

SAFETY DATA SHEET



SDS No.: 20028007
Revision: NA
Date Created: November 8, 2019

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Identifier: Dakota Solutions AlumiWash Concentrat
General Use: Metal Cleaning
Product Description: Green Liquid with Citrus Odor

MANUFACTURER

Dakota Ag Innovations, LLC
40690 253rd Street
Mitchell, South Dakota 57301

EMERGENCY TELEPHONE NUMBER:

(800)-424-9300 CHEMTREC USA & CANADA
+1(703)-741-5970 CHEMTREC INTERNATIONAL

2. HAZARD IDENTIFICATION

EMERGENCY OVERVIEW

GHS CLASSIFICATION OF SUBSTANCE

| | |
|---|---------------------|
| Flammable Liquid | Not Rated Under GHS |
| Aspiration Toxicity | Not Rated Under GHS |
| Skin Corrosion/Irritation | Category 1 |
| Eye Corrosion/Irritation | Category 1 |
| Carcinogenicity | Not Rated Under GHS |
| Specific Organ Toxicity Repeated Exposure | Not Rated Under GHS |
| Specific Organ Toxicity Single Exposure | Not Rated Under GHS |
| Reproductive Toxicity | Not Rated Under GHS |
| Acute Toxicity | Not Rated Under GHS |
| Germ Cell mutagenicity | Not Rated Under GHS |
| Corrosive to Metals | Category 1 |
| Hazardous to the aquatic environment | Not Rated Under GHS |

Hazard Category - means the division of criteria within each hazard class, e.g. acute toxicity includes five hazard categories and flammable liquids include four hazard categories. These categories compare hazard severity within a hazard class. "GHS Classification of Substance" means the material hazard class under that particular category and should not be taken as a comparison of hazard categories more generally. Degree of severity under GHS is "1" being the most severe and sequential numbers indicating correspondingly less severity. "Not Classified Under GHS" does not have characteristics that fall into any of the categories for that hazard class.

SAFETY DATA SHEET

GHS LABEL ELEMENTS



skin, eye

DANGER

Hazard Statements

H314 - Causes severe skin burns and eye damage
H318 - Causes serious eye damage
H290 - May be corrosive to metals

Precautionary Statements

General:

P101-If medical advice is needed, have product container or label at hand.
P102 - Keep out of reach of children.
P103-Read label before use.

Prevention:

P234 - Keep only in original packaging
P390 - Absorb spillage to prevent material damage.
P260 - Do not breathe mists
P264 - Wash thoroughly after handling
P280 - Wear protective gloves resistant to mineral acids. Wear eye protection with side shields.

Response:

P301+P330+P331 - IF SWALLOWED: Rinse mouth. Do NOT induce vomiting unless directed to do so by medical personnel
P302+P361+P354 - IF ON SKIN: Take off immediately all contaminated clothing immediately rinse with water for several minutes.
P305+P354+P338 - IF IN EYES: Immediately rinse with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P337+ P317 - If eye irritation persists: Get medical help.

Storage/Disposal:

P406 - Store in a corrosion resistant container, not metal, that is resistant to corrosion by strong mineral acids.
P403+235+404-Store in well-ventilated place. Keep cool. Store in closed container.
P501-Dispose of contents/container in accordance with local/regional/federal regulations.

UN GHS

This product is hazardous based on potential for eye and skin irritation and potential for irreversible damage if prevention and reponse actions are not followed.

3. COMPOSITION/INFORMATION ON INGREDIENTS

| <u>Component</u> | <u>wt%</u> | <u>CAS Registry #</u> |
|---------------------------------|------------|-----------------------|
| Sulfuric Acid | 10 - 15 | 7664-93-9 |
| Phosphoric Acid | 5 - 10 | 7664-38-2 |
| Ethoxylated Alcohol | 1 - 3 | 66455-15-0 |
| Cocamidopropyl hydroxysultaine | <1 | 68139-30-0 |
| D-Limonene | <1 | 5989-27-5 |
| Methyl Ester, Soybean Oil | <1 | 67784-80-9 |
| Ethylene Glycol Monobutyl Ether | <0.5 | 111-76-2 |
| balance is water | | |

SAFETY DATA SHEET

4. FIRST AID MEASURES

INHALATION:

Remove to fresh air and keep at rest in a comfortable position. Get medical attention if symptoms persist after moving to fresh air. Give oxygen if available, symptoms persist, and medical attention is not immediate.

