8%
Sodium acetate	127-09-3	0-8%
Sodium butyrate	156-54-7	0-8%
Total sodium carboxylates		45-50%
Carbohydrates & fermentation metabolites	68476-78-8	15-20%
Water	7732-18-5	40%

4. FIRST-AID MEASURES

Inhalation:

Inhalation of mist may cause mild irritation of respiratory system. Move to fresh air.

Skin Contact:

In case of contact with skin, immediately wash with plenty of soap and water while removing contaminated clothing. Seek medical attention if skin irritation develops or persists.

Eye Contact:

In case of contact with eyes, immediately flush eyes with water for at least 15 minutes, lifting eyelids to facilitate irrigation. Get medical attention if necessary.

Ingestion:

If swallowed, get medical attention.

Signs and symptoms of exposure:

Mild irritation to skin and eyes upon contact; mild irritation to respiratory system upon inhalation.

Medical Conditions aggravated by exposure:

None determined. Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media:	Water, carbon dioxide, or dry chemical.
Unsuitable Extinguishing Media:	Do not use heavy water stream as it may spread or scatter.
Specific hazards from substance/mixture:	Thermal decomposition may lead to release of irritating or toxic gases and vapors.
General fire hazards:	No unusual fire or explosion hazards noted

Special protective equipment / precautions for fire-fighters:

Wear full protective clothing and positive pressure breathing apparatus.

6. ACCIDENTAL RELEASE MEASURES

Methods and Materials for containment and clean up:

Contain spill with absorbent materials such as vermiculite or soil; shovel and place material in drum for disposal. Flush area with water. Surfaces may become slippery after spillage. Dispose of according to all local, state, and federal regulations at an approved waste treatment facility.

Personal precautions / Protective equipment:

Use personal protective equipment. Prevent spills, contamination, and leakage.

Environmental precautions:

No special environmental precautions required.

7. HANDLING AND STORAGE

Precautions for safe handling:

Observe good work and industrial hygiene practices. Use personal protective equipment. Avoid contact with skin, eyes, and clothing. Avoid breathing mists and vapors. Wash hands after use of this product. Do not eat, drink, or smoke while using product. Prevent spills, contamination, and leakage.

Conditions for safe storage, including any incompatibilities:

Keep container tightly closed. Keep in properly labeled containers. Store in a well ventilated, cool, dry area.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Control parameters:	No exposure or biological limits noted for ingredients(s).
Appropriate engineering controls:	Use adequate mechanical ventilation, especially in confined spaces. Temperatures best kept below 150 ⁰ C.
Individual protection measures, such as Personal Protective Equipment (PPE):	
Eye/Face protection:	Chemical goggles recommended.
Skin / hand / body protection:	Chemical resistant gloves recommended. Suitable protective clothing as defined by employer.
Respiratory protection:	None required under normal use in well ventilated area.
General considerations:	Use good industrial hygiene and best safety practices. When using material, do not eat, drink, or smoke. Remove and wash any contaminated clothing before storage or re-use.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	light to medium brown
Physical state:	liquid
Odor:	slight sweet yeast-like aroma
Odor threshold:	not applicable
pH:	not determined
Melting point/freezing point:	not determined
Initial boiling point:	>100°C
Closed cup Flash point:	not applicable
Evaporation rate:	not determined
Flammability (solid, gas):	not determined
Upper/lower flammability or explosive limits:	not determined
Vapor pressure (Mg Hg):	not determined
Vapor density (air = 1):	not determined
Density:	not determined
Viscosity	not determined
Solubility in water:	completely soluble
Auto-ignition temperature:	not determined
Specific Gravity (H₂O = 1):	>1

10. STABILITY AND REACTIVITY

Reactivity:	Non-reactive under conditions of normal use, storage & transport.
Chemical stability:	Stable under conditions of normal use, storage and transport.
Possibility of hazardous reactions:	Hazardous polymerization will not occur.
Conditions to avoid:	Temperatures above >150 ⁰ C.
Incompatible materials:	Fermentation can occur when diluted with water.
Hazardous decomposition products:	Thermal decomposition may lead to release of irritating gases and vapors.

11. TOXICOLOGICAL INFORMATION

No adverse health effects are expected if the product is used as intended and in accordance with this Safety Data Sheet.

Inhalation:	Inhalation of mist may cause mild irritation of respiratory system. Move to fresh air.
Ingestion:	If swallowed, get medical attention.
Skin:	In case of contact with skin, immediately wash with plenty of soap and water while removing contaminated clothing. May cause mild irritation. Seek medical attention if skin irritation develops or persists.
Eye contact:	In case of contact with eyes, immediately flush eyes with water for at least 15 minutes, lifting eyelids to facilitate irrigation. Get medical attention if necessary.
Signs & symptoms of exposure:	Mild irritation to skin and eyes upon contact; mild irritation to respiratory system upon inhalation.
Carcinogenicity:	Contains no known ingredient listed as carcinogen.
Mutagenicity:	No known effect.
Reproductive Toxicity:	No known effect.

12. ECOLOGICAL INFORMATION

Ecotoxicity:	Product is not considered environmentally hazardous and is not expected to cause significant harm to aquatic, animal, or plant life.
Persistence/degradability:	Readily biodegradable.
Bioaccumulative potential:	Not expected to bioconcentrate or bioaccumulate.
Mobility in soil:	No specific information available.

13. DISPOSAL CONSIDERATIONS

Disposal Methods:

Contain spill with absorbent materials such as clay or soil and shovel and place material in drum for disposal. Surfaces may become slippery after spillage. Dispose of according to all local, state, and federal regulations at an approved waste treatment facility.

14. TRANSPORTATION INFORMATION

DOT hazard class:	Not Applicable, non-regulated
Labeling:	Not Applicable
Proper Shipping Name:	Wilclear® Sodium Lactate 60% Solution
NMFC#:	46400.02
Class	70

15. REGULATORY INFORMATION

Restrictions on use:	None.
Other regulations:	No information available or not applicable.

16. OTHER INFORMATION

The information in this SDS summarizes to the best of our knowledge at the date of issue, the chemical health and safety hazards of this material and general guidance for safe handling, use, processing, storage, transportation, disposal, and release. This information is not intended to be considered a warranty or quality specifications. The information contained relates only to the specific material designated and may not be valid if used in conjunction with other materials or in any other processes other than intended use. If further clarification or information is required, please contact JRW Bioremediation.

