





#### **Precautionary Statements - Prevention**

Do not breathe mist or vapor. Do not eat, drink or smoke when using this product. Avoid release to the environment. Wear protective gloves/protective clothing/eye protection/face protection.

#### **Precautionary Statements - Response**

IF SWALLOWED: Rinse mouth. Do not induce vomiting. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. IF INHALED: Remove person to fresh air and keep comfortable for breathing. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Wash contaminated clothing before reuse.

#### **Precautionary Statements - Storage**

Store in accordance with local/regional/national/international regulations. Store in a well-ventilated place. Keep container tightly closed. Store away from incompatible materials.

#### **Precautionary Statements - Disposal**

Dispose of contents/container in accordance with local/regional/national/international regulations.

### **3. COMPOSITION/INFORMATION ON INGREDIENTS**

Chemical Name	CAS No	Weight-%
Potassium Hydroxide	1310-58-3	< 20
Sodium Hydroxide	1310-73-2	< 20

\*\*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>Eye Contact</b>	IF IN EYES: Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a physician or poison control center immediately.
<b>Skin Contact</b>	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. Call a physician or poison center immediately. Chemical burns must be treated by a physician. Wash contaminated clothing before reuse.
<b>Inhalation</b>	IF INHALED: Move to fresh air. Call a physician if symptoms develop or persist.
<b>Ingestion</b>	IF SWALLOWED: Call a physician or poison control center immediately. Rinse mouth. Do not induce vomiting. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs. Do not use mouth-to-mouth method if victim ingested the substance. Induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device.

#### **Most important symptoms and effects**

<b>Symptoms</b>	Burning pain and severe corrosive skin damage. Diarrhea. Nausea, vomiting. Causes serious eye damage. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result. Coughing.
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**Indication of any immediate medical attention and special treatment needed**

<b>Notes to Physician</b>	Provide general supportive measures and treat symptomatically. Chemical burns: Flush with water immediately. While flushing, remove clothes which do not adhere to the affected areas. Call an ambulance. Continue flushing during transport to hospital. Keep victim warm. Keep victim under observation. Symptoms may be delayed. Ensure that medical personnel are aware of the materials involved, and take precautions to protect themselves. Show this safety data sheet to the doctor in attendance.
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## 5. FIRE-FIGHTING MEASURES

**Suitable Extinguishing Media**

Water fog. Foam. Dry chemical powder. Carbon dioxide (CO<sub>2</sub>).

**Unsuitable Extinguishing Media** Do not use water jet as an extinguisher, as this will spread the fire.

**Specific Hazards Arising from the Chemical**

During fire, gases hazardous to health may be formed.

**Hazardous Combustion Products** None known.

**Protective equipment and precautions for firefighters**

Self-contained breathing apparatus and full protective clothing must be worn in case of fire. Move containers from fire area if you can do so without risk. Use standard firefighting procedures and consider the hazards of the other involved materials.

## 6. ACCIDENTAL RELEASE MEASURES

**Personal precautions, protective equipment and emergency procedures**

<b>Personal Precautions</b>	Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Keep out of low areas. Wear appropriate protective equipment and clothing during clean-up. Do not breathe mist vapor. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS. This product is miscible in water.
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<b>Environmental Precautions</b>	Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS. Avoid release to the environment. Prevent further leakage or spillage if safe to do so. Avoid discharge into drains, water courses or onto the ground. Inform appropriate managerial or supervisory personnel of all environmental releases.
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**Methods and material for containment and cleaning up**

<b>Methods for Containment</b>	Prevent further leakage or spillage if safe to do so.
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<b>Methods for Clean-Up</b>	<p>Large Spills: Dike the spilled material, where this is possible. Cover with plastic sheet to prevent spreading. Absorb in vermiculite, dry sand or earth and place into containers. Prevent entry into waterways, sewer, basements or confined areas. Following product recovery, flush area with water.</p> <p>Small Spills: Wipe up with absorbent material (e.g, cloth, fleece). Clean surface thoroughly to remove residual contamination.</p>
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## 7. HANDLING AND STORAGE

### Precautions for safe handling

#### **Advice on Safe Handling**

Do not breathe mist or vapor. DO not get in eyes, on skin, or on clothing. Avoid prolonged exposure. Do not taste or swallow. When using, do not eat, drink, or smoke. Provide adequate ventilation. Wear appropriate personal protective equipment. Wash hands thoroughly after handling. Avoid release to the environment. Observe good industrial hygiene practices.

### Conditions for safe storage, including any incompatibilities

#### **Storage Conditions**

Store locked up. Store in original tightly closed container. Store away from incompatible materials.

