

4. FIRST-AID MEASURES

First Aid Measures

Eye Contact	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.
Skin Contact	IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. Wash contaminated clothing before reuse. Get medical attention if irritation occurs.
Inhalation	Remove exposed individual(s) to fresh air for 20 minutes. Consult a physician / poison center if individual's condition declines or if symptoms persist.
Ingestion	IF SWALLOWED: rinse mouth. Do not induce vomiting without medical advice. Drink 1 or 2 glasses of water. Never give anything by mouth to an unconscious person. Call a poison center or doctor/physician if you feel unwell.

Most important symptoms and effects

Symptoms	May cause eye and skin irritation.
-----------------	------------------------------------

Indication of any immediate medical attention and special treatment needed

Notes to Physician	Treat symptomatically.
---------------------------	------------------------

5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable Extinguishing Media Not determined.

Specific Hazards Arising from the Chemical

Product is not flammable or combustible.

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. Contain and absorb with suitable absorbent for disposal.
Methods for Clean-Up	Sweep up absorbed material and shovel into suitable containers for disposal.

7. HANDLING AND STORAGE

Precautions for safe handling

Advice on Safe Handling Handle in accordance with good industrial hygiene and safety practice. 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 oxidizing agents. Strong alkalis.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure Guidelines

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Manganese EDTA 15375-84-5	-	(vacated) Ceiling: 5 mg/m ³ Ceiling: 5 mg/m ³ Mn	IDLH: 500 mg/m ³ Mn TWA: 1 mg/m ³ Mn STEL: 3 mg/m ³ Mn
Potassium hydroxide 1310-58-3	Ceiling: 2 mg/m ³	(vacated) Ceiling: 2 mg/m ³	Ceiling: 2 mg/m ³

Appropriate engineering controls

Engineering Controls Apply technical measures to comply with the occupational exposure limits. Maintain eye wash fountain and quick-drench facilities in work area.

Individual protection measures, such as personal protective equipment

Eye/Face Protection Safety glasses as a minimum for protection. Refer to 29 CFR 1910.133 for eye and face protection regulations.

Skin and Body Protection Suitable protective clothing. Refer to 29 CFR 1910.138 for appropriate skin and body protection.

Respiratory Protection Not usually necessary under conditions of normal use. Refer to 29 CFR 1910.134 for respiratory protection requirements.

General Hygiene Considerations Handle in accordance with good industrial hygiene and safety practice.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Physical State	Liquid	Odor	Sweet
Appearance	Pink liquid	Odor Threshold	Not determined
Color	Pink		

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
pH	4.26	
Melting Point/Freezing Point	Not determined	
Boiling Point/Boiling Range	Not determined	
Flash Point	Not determined	
Evaporation Rate	Not determined	
Flammability (Solid, Gas)	Not determined	
Upper Flammability Limits	Not determined	
Lower Flammability Limit	Not determined	

Vapor Pressure	Not determined
Vapor Density	Not determined
Specific Gravity	1.21
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	Not determined
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

None under normal processing.

Conditions to Avoid

Keep out of reach of children.

Incompatible Materials

Strong oxidizing agents. Strong alkalis.

Hazardous Decomposition Products

None known based on information supplied.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Product Information

Eye Contact	Irritating to eyes.
Skin Contact	Prolonged contact may cause redness and irritation.
Inhalation	May cause irritation if inhaled.
Ingestion	May cause discomfort if swallowed.

Component Information

Chemical Name	Oral LD50	Dermal LD50	Inhalation LC50
Potassium Nitrate 7757-79-1	= 3015 mg/kg (Rat)	-	-
Dimethyl sulfone 67-71-0	> 5 g/kg (Rat)	> 5 g/kg (Rabbit)	-
L-Pyroglutamic Acid 98-79-3	> 1 g/kg (Rat)	-	-
Potassium hydroxide 1310-58-3	= 284 mg/kg (Rat)	-	-
Levulinic Acid 123-76-2	= 1850 mg/kg (Rat)	> 5 g/kg (Rabbit)	-
Ammonium Nitrate	= 2217 mg/kg (Rat)	-	> 88.8 mg/L (Rat) 4 h

6484-52-2			
-----------	--	--	--

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 Nitrate or nitrite ingested under conditions that result in endogenous nitrosation are considered IARC group 2A carcinogens.