SAFETY DATA SHEET

M25047 - ANSI - EN



POTASSIUM BICARBONATE (ANHYDROUS ALL GRADES)

SDS No.: M25047

SDS Revision Date: 05-Apr-2016

SECTION 1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Company Identification: Armand Products Company
469 North Harrison Street
Princeton, NJ 08543-5297

24 Hour Emergency Telephone Number: 1-800-733-3665 or 1-972-404-3228 (USA); CANUTEC (Canada): 1-613-996-6666; CHEMTREC (within USA and Canada): 1-800-424-9300; CHEMTREC (outside USA and Canada): +1 703-527-3887; CHEMTREC Contract No: CCN16186

To Request an SDS: MSDS@oxy.com or 1-972-404-3245

Customer Service: 1-800-522-0540 or 1-609-683-5900

Product Identifier: **POTASSIUM BICARBONATE (ANHYDROUS ALL GRADES)**

Trade Name: Potassium Bicarbonate USP; ACS and Technical Grades

Synonyms: Carbonic acid, monopotassium salt, KBC, Pot bicarb, Potassium acid carbonate, Anhydrous potassium bicarbonate, Potassium hydrogen carbonate

Product Use: Fire extinguishing agent, Pharmaceuticals, Healthcare, Food processing, Chemical processing

Uses Advised Against: None identified

SECTION 2. HAZARDS IDENTIFICATION

OSHA REGULATORY STATUS: This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

POTASSIUM BICARBONATE (ANHYDROUS ALL GRADES)

SDS No.: M25047

SDS Revision Date: 05-Apr-2016

EMERGENCY OVERVIEW:

Color: White
Physical State: Solid
Appearance: Granular, Powder
Odor: Odorless

Signal Word: **WARNING**

MAJOR HEALTH HAZARDS: CAUSES EYE IRRITATION. CAUSES MILD SKIN IRRITATION. HARMFUL IF INHALED. MAY CAUSE RESPIRATORY TRACT IRRITATION.

PRECAUTIONARY STATEMENTS: Avoid breathing dust. Avoid contact with skin and eyes. Wash skin and contaminated clothing thoroughly after handling. Use only with adequate ventilation. Store in well-ventilated place. Keep container tightly closed.

ADDITIONAL HAZARD INFORMATION: Good hygiene and safety practices should be used when handling and working with this material. Good hygiene practices include but are not limited to: wearing suitable gloves and/or eye protection; washing hands and affected skin immediately after handling, before breaks, and at the end of the workday; regularly cleaning work area and clothing; etc.

GHS CLASSIFICATION:

GHS: CONTACT HAZARD - SKIN:	Category 3 - Causes mild skin irritation.
GHS: CONTACT HAZARD - EYE:	Category 2B - Causes eye irritation
GHS: SENSITIZATION HAZARD:	Not classified as a dermal sensitizer according to GHS criteria. This material when applied to the skin of guinea pigs did not elicit any dermal sensitization reaction.
GHS: ACUTE TOXICITY - INHALATION:	Category 4 - Harmful if inhaled
GHS: ACUTE TOXICITY - ORAL:	Not classified as acutely toxic for oral exposure.
GHS: ACUTE TOXICITY - DERMAL:	Not classified as acutely toxic for dermal exposure.
GHS: TARGET ORGAN TOXICITY (SINGLE EXPOSURE):	Category 3 - May cause respiratory tract irritation
GHS: CARCINOGENICITY:	This product is not classified as a carcinogen by NTP, IARC or OSHA.

UNKNOWN ACUTE TOXICITY: Not applicable. 100% of this product consists of ingredient(s) of known acute toxicity.

GHS SYMBOL: Exclamation mark



POTASSIUM BICARBONATE (ANHYDROUS ALL GRADES)

SDS No.: M25047

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GHS SIGNAL WORD: WARNING**GHS HAZARD STATEMENTS:****GHS - Health Hazard Statement(s)**

- Causes eye irritation
- Causes mild skin irritation
- Harmful if inhaled
- May cause respiratory irritation

GHS - Precautionary Statement(s) - Prevention

- Avoid breathing dust, fume, gas, mist, vapors, or spray
- Wash thoroughly after handling
- Use only outdoors or in a well-ventilated area

GHS - Precautionary Statement(s) - Response

- IF INHALED: Remove person to fresh air and keep comfortable for breathing
- Call a POISON CENTER or doctor/physician if you feel unwell
- 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 skin irritation occurs: Get medical advice/attention

GHS - Precautionary Statement(s) - Storage

- Store in a well-ventilated place. Keep container tightly closed
- Store locked up

GHS - Precautionary Statement(s) - Disposal

- Dispose of contents and container in accordance with applicable local, regional, national, and/or international regulations

Hazards Not Otherwise Classified (HNOC)

None Known

See Section 11: TOXICOLOGICAL INFORMATION**SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS**

Synonyms: Carbonic acid, monopotassium salt, KBC, Pot bicarb, Potassium acid carbonate, Anhydrous potassium bicarbonate, Potassium hydrogen carbonate

Component	Percent [%]	CAS Number
Potassium Bicarbonate	97.5-100	298-14-6
Potassium Carbonate	<2.5	584-08-7

POTASSIUM BICARBONATE (ANHYDROUS ALL GRADES)

SDS No.: M25047

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SECTION 4. FIRST AID MEASURES

INHALATION: If inhaled and adverse effects occur, remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor/physician if you feel unwell.

SKIN CONTACT: Brush off excess chemical. Flush contaminated areas with water. If skin irritation occurs: Get medical advice/ attention.

EYE CONTACT: Immediately flush contaminated eyes with a directed stream of water for as long as possible. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.

INGESTION: No hazard expected. If large amounts are ingested, get medical advice/attention.

Most Important Symptoms/Effects (Acute and Delayed): ∴

Acute Symptoms/Effects: Listed below.

Inhalation (Breathing): Respiratory Irritation: Upper airway irritation, may cause cough, redness of mouth and upper airways.

Skin: Skin Irritation: Exposure to skin may cause redness, or irritation.

Eye: Eye Irritation: Eye exposure may cause irritation, and redness to the eye lids, conjunctiva.

Ingestion (Swallowing): No effects identified.

Delayed Symptoms/Effects:

- No delayed / chronic effects have been identified

Interaction with Other Chemicals Which Enhance Toxicity: None known.

Medical Conditions Aggravated by Exposure: May aggravate preexisting conditions, such as: eye disorders that decrease tear production or have reduced integrity of the eye; skin disorders that compromise the integrity of the skin.

Protection of First-Aiders: Avoid contact with skin and eyes. Do not breathe dust. At minimum, treating personnel should utilize PPE sufficient for prevention of bloodborne pathogen transmission.

Notes to Physician: This material dissociated into potassium and bicarbonate ions upon contact with water.