EYE CONTACT:

Remove contact lens (if present). Rinse eyes immediately with plenty of clean water for at least 15 minutes. If necessary, gently hold the eyelid open during the flush. Seek medical attention following initial eye washing. Product is acidic and irreversible eye damage can occur if material is not successfully removed from the eyes.

SKIN CONTACT:

Immediately wash skin with mild soap solution to remove material from skin. Remove affected clothing and launder prior to re-use. If skin damage occurs other than redness, seek medical attention and provide this SDS to attending medical personnel.

INGESTION:

Ingestion is not a likely route of exposure based on use. If ingestion occurs, seek immediate medical attention. Do not induce vomiting or give anything but water by mouth without being directed to do so by POISON CONTROL or attending medical personnel.

5. FIRE FIGHTING MEASURES

| | |
|----------------------------------|----------------|
| Flashpoint and Method: | Not Applicable |
| Flammable Limits: | Not Determined |
| Autoignition Temperature: | Not Determined |

GENERAL HAZARD:

Product is water based and not expected to contribute fuel to a fire. Product is acidic and can cause structural corrosion if released to the environment during a fire.

FIRE FIGHTING INSTRUCTIONS:

Suitable extinguishing media include: carbon dioxide or dry chemical or other media suitable for hydrocarbon fires. Unsuitable extinguishing media include: water spray. However, if water is used, fog nozzles are preferable. Water may be used to cool closed containers to prevent pressure build-up and possible explosion when exposed to extreme heat.

FIRE FIGHTING EQUIPMENT:

In the event of a fire, wear full protective clothing and NIOSH-approved self-contained breathing apparatus with full facepiece operated in the pressure demand or other positive pressure mode. For small outdoor fires which may be easily extinguished with a portable fire extinguisher, use of any SCBA may not be necessary.

FURTHER INFORMATION:

During a fire, smoke may contain the original material in addition to combustion products which might be more irritating. Residue remaining following a fire needs to be evaluated for disposal options.

HAZARDOUS COMBUSTION PRODUCTS:

Carbon monoxide, carbon dioxide, sulfates and phosphates depending on heat of the fire.

6. ACCIDENTAL RELEASE MEASURES

SAFETY DATA SHEET

LAND SPILL RESPONSE:

Absorb small spills with inert material such as sand or earth. Containerize waste material. Dike large spills to contain the area of the spill. Use clean up procedures that minimize contamination to earth or water bodies. This product is corrosive to metals and may cause damage to metal surfaces it comes in contact with. An outdoor spill will contribute acid to the soils that will be neutralized by basic materials like limestone, etc. Residue is expected to contain sulfates and phosphates which will impact vegetation.

WATER SPILL:

Product will immediately mix with water and contribute acidity to the water body. Small spills are expected to be neutralized by alkaline materials. Larger spills may result in death to aquatic organisms do to lowering of pH.

RECOMMENDED DISPOSAL:

Disposal options may be dictated by other materials mixed with this material. Dispose of in accordance with local, state, and federal regulations using methods which consider recycling/reclamation. Product has an acidic pH and should be neutralized prior to sewerage.

7. HANDLING AND STORAGE

STORAGE TEMPERATURE: Ambient

STORAGE PRESSURE: Atmospheric

GENERAL:

Store away from organics and strong oxidizers and alkaline materials. Store in original container and do not transfer to any metal containers. Storage for prolonged periods may result in degradation of container with possible leaking. Verify integrity of container if stored for extended periods beyond the manufacturer's recommendations.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