Chemical Name	ACGIH	IARC	NTP	OSHA
Potassium Nitrate 7757-79-1		Group 2A		X
Ammonium Nitrate 6484-52-2		Group 2A		X

Numerical measures of toxicity

Not determined

12. ECOLOGICAL INFORMATION**Ecotoxicity**

Harmful to aquatic life with long lasting effects.

Component Information

Chemical Name	Algae/aquatic plants	Fish	Toxicity to microorganisms	Crustacea
Potassium hydroxide 1310-58-3		80: 96 h <i>Gambusia affinis</i> mg/L LC50 static		
Ammonium Nitrate 6484-52-2		65 - 85: 48 h <i>Cyprinus carpio</i> mg/L LC50 semi-static		

Persistence/Degradability

Not determined.

Bioaccumulation

Not determined.

Mobility

Chemical Name	Partition Coefficient
Potassium hydroxide 1310-58-3	0.65 0.83
Ammonium Nitrate 6484-52-2	-3.1

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.

California Hazardous Waste Status

Chemical Name	California Hazardous Waste Status
Potassium Nitrate 7757-79-1	Ignitable Reactive
Potassium hydroxide 1310-58-3	Toxic Corrosive
Ammonium Nitrate 6484-52-2	Ignitable Reactive

14. TRANSPORT INFORMATION

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

DOT Not regulated

IATA Not regulated

IMDG Not regulated

15. REGULATORY INFORMATION

International Inventories

Chemical Name	TSCA	DSL	NDSL	EINECS	ELINCS	ENCS	IECSC	KECL	PICCS	AICS
Potassium Nitrate	Present	X		Present		Present	X	Present	X	X
Manganese EDTA	Present	X		Present		Present	X			X
Potassium hydroxide	Present	X		Present		Present	X	Present	X	X
Ammonium Nitrate	Present	X		Present		Present	X	Present	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

US Federal Regulations

CERCLA

This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302)

Chemical Name	Hazardous Substances RQs	CERCLA/SARA RQ	Reportable Quantity (RQ)
Potassium hydroxide 1310-58-3	1000 lb		RQ 1000 lb final RQ RQ 454 kg final RQ

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

Chemical Name	CAS No	Weight-%	SARA 313 - Threshold Values %

Manganese EDTA - 15375-84-5	15375-84-5	Proprietary	1.0
Potassium Nitrate - 7757-79-1	7757-79-1	10-20	1.0
Ammonium Nitrate - 6484-52-2	6484-52-2	Proprietary	1.0

CWA (Clean Water Act)

This product contains the following substances which are regulated pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

Chemical Name	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants	CWA - Hazardous Substances
Potassium hydroxide	1000 lb			X

US State Regulations**California Proposition 65**

This product does not contain any Proposition 65 chemicals.

U.S. State Right-to-Know Regulations

Chemical Name	New Jersey	Massachusetts	Pennsylvania
Manganese EDTA 15375-84-5	X		X
Potassium Nitrate 7757-79-1	X	X	X
Potassium hydroxide 1310-58-3	X	X	X
Ammonium Nitrate 6484-52-2	X	X	X

16. OTHER INFORMATION**NFPA****Health Hazards**

Not determined

Flammability

Not determined

Instability

Not determined

Special Hazards

Not determined

HMIS**Health Hazards**

Not determined

Flammability

Not determined

Physical Hazards

Not determined

Personal Protection

Not determined

Issue Date:

07-May-2015

Revision Date:

07-Feb-2016

Revision Note:

Reevaluation of GHS classification

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