SECTION 5. FIRE-FIGHTING MEASURES

Fire Hazard: Negligible fire hazard.

Extinguishing Media: Use extinguishing agents appropriate for surrounding fire.

Fire Fighting: Move container from fire area if it can be done without risk. Avoid inhalation of material or combustion by-products. Stay upwind and keep out of low areas.

POTASSIUM BICARBONATE (ANHYDROUS ALL GRADES)

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Hazardous Combustion Products:	Oxides of carbon, Potassium oxides, Heating above 100 °C may cause dangerous levels of carbon dioxide gas to be present in the atmosphere
Sensitivity to Mechanical Impact:	Not sensitive.
Sensitivity to Static Discharge:	Not sensitive.
Lower Flammability Level (air):	Not flammable
Upper Flammability Level (air):	Not flammable
Flash point:	Not flammable
Auto-ignition Temperature:	Not applicable

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal Precautions:

Avoid breathing dust. Avoid contact with skin and eyes. Wash thoroughly after handling. Do not eat, drink, or smoke when using this product. Wear appropriate personal protective equipment recommended in Section 8 of the SDS.

Methods and Materials for Containment and Cleaning Up:

Shovel dry material into suitable container. Flush spill area with water, if appropriate.

Environmental Precautions:

Keep out of water supplies and sewers. Releases should be reported, if required, to appropriate agencies.

SECTION 7. HANDLING AND STORAGE

Precautions for Safe Handling:

Avoid breathing dust. Wash thoroughly after handling. Handle in accordance with good industrial hygiene and safety practice. When using, do not eat, drink or smoke. Do not reuse containers. Wear personal protective equipment as described in Exposure Controls/Personal Protection (Section 8) of the SDS.

Safe Storage Conditions:

Store and handle in accordance with all current regulations and standards. Keep container tightly closed and properly labeled. Material is very hygroscopic. Store in a cool, dry area. Keep separated from incompatible substances (see below or Section 10 of the Safety Data Sheet).

Incompatibilities/ Materials to Avoid:

Lime, acids, Prolonged contact with aluminum, brass, bronze, copper, lead, tin, zinc or other alkali sensitive metals or alloys

POTASSIUM BICARBONATE (ANHYDROUS ALL GRADES)

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SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Regulatory Exposure Limit(s): This product does not contain any components that have regulatory occupational exposure limits (OEL's) established.

OEL: Occupational Exposure Limit; OSHA: United States Occupational Safety and Health Administration; PEL: Permissible Exposure Limit; TWA: Time Weighted Average; STEL: Short Term Exposure Limit

NON-REGULATORY EXPOSURE LIMIT(S): Listed below for the product components that have advisory (non-regulatory) occupational exposure limits (OEL's) established.

Component	ACGIH TWA	ACGIH STEL	ACGIH Ceiling	OSHA TWA (Vacated)	OSHA STEL (Vacated)	OSHA Ceiling (Vacated)
Potassium Bicarbonate	-----	-----	-----	-----	-----	-----

- The Non-Regulatory United States Occupational Safety and Health Administration (OSHA) limits, if shown, are the Vacated 1989 PEL's (vacated by 58 FR 35338, June 30, 1993).

- The American Conference of Governmental Industrial Hygienists (ACGIH) is a voluntary organization of professional industrial hygiene personnel in government or educational institutions in the United States. The ACGIH develops and publishes recommended occupational exposure limits each year called Threshold Limit Values (TLVs) for hundreds of chemicals, physical agents, and biological exposure indices.

Component	OXY REL 8 hr TWA	OXY REL STEL	OXY REL Ceiling
Potassium Bicarbonate 298-14-6 (97.5-100)	10 mg/m ³		-----

ENGINEERING CONTROLS: Provide local exhaust ventilation where dust or mist may be generated. Ensure compliance with applicable exposure limits.

PERSONAL PROTECTIVE EQUIPMENT:

Eye Protection: Wear safety glasses with side-shields. If eye contact is likely, wear chemical resistant safety goggles.

Skin and Body Protection: When potential for contact with dry material exists, wear disposable coveralls suitable for dust exposure, such as Tyvek®. When potential for contact with wet material exists, wear Tychem® or similar chemical protective suit. Contaminated clothing should be removed and laundered before reuse.

Hand Protection: Wear appropriate chemical resistant gloves. Consult a glove supplier for assistance in selecting an appropriate chemical resistant glove.

Protective Material Types:

Neoprene, Nitrile, Butyl rubber, Natural rubber

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Respiratory Protection: A NIOSH approved respirator with high efficiency particulate air (HEPA) cartridges may be permissible under certain circumstances where airborne concentrations are expected to exceed exposure limits, or when symptoms have been observed that are indicative of overexposure. When an air purifying respirator is not adequate for spills and/or emergencies of unknown concentrations, an approved self-contained breathing apparatus operated in the pressure demand mode is required. A respiratory protection program that meets 29 CFR 1910.134 must be followed whenever workplace conditions warrant use of a respirator.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State:	Solid
Appearance:	Granular, Powder
Color:	White
Odor:	Odorless
Odor Threshold [ppm]:	No data available. No odor warning properties.
Molecular Weight:	100.12
Molecular Formula:	KHCO ₃
Decomposition Temperature:	212 - 392 °F (100 - 200 °C)
Boiling Point/Range:	Not applicable
Freezing Point/Range:	Not applicable.
Melting Point/Range:	212 - 392 °F (100 - 200 °C) (decomposes)
Vapor Pressure:	Not applicable
Relative Density/Specific Gravity (water=1):	2.17
Density:	68 lbs/ft ³
Water Solubility:	23% @ 20 °C
pH:	slightly basic in solution; pH 8.2 for 1% solution at 25°C
Evaporation Rate (ether=1):	Not applicable
Partition Coefficient (n-octanol/water):	No data available
Flash point:	Not flammable
Flammability (solid, gas):	Not flammable
Lower Flammability Level (air):	Not flammable
Upper Flammability Level (air):	Not flammable
Auto-ignition Temperature:	Not applicable
Viscosity:	Not applicable to solids
Hygroscopic:	Yes

SECTION 10. STABILITY AND REACTIVITY

Reactivity: Not reactive under normal temperatures and pressures.

Chemical Stability: Stable at normal temperatures and pressures.

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Possibility of Hazardous Reactions: Temperatures above 100 °C (212 °F). Avoid contact with lime to prevent formation of corrosive potassium hydroxide (KOH).

Conditions to Avoid: (e.g., static discharge, shock, or vibration) -. None known.

Incompatibilities/ Materials to Avoid: Lime. acids. Prolonged contact with aluminum, brass, bronze, copper, lead, tin, zinc or other alkali sensitive metals or alloys.