OSHA HAZARDOUS COMPONENTS (29 CFR 1910.1200 and other agencies)

| Component | EXPOSURE LIMITS 8 hrs TWA (ppm) | | | | |
|---------------------------------|---------------------------------|-----------------------|----------------------|-----------|------------------------------|
| | OSHA PEL | ACGIH TLV | NIOSH REL | AIHA WEEL | Other |
| Sulfuric Acid | 1 mg/m ³ | 0.2 mg/m ³ | 1 mg/m ³ | | |
| Phosphoric Acid | 1 mg/m ³ | 1 mg/m ³ | 1 mg/m ³ | | |
| D-Limonene | None Established | None Established | None Established | | 28 mg/m ³ DFG MAK |
| Ethylene Glycol Monobutyl Ether | 240 mg/m ³ | 97 mg/m ³ | 24 mg/m ³ | | |

ENGINEERING CONTROLS:

Provide eyewash stations and safety showers in locations available to material users if routinely using the product. Provide hand washing facilities for routine use by personnel using the material.

PERSONAL PROTECTION:

Splash goggles and skin protection should be worn when pouring this material to avoid contact with the liquid. Hand protection is recommended when there is possible direct contact with the liquid. Glove choice should be appropriate for working with acidic chemicals. Nitrile is generally a good glove choice to protect against a variety of chemicals. Product has low volatility. Respiratory protection may be required if using the product as a spray or a mist in concentrated form.

SAFETY DATA SHEET

EXPOSURE EVALUATION:

Exposures depend on activities being performed and the ventilation in the area. Components in the product have low volatility.

Personal exposure monitoring can be performed by the employer to determine his/her employee exposures to the product during routine use at the facility. It is beyond the responsibility of the product supplier to estimate/determine airborne exposure in a user's facility.

9. PHYSICAL AND CHEMICAL PROPERTIES

| | | | |
|-----------------------------|----------------|--------------------------|------------------|
| Vapor Pressure: | Not Determined | Vapor Density: | Heavier than air |
| Specific Gravity: | >1.0 | Evaporation Rate: | Not Determined |
| Solubility in Water: | Soluble | Freezing Point: | Not Determined |
| | | Odor: | Citrus |
| pH: | <1 | Appearance: | Green |
| Boiling Point: | Not Determined | Physical State: | Liquid |
| Viscosity: | Not Determined | Flammable Range: | Not Determined |
| Flash Point: | Not Applicable | VOC content: | Not Determined |

10. STABILITY AND REACTIVITY

GENERAL:

No dangerous reactions known under normal use conditions.

INCOMPATIBLE MATERIALS AND CONDITIONS TO AVOID:

Incompatible with metals, strong oxidizers, some organics and strong bases

HAZARDOUS DECOMPOSITION:

None on storage. In contact with incompatible materials, may release phosphorus and sulfur containing gases.

11. TOXICOLOGICAL INFORMATION

TOXICITY TO ANIMALS:

| <u>Component</u> | <u>Acute Test</u> | <u>Value</u> | <u>Species</u> |
|-----------------------------|-------------------|-------------------------------|----------------|
| Sulfuric Acid | LD50 oral | 2140 mg/kg | rat |
| Sulfuric Acid | LC50 inhalation | 103 mg/m ³ - 1 hr | rat |
| Phosphoric Acid | LD50 oral | 2600 mg/kg | rat |
| Phosphoric Acid | LC50 inhalation | >850 mg/m ³ - 1 hr | rat |
| Ethylene glycol butyl ether | LD50 oral | 880 mg/kg | rat |
| Ethylene glycol butyl ether | LD50 dermal | 1060 mg/kg | rabbit |

Sulfuric acid is a suspected human carcinogen in category IARC group 1. Several cohort and case-control studies of occupational exposure to sulfuric acid mists suggest a positive relationship between exposure and the risk of laryngeal or lung cancer. Based on these studies, IARC concluded that there is a sufficient evidence that occupational exposure to strong-inorganic-acid mists containing sulfuric acid is carcinogenic to humans. ECHA profile does not label it as carcinogenic. Exposures elicited these results were in pickling operations where personnel were chronically exposed to acid mist. This product is not expected to be used in a manner to produce respirable mists.

