



**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 Name	CAS No	Weight-%
Potassium hydroxide	1310-58-3	1-5
Monoethanolamine	141-43-5	1-5
Sodium metasilicate	6834-92-0	1-5
Phosphoric Acid	7664-38-2	1-5

\*\*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**

<b>General Advice</b>	Provide this SDS to medical personnel for treatment.
<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. Immediately call a poison center or doctor/physician.
<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. If irritation develops or persists seek medical attention.
<b>Inhalation</b>	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.
<b>Ingestion</b>	IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. If conscious give large amounts of water. Seek immediate medical attention/advice.

**Most important symptoms and effects**

<b>Symptoms</b>	Prolonged or repeated contact with skin may cause irritation and local redness. Eye contact causes severe irritation and swelling of conjunctiva. Prolonged eye contact may cause chemical burns. May be harmful if swallowed. Ingestion may cause burns to G.I. tract, abdominal discomfort, nausea, vomiting and diarrhea. Inhalation of spray mist or vapors may irritate respiratory tract.
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**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.

**Hazardous Combustion Products** Carbon oxides.

**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. Do not enter confined fire-spaces without protective clothing and self-contained air supply.

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

**Personal Precautions** Use personal protection recommended in Section 8.

**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. Soak up and contain spill with an absorbent material.

**Methods for Clean-Up** Sweep up absorbed material and shovel into suitable containers for disposal. Discard any product, residue, disposable container or liner in full compliance with federal, state, and local regulations.

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

**Advice on Safe Handling** Handle in accordance with good industrial hygiene and safety practice. Do not breathe dust/fume/gas/mist/vapors/spray. Wear protective gloves/protective clothing and eye/face protection. Wash face, hands, and any exposed skin thoroughly after handling. Wash contaminated clothing before reuse. Do not eat, drink or smoke when using this product. Use only with adequate ventilation. Use personal protection recommended in Section 8.

**Conditions for safe storage, including any incompatibilities**

**Storage Conditions** Store locked up. Keep container closed when not in use.

**Incompatible Materials** Strong oxidizing agents. Strong acids.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### Exposure Guidelines

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH
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>
Monoethanolamine 141-43-5	STEL: 6 ppm TWA: 3 ppm	TWA: 3 ppm TWA: 6 mg/m <sup>3</sup> (vacated) TWA: 3 ppm (vacated) TWA: 8 mg/m <sup>3</sup> (vacated) STEL: 6 ppm (vacated) STEL: 15 mg/m <sup>3</sup>	IDLH: 30 ppm TWA: 3 ppm TWA: 8 mg/m <sup>3</sup> STEL: 6 ppm STEL: 15 mg/m <sup>3</sup>
Sodium metasilicate 6834-92-0	2 mg/m <sup>3</sup>	2 mg/m <sup>3</sup>	-
Phosphoric Acid 7664-38-2	STEL: 3 mg/m <sup>3</sup> TWA: 1 mg/m <sup>3</sup>	TWA: 1 mg/m <sup>3</sup> (vacated) TWA: 1 mg/m <sup>3</sup> (vacated) STEL: 3 mg/m <sup>3</sup>	IDLH: 1000 mg/m <sup>3</sup> TWA: 1 mg/m <sup>3</sup> STEL: 3 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 with side shields or chemical goggles.

**Skin and Body Protection** Wear protective gloves and protective clothing.

**Respiratory Protection** If engineering controls do not keep airborne concentrations below acceptable levels, wear a 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

<b>Physical State</b>	Liquid	<b>Odor</b>	Mild solvent
<b>Appearance</b>	Clear amber liquid	<b>Odor Threshold</b>	Not determined
<b>Color</b>	Clear amber		

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
<b>pH</b>	13.3	
<b>Melting Point/Freezing Point</b>	< 0 °C / < 32 °F	
<b>Boiling Point/Boiling Range</b>	> 100 °C / > 212 °F	
<b>Flash Point</b>	Not Flammable / combustible	
<b>Evaporation Rate</b>	Not determined	
<b>Flammability (Solid, Gas)</b>	Not determined	
<b>Upper Flammability Limits</b>	Not determined	
<b>Lower Flammability Limit</b>	Not determined	
<b>Vapor Pressure</b>	Not determined	
<b>Vapor Density</b>	Not determined	
<b>Specific Gravity</b>	1.082	(1=Water)
<b>Water Solubility</b>	Completely soluble	
<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>	Water thin
<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.

**Hazardous Polymerization**      Hazardous polymerization does not occur.

### Conditions to Avoid

Contact with incompatible materials.