Hazardous Decomposition Products: Potassium oxides, oxides of carbon, Heating above 100 °C may cause dangerous levels of carbon dioxide gas to be present in the atmosphere

Hazardous Polymerization: Will not occur.

SECTION 11. TOXICOLOGICAL INFORMATION**TOXICITY DATA:****PRODUCT TOXICITY DATA: POTASSIUM BICARBONATE (ANHYDROUS ALL GRADES)**

LD50 Oral: 2064 mg/kg oral-rat LD50	LD50 Dermal: >2000 gm/kg skin-rabbit LD50	LC50 Inhalation: > 4.88 mg/L (4.5 hr - Rat)
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COMPONENT TOXICITY DATA:

Note: The component toxicity data is populated by the LOLI database and may differ from the product toxicity data given.

POTENTIAL HEALTH EFFECTS:

Eye contact:	May cause eye irritation.
Skin contact:	May cause mild skin irritation.
Inhalation:	May cause respiratory tract irritation.
Ingestion:	No known effects.
Chronic Effects:	No chronic effects are known.

SIGNS AND SYMPTOMS OF EXPOSURE:

Listed below.

Inhalation (Breathing): Respiratory Irritation: Upper airway irritation, may cause cough, redness of mouth and upper airways.

Skin: Skin Irritation: Exposure to skin may cause redness, or irritation.

POTASSIUM BICARBONATE (ANHYDROUS ALL GRADES)

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Eye: Eye Irritation: Eye exposure may cause irritation, and redness to the eye lids, conjunctiva.
Ingestion (Swallowing): No effects identified.

ACUTE TOXICITY:

This material when applied to the skin of guinea pigs did not elicit any dermal sensitization reaction

Interaction with Other Chemicals Which Enhance Toxicity: None known.

GHS HEALTH HAZARDS:

GHS: CONTACT HAZARD - EYE: Category 2B - Causes eye irritation

Skin Absorbent / Dermal Route? No.

GHS: SENSITIZATION HAZARD: Not classified as a dermal sensitizer according to GHS criteria. This material when applied to the skin of guinea pigs did not elicit any dermal sensitization reaction.

GHS: CARCINOGENICITY:

This product is not classified as a carcinogen by NTP, IARC or OSHA.

SPECIFIC TARGET ORGAN TOXICITY (Single Exposure):

Category 3 - Respiratory Tract Irritation

SECTION 12. ECOLOGICAL INFORMATION

ECOTOXICITY DATA:

FATE AND TRANSPORT:

BIODEGRADATION: This material is inorganic and not subject to biodegradation.

PERSISTENCE: This material is believed not to persist in the environment.

BIOCONCENTRATION: This material is believed not to bioaccumulate.

MOBILITY IN SOIL: No data available.

SECTION 13. DISPOSAL CONSIDERATIONS

Waste from material:

Reuse or reprocess, if possible. Dispose in accordance with all applicable regulations.

POTASSIUM BICARBONATE (ANHYDROUS ALL GRADES)

SDS No.: M25047

SDS Revision Date: 05-Apr-2016

Container Management:

Dispose of container in accordance with applicable local, regional, national, and/or international regulations. Container rinsate must be disposed of in compliance with applicable regulations.

SECTION 14. TRANSPORT INFORMATION

LAND TRANSPORT

U.S. DOT 49 CFR 172.101:

Status: Not Regulated.

CANADIAN TRANSPORTATION OF DANGEROUS GOODS:

Status: Not Regulated.

MARITIME TRANSPORT (IMO / IMDG) Not regulated

Status - IMO / IMDG: Not Regulated

SECTION 15. REGULATORY INFORMATION

U.S. REGULATIONS

OSHA REGULATORY STATUS:

This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200)

CERCLA SECTIONS 102a/103 HAZARDOUS SUBSTANCES (40 CFR 302.4):

Not regulated.

SARA EHS Chemical (40 CFR 355.30)

Not regulated

EPCRA SECTIONS 311/312 HAZARD CATEGORIES (40 CFR 370.10):

Acute Health Hazard

EPCRA SECTION 313 (40 CFR 372.65):

Not regulated

OSHA PROCESS SAFETY (PSM) (29 CFR 1910.119):

Not regulated

POTASSIUM BICARBONATE (ANHYDROUS ALL GRADES)

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NATIONAL INVENTORY STATUS**U.S. INVENTORY STATUS: Toxic Substance Control Act (TSCA):** All components are listed or exempt

Component	<u>U.S. INVENTORY STATUS: Toxic Substance Control Act (TSCA):</u>
Potassium Bicarbonate 298-14-6 (97.5-100 %)	Listed
Potassium Carbonate 584-08-7 (<2.5 %)	Listed

TSCA 12(b): This product is not subject to export notification.Canadian Chemical Inventory: All components of this product are listed on either the DSL or the NDSL.**STATE REGULATIONS**

There are no applicable state regulations for this product or its components.

CANADIAN REGULATIONS

- All components of this product are listed on either the DSL or the NDSL

WHMIS - Classifications of Substances:

- Not Regulated

SECTION 16. OTHER INFORMATION**Prepared by:** OxyChem Corporate HESS - Product Stewardship**Rev. Date:** 05-Apr-2016**NFPA 704 - Hazard Identification Ratings (SCALE 0-4)** Not classified as hazardous according to the National Fire Protection Association (NFPA) system.**Reason for Revision:**

- The formulation has been revised: SEE SECTION 3

POTASSIUM BICARBONATE (ANHYDROUS ALL GRADES)

SDS No.: M25047

SDS Revision Date: 05-Apr-2016

IMPORTANT:

The information presented herein, while not guaranteed, was prepared by technical personnel and is true and accurate to the best of our knowledge. NO WARRANTY OF MERCHANTABILITY OR OF FITNESS FOR A PARTICULAR PURPOSE, OR WARRANTY OR GUARANTY OF ANY OTHER KIND, EXPRESSED OR IMPLIED, IS MADE REGARDING PERFORMANCE, SAFETY, SUITABILITY, STABILITY OR OTHERWISE. This information is not intended to be all-inclusive as to the manner and conditions of use, handling, storage, disposal and other factors that may involve other or additional legal, environmental, safety or performance considerations, and OxyChem assumes no liability whatsoever for the use of or reliance upon this information. While our technical personnel will be happy to respond to questions, safe handling and use of the product remains the responsibility of the customer. No suggestions for use are intended as, and nothing herein shall be construed as, a recommendation to infringe any existing patents or to violate any Federal, State, local or foreign laws

OSHA Standard 29 CFR 1910.1200 requires that information be provided to employees regarding the hazards of chemicals by means of a hazard communication program including labeling, safety data sheets, training and access to written records. We request that you, and it is your legal duty to, make all information in this Safety Data Sheet available to your employees

End of Safety Data Sheet

SECTION 1. PRODUCT IDENTIFICATION

1.1 TRADE NAME (AS LABELED):**Diammonium Phosphate**SYNONYMS:

Ammonium Phosphate, Dibasic; Ammonium Phosphate, Secondary; DAP; Diammonium Phosphate Food grade; Diammonium Phosphate Tech Grade

CAS#:

7783-28-0

EC NUMBER:

231-987-8

REACH REGISTRATION #:

01-2119490974-22-0057

1.2 PRODUCT USE:

Nutrient in manufacture of yeast; ingredient in compound bread improvers. Flame retardant.

pH regulator.

