



## 4. FIRST-AID MEASURES

### First Aid Measures

<b>Eye Contact</b>	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.
<b>Skin Contact</b>	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.
<b>Inhalation</b>	Remove exposed individual(s) to fresh air for 20 minutes. Consult a physician / poison center if individual's condition declines or if symptoms persist.
<b>Ingestion</b>	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

<b>Symptoms</b>	May cause eye and skin irritation.
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### Indication of any immediate medical attention and special treatment needed

<b>Notes to Physician</b>	Treat symptomatically.
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## 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

<b>Personal Precautions</b>	Use personal protective equipment as required.
<b>Environmental Precautions</b>	See Section 12 for additional Ecological Information.

### Methods and material for containment and cleaning up

<b>Methods for Containment</b>	Prevent further leakage or spillage if safe to do so. Contain and absorb with suitable absorbent for disposal.
<b>Methods for Clean-Up</b>	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 <sup>3</sup> Ceiling: 5 mg/m <sup>3</sup> Mn	IDLH: 500 mg/m <sup>3</sup> Mn TWA: 1 mg/m <sup>3</sup> Mn STEL: 3 mg/m <sup>3</sup> Mn
Potassium hydroxide 1310-58-3	Ceiling: 2 mg/m <sup>3</sup>	(vacated) Ceiling: 2 mg/m <sup>3</sup>	Ceiling: 2 mg/m <sup>3</sup>

### 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

<b>Physical State</b>	Liquid	<b>Odor</b>	Sweet
<b>Appearance</b>	Pink liquid	<b>Odor Threshold</b>	Not determined
<b>Color</b>	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	

<b>Vapor Pressure</b>	Not determined
<b>Vapor Density</b>	Not determined
<b>Specific Gravity</b>	1.21
<b>Water Solubility</b>	Not determined
<b>Solubility in other solvents</b>	Not determined
<b>Partition Coefficient</b>	Not determined
<b>Auto-ignition Temperature</b>	Not determined
<b>Decomposition Temperature</b>	Not determined
<b>Kinematic Viscosity</b>	Not determined
<b>Dynamic Viscosity</b>	Not determined
<b>Explosive Properties</b>	Not determined
<b>Oxidizing Properties</b>	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

<b>Eye Contact</b>	Irritating to eyes.
<b>Skin Contact</b>	Prolonged contact may cause redness and irritation.
<b>Inhalation</b>	May cause irritation if inhaled.
<b>Ingestion</b>	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			
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**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