

Safety Data Sheet

Issue Date: 26-Dec-2014

Revision Date: 17-Oct-2016

Version 1

1. IDENTIFICATION

Product Identifier

Product Name AVAIL for Liquid Phosphate Fertilizers

Other means of identification

SDS # VLS-064-CA

Product Code FFN: 04001

Synonyms None

UN/ID No UN1760

Recommended use of the chemical and restrictions on use

Recommended Use Fertiliser

Uses Advised Against No information available

Details of the supplier of the safety data sheet

Initial Supplier Address

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

Emergency Telephone Number

Initial supplier phone number Business Phone: (800) 868-6446 Fax: (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.

Odour Characteristic

Classification

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

Label Elements

Signal word

Danger

Hazard statements

Causes severe skin burns and eye damage

**Precautionary Statements - Prevention**

Do not breathe dust/fume/gas/mist/vapours/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 CENTRE or doctor
 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 CENTRE or doctor
 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower]
 Wash contaminated clothing before reuse
 IF INHALED: Remove person to fresh air and keep comfortable for breathing
 Immediately call a POISON CENTRE or doctor
 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

Other Information

Unknown acute toxicity 12 % of the mixture consists of ingredient(s) of unknown toxicity

3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance

Chemical Family Carboxylated polymer.

Chemical Name	CAS No	Weight-%	Hazardous Material Information Review Act registry number (HMIRA registry #)	Date HMIRA filed and date exemption granted (if applicable)
Maleic-itaconic copolymer, partial ammonium salt	701908-99-8	12	-	-

4. FIRST AID MEASURES

First Aid Measures

General advice Provide this SDS to medical personnel for treatment.

Eye contact 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 CENTRE or doctor.

Skin contact IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower]. Wash contaminated clothing before reuse. Immediately call a poison centre or doctor/physician.

Inhalation	IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Immediately call a poison centre or doctor/physician.
Ingestion	IF SWALLOWED: rinse mouth. Do NOT induce vomiting. Never give anything by mouth to an unconscious person. If conscious give 2 glasses of water to dilute. Get medical attention.

Most important symptoms and effects

Symptoms	Causes severe skin burns and eye damage.
-----------------	--

Indication of any immediate medical attention and special treatment needed

Note to doctors	Treat symptomatically.
------------------------	------------------------

5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media	Water spray. Dry chemical or CO2. Foam.
Unsuitable extinguishing media	CAUTION: Use of water spray when fighting fire may be inefficient.
Specific hazards arising from the chemical	Toxic fumes may be given off when material is exposed to fire.
Explosion Data	
Sensitivity to Mechanical Impact	None.
Sensitivity to Static Discharge	None.
Special protective equipment for fire-fighters	Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.

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

Personal precautions	Use personal protective equipment as required.
-----------------------------	--

Environmental precautions

Environmental precautions	Prevent from entering into soil, ditches, sewers, waterways and/or groundwater. See Section 12, Ecological Information. See Section 13: DISPOSAL CONSIDERATIONS.
----------------------------------	--

Methods and material for containment and cleaning up

Methods for containment	Prevent further leakage or spillage if safe to do so. Soak up and contain spill with an inert (i.e. vermiculite, dry sand or earth) absorbent material.
Methods for cleaning up	Sweep up and shovel into suitable containers for disposal. For waste disposal, see section 13 of the SDS.
Prevention of secondary hazards	Clean contaminated objects and areas thoroughly observing environmental regulations.

7. HANDLING AND STORAGE

Precautions for safe handling

Advice on safe handling Do not breathe dust/fume/gas/mist/vapours/spray. Wash face, hands and any exposed skin thoroughly after handling. Wear protective gloves/protective clothing and eye/face protection. Avoid contact with skin, eyes or clothing.

Conditions for safe storage, including any incompatibilities

Storage Conditions Keep containers tightly closed in a dry, cool and well-ventilated place.

Incompatible Materials Strong oxidising agents Strong reducing agents Materials incompatible with water Materials incompatible with ammonium salts

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure Limits This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies. The following information is given as general guidance.

Appropriate engineering controls

Engineering controls Showers
Eyewash stations
Ventilation systems.

Individual protection measures, such as personal protective equipment

Eye/face protection Chemical safety goggles/faceshield.

Hand protection Chemical resistant protective gloves.

Skin and body protection Wear impervious protective clothing, including boots, gloves, lab coat, apron or coveralls, as appropriate, to prevent skin contact.

Respiratory protection If necessary, wear a MSHA/NIOSH-approved respirator.

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
Appearance	Tan to brown liquid
Colour	Tan to brown
Odour	Characteristic
Odour Threshold	No information available

<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
Flammability Limits in Air	
Upper Flammability Limits	Not determined
Lower Flammability Limit	Not determined
Vapour Pressure	Not determined
Vapour Density	Not determined
Relative Density	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	No information available.
Oxidising properties	No information available.
<u>Other Information</u>	
Softening Point	No information available
Molecular weight	No information available
VOC Content (%)	No information available
Density	No information available
Bulk Density	No information available

10. STABILITY AND REACTIVITY

Reactivity	Not reactive under normal conditions.
Chemical Stability	Stable under normal 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 oxidising agents. Strong reducing agents. Materials incompatible with water. Materials incompatible with ammonium salts.
Hazardous Decomposition Products	Carbon oxides. Nitrogen oxides (NOx).

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Product Information

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 irritation, nausea, vomiting and diarrhea.

Information on physical, chemical and toxicological effects

Symptoms	Please see section 4 of this SDS for symptoms.
Acute Toxicity	
Unknown acute toxicity	12 % of the mixture consists of ingredient(s) of unknown toxicity

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.
------------------------	---

12. ECOLOGICAL INFORMATION

Ecotoxicity	An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.
Persistence/Degradability	No information available.
Bioaccumulation	No information available.
Other Adverse Effects	No information available.

13. DISPOSAL CONSIDERATIONS**Waste Treatment Methods**

Waste from residues/unused products	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**TDG**

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

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 Regulations

Ozone-depleting substances (ODS) Not applicable

Persistent Organic Pollutants Not applicable

Export Notification requirements Not applicable

International Inventories

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

16. OTHER INFORMATION, INCLUDING DATE OF PREPARATION OF THE LAST REVISION

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

Legend Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

TWA TWA (time-weighted average) STEL STEL (Short Term Exposure Limit)
 Ceiling Maximum limit value * Skin designation

Issue Date: 26-Dec-2014
Revision Date: 17-Oct-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