Agriculture – Ingredient in specialty all-soluble dry fertilizers.

Building Materials – Flame-proofing of wood.

Paint – Ingredient in flame-proofing of specialty paper; prevention of afterglow in matches.

Pulp and Paper – Flame-proofing of specialty paper; prevention of afterglow in materials.

Textile – Flame-proofing of fabrics and cotton batting.

Nutrient feed for biological treatment plants.

1.3 MANUFACTURER'S NAME:**Innophos**ADDRESS:

259 Prospect Plains Rd. Bldg A, Cranbury, NJ 08512

BUSINESS PHONE:

1-609-495-4295

WEB SITE INFORMATION:

www.innophos.com

RESPONSIBLE PARTY - EU

Covance Clinical Development SA

Parque Empresarial Las Tablas

Edificio 1

Calle Federico Mompou

5-5ª planta

28050 Madrid, Spain

Tel: +34 915 901 664

Email: or-eu@covance.com

1.4 EMERGENCY PHONE NUMBERS:

800-424-9300 (CHEMTREC U.S. and Canada – 24 Hrs)

+1 703-527-3887 (CHEMTREC outside the USA and Canada – 24 Hrs)

615-386-7816 – Innophos Emergency Communication Team (ECT)

01-800-00214 00 (SETIQ in Mexico – 24 hrs)

DATE OF PRIOR REVISION:

November 16, 2017

DATE OF LATEST REVISION:

February 09, 2020

SECTION 2. HAZARD IDENTIFICATION

EMERGENCY OVERVIEW: This product is a white powder with no odor.

Health Hazards: None anticipated.

Flammability Hazards: This product is not flammable.

Reactivity Hazards: None.

Environmental Hazards: This product is not expected to have adverse effects to the aquatic environment.

2.1 GHS LABELING AND CLASSIFICATION:

This product does not meet the definition of a hazardous substance or preparation as defined by 29 CFR 1910. 1200 and regulation (EU) No. 2015/830 and regulation (EC) No. 1272/2008.

Index Number:

EC# 231-987-8 is not listed in Annex VI

Substances not listed either individually or in group entries must be self-classified.

Component(s) Contributing to Classification(s)

None applicable

2.2 LABEL ELEMENTS

GHS Hazard Symbol(s)

None

Signal Word: **None**

GHS Hazard Classification(s):

Not Classified

Hazard Statement(s):

None

Prevention Statement(s):

None

Response Statement(s):

None

Storage Statement(s):

None

Disposal Statement(s):

None

2.3 OTHER HAZARDS:

None Applicable

SECTION 3. COMPOSITION AND INFORMATION ON INGREDIENTS

Hazardous Ingredients:	WT %	CAS#	EINECS #	Hazard Classification
Phosphoric acid, ammonium salt (1:2)	100%	7783-28-0	231-987-8	None

4. FIRST-AID MEASURES

4.1 DESCRIPTION OF FIRST AID MEASURES:

EYE CONTACT: If product enters the eyes, open eyes while under gentle running water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing for at least 15 minutes. Seek medical attention.

SKIN CONTACT: Wash skin thoroughly after handling. Seek medical attention if irritation develops and persists. Remove contaminated clothing. Launder before re-use.

INHALATION: If breathing becomes difficult, remove victim to fresh air. If necessary, use artificial respiration to support vital functions. Seek medical attention.

INGESTION: If large quantities of this product is swallowed, call physician or poison control center for most current information. If professional advice is not available, do not induce vomiting. Never induce vomiting or give diluents (milk or water) to someone who is unconscious, having convulsions, or who cannot swallow. Seek medical advice. Take a copy of the label and/or SDS with the victim to the health professional.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: Pre-existing skin, respiratory system or eye problems may be aggravated by prolonged contact.

4.2 SYMPTOMS AND EFFECTS, BOTH ACUTE AND DELAYED:

Exposure to skin and eyes may cause mechanical irritation.

4.3 RECOMMENDATIONS TO PHYSICIANS:

Treat symptoms and eliminate overexposure.

SECTION 5. FIRE-FIGHTING MEASURES

5.1 FIRE EXTINGUISHING MATERIALS:

Use fire extinguishing methods below:

<u>Water Spray:</u>	Yes	<u>Carbon Dioxide:</u>	Yes
<u>Foam:</u>	Yes	<u>Dry Chemical:</u>	Yes
<u>Halon:</u>	Yes	<u>Other:</u>	Any "C" Class

5.2 UNUSUAL FIRE AND EXPLOSION HAZARDS:

Under normal use, no special measures are required.

Explosion Sensitivity to Mechanical Impact: No

Explosion Sensitivity to Static Discharge: No

5.3 SPECIAL FIRE-FIGHTING PROCEDURES:

Incipient fire responders should wear eye protection. Structural firefighters must wear Self-Contained Breathing Apparatus and full protective equipment. Isolate materials not yet involved in the fire and protect personnel. Move containers from fire area if this can be done without risk; otherwise, cool with carefully applied water spray. If possible, prevent runoff water from entering storm drains, bodies of water, or other environmentally sensitive areas.

SECTION 6. ACCIDENTAL RELEASE MEASURES

6.1 PERSONAL PRECAUTIONS, PROTECTIVE EQUIPMENT AND EMERGENCY PROCEDURES:

To prevent skin and eye contact under the foreseeable conditions of use, wear appropriate protective clothing and safety eyewear. When handling, do not eat, drink, or smoke. Wash thoroughly after handling. Handle in a well-ventilated work area.

6.2 ENVIRONMENTAL PRECAUTIONS:

If possible, prevent entry to sewers, storm drains, surface waters, and soils.

6.3 SPILL AND LEAK RESPONSE:

Spilled product should be removed immediately to avoid formation of dust. Remove by mechanical means (i.e. vacuuming). Dilute remainder with plenty of water (avoid formation of aerosols). Ensure sufficient ventilation. Wash contaminated clothing.