### Incompatible Materials

Strong oxidizing agents. Strong acids.

### Hazardous Decomposition Products

Smoke, fumes or vapors, and oxides of carbon.

## 11. TOXICOLOGICAL INFORMATION

### Information on likely routes of exposure

#### Product Information

<b>Eye Contact</b>	Causes severe eye damage.
<b>Skin Contact</b>	Causes severe skin burns.
<b>Inhalation</b>	May cause irritation to the mucous membranes and upper respiratory tract.
<b>Ingestion</b>	Can burn mouth, throat, and stomach.

### Component Information

Chemical Name	Oral LD50	Dermal LD50	Inhalation LC50
Potassium hydroxide 1310-58-3	= 284 mg/kg ( Rat )	-	-
Monoethanolamine 141-43-5	= 1720 mg/kg ( Rat )	= 1 mL/kg ( Rabbit ) = 1000 mg/kg ( Rabbit )	-
Sodium metasilicate 6834-92-0	= 600 mg/kg ( Rat )	-	-
Phosphoric Acid 7664-38-2	= 1530 mg/kg ( Rat )	= 2740 mg/kg ( Rabbit )	> 850 mg/m <sup>3</sup> ( Rat ) 1 h

### 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**

Chemical Name	Algae/aquatic plants	Fish	Toxicity to microorganisms	Crustacea
Potassium hydroxide 1310-58-3		80: 96 h Gambusia affinis mg/L LC50 static		
Monoethanolamine 141-43-5	15: 72 h Desmodemus subspicatus mg/L EC50	200: 96 h Oncorhynchus mykiss mg/L LC50 flow-through 114 - 196: 96 h Oncorhynchus mykiss mg/L LC50 static 3684: 96 h Brachydanio rerio mg/L LC50 static 300 - 1000: 96 h Lepomis macrochirus mg/L LC50 static 227: 96 h Pimephales promelas mg/L LC50 flow-through		65: 48 h Daphnia magna mg/L EC50
Sodium metasilicate 6834-92-0		210: 96 h Brachydanio rerio mg/L LC50 semi-static 210: 96 h Brachydanio rerio mg/L LC50		216: 96 h Daphnia magna mg/L EC50
Phosphoric Acid 7664-38-2		3 - 3.5: 96 h Gambusia affinis mg/L LC50		4.6: 12 h Daphnia magna mg/L EC50

**Persistence/Degradability**

Not determined.

**Bioaccumulation**

Not determined.

**Mobility**

Chemical Name	Partition Coefficient
Potassium hydroxide 1310-58-3	0.65 0.83
Monoethanolamine 141-43-5	-1.91

**Other Adverse Effects**

Not determined

### 13. DISPOSAL CONSIDERATIONS

#### Waste Treatment Methods

<b>Disposal of Wastes</b>	Disposal should be in accordance with applicable regional, national and local laws and regulations.
<b>Contaminated Packaging</b>	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 hydroxide 1310-58-3	Toxic Corrosive
Phosphoric Acid 7664-38-2	Corrosive

### 14. TRANSPORT INFORMATION

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

#### DOT

<b>UN/ID No</b>	NA1760
<b>Proper Shipping Name</b>	Compounds, cleaning liquid (Potassium hydroxide)
<b>Hazard Class</b>	8
<b>Packing Group</b>	III

### 15. REGULATORY INFORMATION

#### International Inventories

Chemical Name	TSCA	DSL	NDSL	EINECS	ELINCS	ENCS	IECSC	KECL	PICCS	AICS
Potassium hydroxide	Present	X		Present		Present	X	Present	X	X
Monoethanolamine	Present	X		Present		Present	X	Present	X	X
Sodium metasilicate	Present	X		Present		Present	X	Present	X	X
Phosphoric Acid	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
Phosphoric Acid 7664-38-2	5000 lb		RQ 5000 lb final RQ RQ 2270 kg final RQ

**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 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
Phosphoric Acid	5000 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
Potassium hydroxide 1310-58-3	X	X	X
Monoethanolamine 141-43-5	X	X	X
Phosphoric Acid 7664-38-2	X	X	X



<b>16. OTHER INFORMATION</b>
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<u><b>NFPA</b></u>	<b>Health Hazards</b> Not determined	<b>Flammability</b> Not determined	<b>Instability</b> Not determined	<b>Special Hazards</b> Not determined
<u><b>HMIS</b></u>	<b>Health Hazards</b> 3	<b>Flammability</b> 0	<b>Physical Hazards</b> 0	<b>Personal Protection</b> B

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**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**