

Safety Data Sheet

Issue Date: 26-Dec-2014

Revision Date: 28-Mar-2016

Version 2

1. IDENTIFICATION

Product Identifier

Product Name AVAIL for Liquid Phosphate Fertilizers

Other means of identification

SDS # FFN: 04001

UN/ID No UN1760

Recommended use of the chemical and restrictions on use

Recommended Use Fertilizer.

Details of the supplier of the safety data sheet

Supplier Address

Verdesian Life Sciences, U.S., LLC.
1001 Winstead Drive, Suite 480
Cary, NC 27513

Emergency Telephone Number

Company Phone Number Business Phone: (800) 868-6446

Fax Phone: (919) 535-3652

Emergency Telephone (24 hr) INFOTRAC 1-352-323-3500 (International)
1-800-535-5053 (North America)

2. HAZARDS IDENTIFICATION

Appearance Tan to brown liquid

Physical State Liquid

Odor Characteristic

Classification

Skin corrosion/irritation	Category 1 Sub-category C
Serious eye damage/eye irritation	Category 1

Signal Word

Danger

Hazard Statements

Causes severe skin burns and eye damage



Precautionary Statements - Prevention

Do not breathe dust/fume/gas/mist/vapors/spray

Wash face, hands and any exposed skin thoroughly after handling

Wear protective gloves/protective clothing/eye protection/face protection

Precautionary Statements - Response

Immediately call a poison center or doctor/physician

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing

Immediately call a poison center or doctor/physician

IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower

Wash contaminated clothing before reuse

IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing

Immediately call a poison center or doctor/physician

IF SWALLOWED: rinse mouth. Do NOT induce vomiting

Precautionary Statements - Storage

Store locked up

Precautionary Statements - Disposal

Dispose of contents/container to an approved waste disposal plant

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Family Carboxylated polymer.

Chemical Name	CAS No	Weight-%
Maleic-itaconic copolymer, partial ammonium salt	701908-99-8	Proprietary

If Chemical Name/CAS No is "proprietary" and/or Weight-% is listed as a range, the specific chemical identity and/or percentage of composition has been withheld as a trade secret.

4. FIRST-AID MEASURES

First Aid Measures

General Advice	Provide this SDS to medical personnel for treatment.
Eye Contact	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Immediate medical attention is required.
Skin Contact	Wash off immediately with plenty of water. Take off contaminated clothing. Wash contaminated clothing before reuse. If skin irritation persists, call a physician.
Inhalation	If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen & get medical attention immediately.
Ingestion	Do not induce vomiting. Rinse mouth. Call a physician immediately.

Most important symptoms and effects

Symptoms Causes severe skin burns and eye damage. Will cause gastrointestinal tract irritation.

Indication of any immediate medical attention and special treatment needed

Notes to Physician Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media

Water spray, dry chemical, carbon dioxide, foam.

Unsuitable Extinguishing Media Not determined.

Specific Hazards Arising from the Chemical

Toxic fumes may be given off when material is exposed to fire.

Protective equipment and precautions for firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

6. ACCIDENTAL RELEASE MEASURES**Personal precautions, protective equipment and emergency procedures**

- | | |
|----------------------------------|---|
| Personal Precautions | Use personal protective equipment as required. |
| Environmental Precautions | See Section 12 for additional Ecological Information. |

Methods and material for containment and cleaning up

- | | |
|--------------------------------|---|
| Methods for Containment | Prevent further leakage or spillage if safe to do so. |
| Methods for Clean-Up | Keep in suitable, closed containers for disposal. |

7. HANDLING AND STORAGE**Precautions for safe handling**

- | | |
|--------------------------------|---|
| Advice on Safe Handling | Use personal protection recommended in Section 8. Avoid contact with skin, eyes or clothing. Do not breathe vapors or spray mist. Wash face, hands, and any exposed skin thoroughly after handling. |
|--------------------------------|---|

Conditions for safe storage, including any incompatibilities

- | | |
|-------------------------------|---|
| Storage Conditions | Keep containers tightly closed in a dry, cool and well-ventilated place. Store locked up. |
| Incompatible Materials | Strong oxidizing agents. Strong reducing agents. Materials incompatible with water. Materials incompatible with ammonium salts. |

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

- | | |
|-----------------------------------|--|
| <u>Exposure Guidelines</u> | No exposure limits noted for ingredient(s). The following information is given as general guidance |
|-----------------------------------|--|

Appropriate engineering controls

- | | |
|-----------------------------|--|
| Engineering Controls | Maintain eye wash fountain and quick-drench facilities in work area. |
|-----------------------------|--|

Individual protection measures, such as personal protective equipment

- | | |
|---------------------------------------|--|
| Eye/Face Protection | Use chemical safety goggles / face shield. |
| Skin and Body Protection | Chemical resistant protective gloves. |
| Respiratory Protection | Ensure adequate ventilation, especially in confined areas. |
| General Hygiene Considerations | Avoid contact with skin, eyes and clothing. After handling this product, wash hands before eating, drinking, or smoking. If contact occurs, remove contaminated clothing. If needed, take first aid action shown on section 4 of this SDS. Launder contaminated clothing before reuse. |