Ethylene glycol monobutyl ether: Human exposure to concentrations of over 200 ppm/970 mg/m³ can be expected to cause

SAFETY DATA SHEET

narcosis, damage to the kidney and liver. Butoxyethanol is a minor component of this product and concentrations will not reach this level under use conditions.

ROUTES OF ENTRY:

Normal use routes of entry include skin and eyes.

CHRONIC EFFECTS ON HUMANS:

The product contains acetone. Repeated over-exposure to acetone targets the kidneys, liver, spleen and blood. Inhalation of high vapor concentrations may cause symptoms like headache, dizziness, tiredness, nausea, and vomiting.

Eyes:

Mineral acid content can cause irreversible damage to the eye if not immediately washed out.

Skin:

Chronic skin exposure may cause contact dermatitis.

Ingestion:

Not a likely route of exposure.

Inhalation:

Inhalation as a mist can cause irritation and corrosion to the respiratory system.

12. ECOLOGICAL INFORMATION

| <u>Species</u> | <u>Test Information</u> | <u>Concentration</u> | <u>Component</u> |
|---------------------|---------------------------|----------------------|--|
| Oncorhynchus mykiss | static test LC50 - 96 hr | 1,474 mg/l | ethylene glycol monobutyl ether |
| Daphnia | EC50 immob - 48 hr | 1550 mg/l | ethylene glycol monobutyl ether |
| Algae | EC50 growth inhib - 72 hr | 1840 mg/l | ethylene glycol monobutyl ether |
| Algae | NOEC EC50 | >100 mg/l | Phosphoric Acid |
| Brachydanio rerio | LC50 - 96 hr static | >500 mg/l | Sulfuric Acid |
| Water flea | EC50- 24 hr | 20 mg/l | Sulfuric Acid |
| Algae | EC50 - 72 hr | 1.8 mg/l | Fatty acids, C12-18, Me esters, sulfonated, sodium salts |
| Daphnia | EC50 - 48 hr | 6.25 mg/l | Fatty acids, C12-18, Me esters, sulfonated, sodium salts |
| Fish | LC50 - 96 hr | 4.7 mg/l | Fatty acids, C12-18, Me esters, sulfonated, sodium salts |

Releasing to a water body may release phosphates which will grow algae. Acidity of the product will impact water pH if a large quantity is spilled. Readily biodegradable. The surfactant concentration is low and not expected to impact a water body in spite of high aquatic toxicity of those components.

PRODUCTS OF BIODEGRADATION:

Components readily biodegrade and products of biodegradation are less toxic than the chemicals, themselves. Solvent components readily evaporate into the air from a spill.

13. DISPOSAL CONSIDERATIONS

Dispose of any waste in compliance with local, state, and federal regulations. Determine EPA RCRA waste categorization at the time of disposal as mixing with other materials may change its categorization. Containers may contain residue

SAFETY DATA SHEET

that needs to be addressed at time of disposal. Recycling containers needs to address any remaining residues.

14. TRANSPORT INFORMATION

The following proper shipping name, hazard class and packing group are in accordance to 49 CFR Department of Transportation (U.S. DOT) regulatory requirements from 172.101 Hazardous Materials Table

| 49 CFR Shipping Information | DAKOTA SOLUTIONS ALUMIWASH CONCENTRATE |
|--|--|
| Symbols | "G" - identifies proper shipping names for which one or more technical names of the hazardous material must be entered in parentheses, in association with the basic description. See 172.203(k) |
| UN Number | UN3264 |
| Proper Shipping Name | CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (Sulfuric, Phosphoric Acid) |
| Hazard Class | 8 |
| Packing Group | III |
| Label Codes | 8 |
| Special Provisions (172.102) | 386,IB3,T7,TP1,TP28 |
| Packaging - Exceptions | 173.154 |
| Packaging - Nonbulk | 173.203 |
| Packaging - bulk | 173.241 |
| Quantity Limitations - Passenger aircraft/rail | 5L |
| Quantity Limitations - Cargo aircraft only | 60L |
| Vessel stowage - Location | A |
| Vessel stowage - Other | 40 |