SECTION 7. HANDLING and STORAGE

7.1 PRECAUTIONS FOR SAFE HANDLING:

To prevent skin and eye contact under the foreseeable conditions of use, wear appropriate protective clothing and safety eyewear. When handling, do not eat, drink, or smoke. Wash thoroughly after handling. Handle in a well-ventilated work area.

7.2 STORAGE AND HANDLING PRACTICES:

Keep away from incompatible materials. Keep in a dry, well-ventilated area in closed containers. Protect containers from physical damage.

7.3 SPECIFIC USES:

See Section 1.2.

SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1 EXPOSURE PARAMETERS:

Chemical Name	CAS#	ACGIH TLV	OSHA TWA	EH40 TWA
Phosphoric acid, ammonium salt (1:2)	7783-28-0	Not Listed	Not Listed	Not Listed

PARTICULATES NOT OTHERWISE REGULATED RESPIRABLE FRACTION

OSHA	$\frac{TWA}{5 \text{ mg/m}^3}$	NOM 010 STPS 2015	$\frac{TWA}{3 \text{ mg/m}^3}$
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PARTICULATES NOT OTHERWISE REGULATED TOTAL DUST

OSHA	$\frac{TWA}{15 \text{ mg/m}^3}$	NOM 010 STPS 2015	$\frac{TWA}{10 \text{ mg/m}^3}$
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8.2 EXPOSURE CONTROLS:

VENTILATION AND ENGINEERING CONTROLS: Use with adequate ventilation to ensure exposure levels are maintained below the limits provided above.

The following information on appropriate Personal Protective Equipment is provided to assist employers in complying with OSHA regulations found in 29 CFR Subpart I (beginning at 1910.132) or equivalent standard of Canada, or standards of EU member states (including EN 149 for respiratory PPE, and EN 166 for face/eye protection), and those of Japan. Please reference applicable regulations and standards for relevant details.

RESPIRATORY PROTECTION: Not required for properly ventilated areas. Maintain airborne contaminant concentrations below guidelines listed above, if applicable. If necessary, use only respiratory protection authorized in the U.S. Federal OSHA Respiratory Protection Standard (29 CFR 1910.134), equivalent U.S. State standards, Canadian CSA Standard Z94.4-93, the European Standard EN149, or EU member states.

EYE PROTECTION: Safety glasses or goggles are recommended. If necessary, refer to U.S. OSHA 29 CFR 1910.133, Canadian Standards, and the European Standard EN166, Australian Standards, or relevant Japanese Standards.

HAND PROTECTION: Gloves are recommended to prevent skin contact. If necessary, refer to U.S. OSHA 29 CFR 1910.138, the European Standard DIN EN 374, the appropriate Standards of Canada, Australian Standards, or relevant Japanese Standards.

BODY PROTECTION: Use body protect appropriate to task being performed. If necessary, refer to appropriate Standards of Canada, or appropriate Standards of the EU, Australian Standards, or relevant Japanese Standards. If a hazard of injury to the feet exists due to falling objects, rolling objects, where objects may pierce the soles of the feet or where employee's feet may be exposed to electrical hazards, use foot protection, as described in U.S. OSHA 29 CFR 1910.136.

SECTION 9. PHYSICAL and CHEMICAL PROPERTIES

9.1 INFORMATION ON BASIC PHYSICAL AND CHEMICAL PROPERTIES:

APPEARANCE (Physical State) and COLOR: This product is a white powder

ODOR: Ammonia-like

ODOR THRESHOLD: Not Available

pH: 8

MELTING/FREEZING POINT: Not Available

BOILING POINT: Not Available

FLASH POINT: Not available

EVAPORATION RATE (n-BuAc=1): Not Available

FLAMMABILITY (SOLID, GAS): Not Applicable

UPPER/LOWER FLAMMABILITY OR EXPLOSION LIMITS: Not Available

VAPOR PRESSURE (mm Hg @ 20°C (68°F): Not Available

VAPOR DENSITY: Not Available

RELATIVE DENSITY: Not Available

SPECIFIC GRAVITY: Not Available

SOLUBILITY IN WATER: Soluble 41%

WEIGHT PER GALLON: Not Available

PARTITION COEFFICIENT (n-octanol/water): Not Available

AUTO-IGNITION TEMPERATURE: Not Available

DECOMPOSITION TEMPERATURE: Not Available

VISCOSITY: Not Available

OXIDIZING PROPERTIES: Not an Oxidizer

EXPLOSIVE PROPERTIES: Not Available

9.2 OTHER INFORMATION:

No additional information available at this time.

SECTION 10. STABILITY and REACTIVITY

10.1 REACTIVITY:

No data available.

10.2 STABILITY:

Stable under conditions of normal storage and use.

10.3 POSSIBILITY OF HAZARDOUS REACTIONS:

Will not occur.

10.4 CONDITIONS TO AVOID:

Dusting conditions, extreme heat, extreme humidity.

10.5 MATERIALS WITH WHICH SUBSTANCE IS INCOMPATIBLE:

Strong bases, strong oxidizing agents. Sodium hypochlorite.

10.6 HAZARDOUS DECOMPOSITION PRODUCTS:

Ammonia Oxides of nitrogen. Phosphoric acid. Oxides of phosphorus.

SECTION 11. TOXICOLOGICAL INFORMATION

11.1 INFORMATION ON TOXICOLOGICAL EFFECTS:

TOXICITY DATA:

CAS 7783-28-0: Oral-Rat LD50: >1000 mg/kg

Acute toxicity	Based on available data, the classification criteria are not met
Skin corrosion / irritation	Based on available data, the classification criteria are not met
Serious eye damage / irritation	Based on available data, the classification criteria are not met
Respiratory or skin sensitization	Based on available data, the classification criteria are not met
Germ cell mutagenicity	Based on available data, the classification criteria are not met
Carcinogenicity	Based on available data, the classification criteria are not met
Reproductive toxicity	Based on available data, the classification criteria are not met
STOT-single exposure	Based on available data, the classification criteria are not met
STOT-repeated exposure	Based on available data, the classification criteria are not met
Aspiration hazard	Based on available data, the classification criteria are not met

ROUTE OF EXPOSURE: The most significant routes of overexposure for this product are by contact with the skin or eyes. The symptoms of overexposure are described in the following paragraphs.

ACUTE:

INHALATION: None anticipated.

CONTACT WITH SKIN: Exposure to skin may cause mechanical irritation.

EYE CONTACT: Contact with the eyes may cause mechanical irritation.