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Physical State	Liquid	Odor	Characteristic
Appearance	Tan to brown liquid	Odor Threshold	Not determined
Color	Tan to brown		

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
pH	~2.0	
Melting Point/Freezing Point	-7.22 °C / 19 °F	
Boiling Point/Boiling Range	Not determined	
Flash Point	None	
Evaporation Rate	Not determined	
Flammability (Solid, Gas)	n/a-liquid	
Upper Flammability Limits	Not determined	
Lower Flammability Limit	Not determined	
Vapor Pressure	Not determined	
Vapor Density	Not determined	
Specific Gravity	1.1-1.3	
Water Solubility	Not determined	
Solubility in other solvents	Not determined	
Partition Coefficient	Not determined	
Auto-ignition Temperature	Not determined	
Decomposition Temperature	Not determined	
Kinematic Viscosity	Not determined	
Dynamic Viscosity	<50 cP	
Explosive Properties	Not determined	
Oxidizing Properties	Not determined	

10. STABILITY AND REACTIVITY

Reactivity

Not reactive under normal conditions.

Chemical Stability

Stable under recommended storage conditions.

Possibility of Hazardous Reactions

Exposure to excessively high pH may lead to ammonia gas evolution. Can react with metals to give off hydrogen, heat and/or steam. Can react with bases and metal oxides with high evolution of heat and/or steam. Can react with carbonates to give off carbon dioxide, heat and/or steam.

Conditions to Avoid

Incompatible Materials.

Incompatible Materials

Strong oxidizing agents. Strong reducing agents. Materials incompatible with water. Materials incompatible with ammonium salts.

Hazardous Decomposition Products

Carbon oxides. Nitrogen oxides (NO_x).

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Product Information	To the best of our knowledge, the chemical, physical and toxicological properties of this material have not been thoroughly investigated
Eye Contact	Causes severe eye damage.

Skin Contact	Causes severe skin burns.
Inhalation	May cause irritation to the mucous membranes and upper respiratory tract.
Ingestion	Can cause gastrointestinal disturbance.
<u>Component Information</u>	Not available

Information on physical, chemical and toxicological effects

Symptoms Please see section 4 of this SDS for symptoms.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Carcinogenicity Based on the information provided, this product does not contain any carcinogens or potential carcinogens as listed by OSHA, IARC or NTP.

Numerical measures of toxicity

Not determined

12. ECOLOGICAL INFORMATION**Ecotoxicity**

An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

Component Information Not available

Persistence/Degradability

Not determined.

Bioaccumulation

Not determined.

Mobility

Not determined

Other Adverse Effects

Not determined

13. DISPOSAL CONSIDERATIONS**Waste Treatment Methods**

Disposal of Wastes Disposal should be in accordance with applicable regional, national and local laws and regulations.

Contaminated Packaging Disposal should be in accordance with applicable regional, national and local laws and regulations.

14. TRANSPORT INFORMATION

Note Please see current shipping paper for most up to date shipping information, including exemptions and special circumstances.

DOT

UN/ID No UN1760
 Proper Shipping Name Corrosive Liquid, n.o.s (Maleic-itaconic copolymer, partial ammonium salt)
 Hazard Class 8
 Packing Group III

IATA

UN/ID No UN1760
 Proper Shipping Name Corrosive Liquid, n.o.s (Maleic-itaconic copolymer, partial ammonium salt)
 Hazard Class 8
 Packing Group III

IMDG

UN/ID No UN1760
 Proper Shipping Name Corrosive Liquid, n.o.s (Maleic-itaconic copolymer, partial ammonium salt)
 Hazard Class 8
 Packing Group III

15. REGULATORY INFORMATION

International Inventories

Chemical Name	TSCA	DSL	NDSL	EINECS	ELINCS	ENCS	IECSC	KECL	PICCS	AICS
Maleic-itaconic copolymer, partial ammonium salt	Present		X							

Legend:

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory

DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List

EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances

ENCS - Japan Existing and New Chemical Substances

IECSC - China Inventory of Existing Chemical Substances

KECL - Korean Existing and Evaluated Chemical Substances

PICCS - Philippines Inventory of Chemicals and Chemical Substances

AICS - Australian Inventory of Chemical Substances

US Federal Regulations

CERCLA

This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355).

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

CWA (Clean Water Act)

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

US State Regulations**California Proposition 65**

This product does not contain any Proposition 65 chemicals.

U.S. State Right-to-Know Regulations

This product does not contain any substances regulated under applicable state right-to-know regulations

16. OTHER INFORMATION**NFPA****Health Hazards****Flammability****Instability****Special Hazards**

Not determined

Not determined

Not determined

Not determined

HMIS**Health Hazards****Flammability****Physical Hazards****Personal Protection**

2

0

1

B

Issue Date: 26-Dec-2014

Revision Date: 28-Mar-2016

Revision Note: New product

Disclaimer

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

End of Safety Data Sheet