INTERNATIONAL AIR TRADE ASSOCIATION (IATA)

| IATA 58th Edition Information | DAKOTA SOLUTIONS ALUMIWASH CONCENTRATE |
|--|--|
| UN Number | UN3264 |
| Proper Shipping Name Description | Corrosive liquid, acidic, inorganic, n.o.s. (Sulfuric acid, Phosphoric acid) |
| Class or Division | 8 |
| Hazard Label(s) | Corrosive |
| Packing Group | III |
| EQ - 2.6 Dangerous Goods in Excepted Quantities | E1 |
| Passenger Aircraft - Limited Quantity Packing Instructions | Y841 |
| Passenger Aircraft - Limited Quantity Max net Qty/Pkg | 1L |
| Passenger Aircraft - Packing Instructions | 852 |
| Passenger Aircraft - Quantity Max Net Qty/Pkging | 5L |
| Cargo Aircraft only - Packing Instructions | 856 |
| Cargo Aircraft only - Max Net Qty/Pkging | 60L |
| Special Provisions 4.4 | Blank |
| ERG Code | 8L |

INTERNATIONAL MARITIME DANGEROUS GOODS CODE (IMDG CODE)

| IMDG 2016 EDITION | DAKOTA SOLUTIONS ALUMIWASH CONCENTRATE |
|-------------------|--|
| UN Number | UN3264 |

SAFETY DATA SHEET

| | |
|--|---|
| Proper Shipping Name Description | CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (SULFURIC ACID, PHOSPHORIC ACID) |
| Class or Division | 8 |
| Subsidiary Risks | BLANK |
| Packing Group | III |
| Special Provisions | 223,274 |
| Limited Quantities | 5L |
| Excepted Quantities | E1 |
| Packing Instructions | P001, LP01 |
| Packing Provisions | BLANK |
| IBC Instructions 4.1.4 | IBCC03 |
| IBC Provisions 4.1.4 | BLANK |
| Portable tanks and bulk containers - tank instructions | BLANK |
| Portable tanks and bulk containers - provisions | T7 |
| EmS | TP1, TP28 |
| Stowage and Handling | F-A, S-B |
| Segregation | CATEGORY A, SW2 |
| Properties and observations | Causes burns to skin, eyes and mucous membranes |

15. REGULATORY INFORMATION

Chemical Inventory Status

Ingredients listed on: TSCA, DSL, Japan, and EC inventories.

SARA Section 302 - Emergency Planning Notification -

SARA Section 304 - Emergency Release Notification -

SARA 311/312 - Hazard categories for SARA Section 311/312 Reporting -

Sulfuric Acid

CERCLA - Hazardous Substance - Sulfuric Acid, Phosphoric Acid

RCRA Hazardous Waste Classification - Corrosive

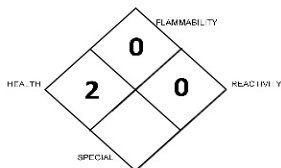
California Proposition 65:

Strong inorganic acid mists containing sulfuric acid are listed as causing cancer on the CA Proposition 65 list. This product under normal use is not expected to meet the definition of a strong acid mist and does not fulfill this criteria.

16. OTHER INFORMATION

UNITED STATES NATIONAL FIRE PROTECTION ASSOCIATION (U.S. NFPA)

NFPA 704 "fire diamond" is used by emergency personnel to quickly identify the risks posed by the material during response to a fire or a spill or other unusual event.



NFPA rating explanation as applied to SILVER BRITE PLUS FOAM

FLAMMABILITY 0 - Materials that will not burn under typical fire conditions, including intrinsically noncombustible materials such as concrete, stone, and sand. Materials that will not burn in air when exposed to a temperature of 820 C/1500 F for a period of 5 minutes.

HEALTH 2 - Intense or continued but not chronic exposure could cause temporary incapacitation or possible residual injury.

REACTIVITY 0 - Normally stable, even under fire exposure conditions, and is

SAFETY DATA SHEET

not reactive with water.

SPECIAL - contains special symbols applicable to the material. In this case there are no applicable special conditions.

CREATION/REVISION SUMMARY:

Created on:
November 8, 2019 in GHS format

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