INGESTION: Ingestion of large quantities may cause abdominal cramps, nausea, vomiting, diarrhea

CHRONIC: No data available.

TARGET ORGANS: Acute: Skin, Eyes

Chronic: No data available.

SUSPECTED CANCER AGENT: Ingredients within this product are not found on the following lists: FEDERAL OSHA Z LIST, NTP, IARC, or CAL/OSHA and therefore are not considered to be, nor suspected to be, cancer-causing agents by these agencies.

IRRITANCY OF PRODUCT: This product may be irritating to skin and eyes.

SENSITIZATION TO THE PRODUCT: No information available for this product.

REPRODUCTIVE TOXICITY INFORMATION: No specific information is available concerning the effects of this product and its components on the human reproductive system.

SPECIFIC TARGET ORGAN TOXICITY – SINGLE EXPOSURE: Data not sufficient for classification.

SPECIFIC TARGET ORGAN TOXICITY – REPEATED EXPOSURE: Data not sufficient for classification.

ASPIRATION HAZARD: None

SECTION 12. ECOLOGICAL INFORMATION

12.1 TOXICITY:

CAS 7783-28-0: LC50 (Fish) = 155 mg/L

12.2 PERSISTENCE AND DEGRADABILITY:

No specific data available on this product.

12.3 BIOACCUMULATIVE POTENTIAL:

No specific data available on this product.

12.4 MOBILITY IN SOIL:

No specific data available on this product.

12.5 RESULTS OF PBT AND vPvB ASSESSMENT:

No specific data available on this product.

12.6 OTHER ADVERSE EFFECTS:

No specific data available on this product.

12.7 WATER ENDANGERMENT CLASS:

No data available. At present there are no ecotoxicological assessments for this product.

SECTION 13. DISPOSAL CONSIDERATIONS

13.1 WASTE TREATMENT METHODS:

Waste disposal must be in accordance with appropriate U.S. Federal, State, and local regulations, those of Canada, Australia, EU Member States and Japan.

13.2 EU WASTE CODE:

Not determined.

SECTION 14. TRANSPORTATION INFORMATION

US DOT, IATA, IMO, ADR:

14.1 U.S. DEPARTMENT OF TRANSPORTATION (DOT) SHIPPING REGULATIONS: This product is classified (per 49 CFR 172.101) by the U.S. Department of Transportation, as follows.

UN IDENTIFICATION NUMBER:	None
PROPER SHIPPING NAME:	Non-Regulated Material
HAZARD CLASS NUMBER and DESCRIPTION:	None
UN IDENTIFICATION NUMBER:	None
PACKING GROUP:	None
DOT LABEL(S) REQUIRED:	None
NORTH AMERICAN EMERGENCY RESPONSE GUIDEBOOK NUMBER:	None
RQ QUANTITY:	None

MARINE POLLUTANT: The components of this product are not designated by the Department of Transportation to be Marine Pollutants (49 CFR 172.101, Appendix B).

INTERNATIONAL AIR TRANSPORT ASSOCIATION SHIPPING INFORMATION (IATA): This product is not considered as dangerous goods.

INTERNATIONAL MARITIME ORGANIZATION SHIPPING INFORMATION (IMO): This product is not considered as dangerous goods.

EUROPEAN AGREEMENT CONCERNING THE INTERNATIONAL CARRIAGE OF DANGEROUS GOODS BY ROAD (ADR): This product is not considered by the United Nations Economic Commission for Europe to be dangerous goods

SECTION 15. REGULATORY INFORMATION

15.1 SAFETY, HEALTH AND ENVIRONMENTAL REGULATIONS SPECIFIC FOR THE SUBSTANCE OR MIXTURE:

UNITED STATES REGULATIONS:

U.S. SARA REPORTING REQUIREMENTS: The components of this product are subject to the reporting requirements of Sections 302, 304, and 313 of Title III of the Superfund Amendments and Reauthorization Act as follows: None

U.S. SARA 311/312: None

U.S. SARA THRESHOLD PLANNING QUANTITY: There are no specific Threshold Planning Quantities for the components of this product.

U.S. CERCLA REPORTABLE QUANTITY (RQ): None

U.S. TSCA INVENTORY STATUS: The components of this product are listed on the TSCA Inventory or are exempted from listing.

OTHER U.S. FEDERAL REGULATIONS: None known

CALIFORNIA SAFE DRINKING WATER AND TOXIC ENFORCEMENT ACT (PROPOSITION 65): No ingredients in this product are on the Proposition 65 lists.

15.2 CANADIAN REGULATIONS:

CANADIAN DSL/NDSL INVENTORY STATUS: Components are DSL Listed, NDSL Listed and/or are exempt from listing

OTHER CANADIAN REGULATIONS: Not applicable.

CANADIAN ENVIRONMENTAL PROTECTION ACT (CEPA) PRIORITIES SUBSTANCES LISTS:

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the SDS contains all of the information required by those regulations.

CANADIAN WHMIS CLASSIFICATION and SYMBOLS: This product is classified per WHMIS 2015 Controlled Product Regulations.

15.3 EUROPEAN ECONOMIC COMMUNITY INFORMATION:

This product does not meet the definition of a hazardous substance or preparation as defined by the European Union Council Directives 67/548/EEC, 1999/45/EC, 1272/2008/EC and subsequent Directives.

See Section 2 for Details

CHEMICAL SAFETY ASSESSMENT :

No Chemical Safety Assessment has been carried out for this substance/mixture by the supplier.

15.4 AUSTRALIAN INFORMATION FOR PRODUCT: Components of this product are listed on the International Chemical Inventory list.

15.5 JAPANESE INFORMATION FOR PRODUCT:

JAPAN INDUSTRIAL SAFETY AND HEALTH LAW: This product has been classified per the Japan Industrial Safety and Health Law. See Section 2 for the GHS Classification.

15.6 INTERNATIONAL CHEMICAL INVENTORIES:

Listing of the components on individual country Chemical Inventories is as follows:

Asia-Pac: Listed

Australian Inventory of Chemical Substances (AICS): Listed

Korean Existing Chemicals List (ECL): Listed

Japanese Existing National Inventory of Chemical Substances (ENCS): Listed

Philippines Inventory of Chemicals and Chemical Substances (PICCS): Listed

Swiss Giftlist List of Toxic Substances: Not Listed

U.S. TSCA: Listed

Mexican Inventory of chemical substances (NOM 010 STPS 2015): Not listed

SECTION 16. OTHER INFORMATION

HMIS Rating (Scale 0-4)	NFPA Rating (Scale 0-4)
Health hazard: 0	Health hazard: 0
Flammability: 0	Flammability: 0
Physical Hazard: 0	Physical Hazard: 0

Abbreviations and acronyms

ACGIH	<i>American Conference of Governmental Industrial Hygienists</i>
CFR	<i>Code of Federal Regulations</i>
DOT	<i>Federal Department of Transportation</i>
GHS	<i>The Globally Harmonized System of Classification and Labelling of Chemicals</i>
HMIS	<i>Hazardous Material Identification System</i>
HCS	<i>Hazard Communication Standard</i>
IARC	<i>International Agency for Research on Cancer</i>
IATA	<i>The International Air Transport Association</i>
ICAO	<i>The International Civil Aviation Organization</i>
IMDG	<i>International Maritime Dangerous Goods</i>
IMO	<i>International Maritime Organization</i>
LD50/LC50	<i>Lethal Concentration/Dose, 50 percent</i>
NFPA	<i>National Fire Protection Association</i>
NIOSH	<i>National Institute for Occupational Safety and Health</i>
NTP	<i>National Toxicology Program</i>
OSHA	<i>Occupational Safety and Health</i>
PEL	<i>Permissible Exposure Limit</i>
SARA	<i>Superfund Amendments and Reauthorization Act</i>
TLV	<i>ACGIH Threshold Limit Value</i>
TWA	<i>Time-Weighted Average</i>


PREPARED BY: Chris Eigbrett

MSDS to GHS Compliance
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The information contained herein is believed to be accurate but is not warranted to be so. Data and calculations are based on information furnished by the manufacturer of the product and manufacturers of the components of the product. Users are advised to confirm in advance of the need that information is current, applicable and suited to the circumstances of use. Innophos assumes no responsibility for injury to vendee or third party person proximately caused by the material if reasonable safety procedures are not adhered to as stipulated in the data sheet. Furthermore, Innophos assumes no responsibility for injury caused by abnormal use of this material even if reasonable safety procedures are followed.

END OF SDS SHEET

Section 1: Identification	
Product Name:	EOS® Vitamin B-12 Supplement
Chemical Description:	Solution
Manufacturer:	EOS Remediation PO Box 14266 Research Triangle Park NC, 27709 (P): 919-873-2204
Recommended Use:	Groundwater bioremediation (environmental applications)
Restricted Use:	Not for human consumption.
24-Hour Emergency Contact:	ChemTel: United States (P): 800-255-3924 ChemTel: International (P): 813-248-0585

Section 2: Hazard(s) Identification	
Hazard Classification:	Irritant (skin and eye)
Signal Word:	Warning
Hazard Statement(s):	Potential eye and skin irritant.
Pictograms:	
Precautionary Statement(s):	Not for human consumption. Avoid contact with eyes and skin. Wear protective gloves and eye protection. Ingestion of large quantities may cause gastric disturbances.

Section 3: Composition/Information on Ingredients		
Common Name(s)	CAS NO.	% by Weight
Cyanocobalamin	68-19-9	0.2-0.26
Water	7732-18-5	0.74-0.8

Section 4: First-Aid Measures	
Routes of Exposure	Emergency First-Aid Procedures
Inhalation	Remove to fresh air.
Eye Contact	Flush with water for 15 minutes; if irritation persists see a physician.
Skin Contact	Wash with mild soap and water.
Ingestion	Product is non-toxic. If nausea occurs, induce vomiting and seek medical attention.

Vitamin B-12

SAFETY DATA SHEET

Section 5: Fire-Fighting Measures

Extinguishing Media:	CO ₂ , foam, dry chemical
Special Fire Fighting Procedures:	None
Fire Hazard(s):	None

Section 6: Accidental Release Measures

Personal Precautions:	Avoid contact with eyes and skin. Do not consume.
Emergency Procedures:	N/A
Methods & Materials used for Containment:	Compatible granular absorbent
Cleanup Procedures:	Spread compatible granular absorbent over spill area and sweep using broom and pan; dispose in appropriate receptacle. Clean area with water.

Section 7: Handling and Storage

Safe Handling & Storage:	Keep container tightly closed in a dry and well-ventilated place. Protect from sunlight. Recommended storage temperature is 2-8 °C.
Other Precautions:	Consumption of food and beverages should be prevented in work area where product is being used. After handling product, always wash hands and face thoroughly with soap and water before eating, drinking, or smoking.

Section 8: Exposure Controls/Personal Protection

Exposure Limits

OSHA PEL:	NE	
ACGIH TLV:	NE	
NIOSH REL:	NE	

Personal Protective Measures

Respiratory Protection:	Not normally required.
Hand Protection:	Protective gloves are recommended
Eye Protection:	Recommended
Engineering Measures:	Local exhaust ventilation
Hygiene Measures:	Wash promptly with soap & water if skin becomes irritated from contact.
Other Protection:	Wear appropriate clothing to prevent skin contact.

Vitamin B-12

SAFETY DATA SHEET

Section 9: Physical and Chemical Properties

Appearance:	Red Liquid	Explosive Limits:	N/A
Odor:	None	Vapor Pressure:	24 mm Hg
Odor Threshold:	N/A	Vapor Density:	NE
pH:	Neutral	Relative Density:	NE
Melting Point/Freezing Point:	32°F (0°C)	Solubility:	Soluble
Boiling Point:	212°F (100°C)	Partition coefficient:	NE
Flash Point:	NE	Auto-ignition Temperature:	NE
Evaporation Rate:	NE	Decomposition Temperature:	NE
Flammability (solid, gas):	NE	Viscosity:	NE

Section 10: Stability and Reactivity

Stability:	Stable. Decomposes on exposure to light.
Incompatibility:	Water reactive materials
Hazardous Decomposition Products:	None known
Hazardous Reactions/Polymerization:	Will not occur
Conditions to Avoid:	None known

Section 11: Toxicological Information

Likely Routes of Exposure:	Ingestion, dermal and eye contact
Signs and Symptoms of Exposure:	None known
Health Hazards	
Acute:	Potential eye and skin irritant. Ingestion in large amounts may cause gastric disturbances.
Chronic:	None known
Carcinogenicity	
NTP:	No
IARC:	No
OSHA:	No

Section 12: Ecological Information (non-mandatory)

There is no data on the ecotoxicity of this product.

Section 13: Disposal Considerations (non-mandatory)

Waste Disposal Methods:	Dispose of according to Federal and local regulations for non-hazardous waste. Recycle, if practical.
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Section 14: Transport Information (non-mandatory)

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

No transport warning required.

Section 15: Regulatory Information (non-mandatory)

N/A

Section 16: Other Information

Date of Preparation:	21 November 2014
Last Modified Date:	12 August 2019
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