#### **Incompatible Materials**

Water, moisture. Acids. Oxidizing agents. Metals. Halogenated materials. Magnesium. Chlorinated hydrocarbons. Alcohols. Maleic anhydride. Phenols. Acid chlorides. Sugars. Organic compounds. Nitro compounds.

## 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>	-	TWA 2 mg/m <sup>3</sup>

### Appropriate engineering controls

#### **Engineering Controls**

Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Eye wash facilities and emergency shower must be available when handling this product. It is recommended that users of this product perform a risk assessment to determine the appropriate PPE.

### Individual protection measures, such as personal protective equipment

#### **Eye/Face Protection**

Wear safety glasses with side shields (or goggles) and a face shield.

#### **Skin and Body Protection**

Wear appropriate chemical resistant gloves. Suitable gloves can be recommended by the glove supplier. Wear appropriate chemical resistant clothing. Wear appropriate thermal protective clothing, when necessary.

#### **Respiratory Protection**

In case of insufficient ventilation, wear suitable respiratory equipment.

#### **General Hygiene Considerations**

Keep away from food and drink. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

**Information on basic physical and chemical properties**

<b>Physical State</b>	Liquid	<b>Odor</b>	Odorless
<b>Appearance</b>	Clear liquid	<b>Odor Threshold</b>	Not determined
<b>Color</b>	Colorless		
<b><u>Property</u></b>	<b><u>Values</u></b>	<b><u>Remarks • Method</u></b>	
<b>pH</b>	>12		
<b>Melting Point/Freezing Point</b>	Not available		
<b>Boiling Point/Boiling Range</b>	> 100 °C / >212 °F		
<b>Flash Point</b>	Not available		
<b>Evaporation Rate</b>	Not available	(Water = 1)	
<b>Flammability (Solid, Gas)</b>	Liquid - not applicable		
<b>Upper Flammability Limits</b>	Not available		
<b>Lower Flammability Limit</b>	Not available		
<b>Vapor Pressure</b>	< 2.3 kPa @ 20°C		
<b>Vapor Density</b>	< 0.62 @ 20°C		
<b>Specific Gravity</b>	Not available		
<b>Water Solubility</b>	Soluble		
<b>Solubility in other solvents</b>	Not available		
<b>Partition Coefficient</b>	Not available		
<b>Auto-ignition Temperature</b>	Not available		
<b>Decomposition Temperature</b>	Not available		
<b>Kinematic Viscosity</b>	Not available		
<b>Dynamic Viscosity</b>	Not available		
<b>Explosive Properties</b>	Not available		
<b>Oxidizing Properties</b>	Not available		

**10. STABILITY AND REACTIVITY****Reactivity**

Reacts violently with strong acids. This product may react with oxidizing agents.

**Chemical Stability**

Material is stable under normal conditions.

**Possibility of Hazardous Reactions**

No dangerous reaction known under conditions of normal use. Hazardous polymerization does not occur.

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

**Conditions to Avoid**

Do not mix with other chemicals. Contact with incompatible materials.

**Incompatible Materials**

Water, moisture. Acids. Oxidizing agents. Metals. Halogenated materials. Magnesium. Chlorinated hydrocarbons. Alcohols. Maleic anhydride. Phenols. Acid chlorides. Sugars. Organic compounds. Nitro compounds.

**Hazardous Decomposition Products**

Carbon oxides. Heat is generated from contact with acids, water and or alcohols. When wet, attacks metals producing extremely flammable hydrogen gas form explosive mixtures with air.

**11. TOXICOLOGICAL INFORMATION**

**Information on likely routes of exposure****Product Information**

<b>Eye Contact</b>	Causes serious eye damage.
<b>Skin Contact</b>	Causes severe skin burns.
<b>Inhalation</b>	May cause irritation to the respiratory system. Prolonged inhalation may be harmful.
<b>Ingestion</b>	Toxic if swallowed. Causes digestive tract burns.

**Component Information**

Chemical Name	Oral LD50	Dermal LD50	Inhalation LC50
Caustic Potash 45%	607 mg/kg estimated (Rat)	-	-
Potassium Hydroxide 1310-58-3	273 mg/kg (Rat)	-	-

**Information on physical, chemical and toxicological effects**

<b>Symptoms</b>	Burning pain and severe corrosive skin damage. Diarrhea. Nausea, vomiting. Causes serious eye damage. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result. Coughing.
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**Delayed and immediate effects as well as chronic effects from short and long-term exposure**

<b>Carcinogenicity</b>	Not classifiable as a human carcinogen.
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**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
Caustic Potash 45%		177.7778 mg/l, 96h estimated		
Potassium Hydroxide 1310-58-3		Western mosquito fish (Gambusia affinis) 80 mg/l, 96 hours		

**Persistence/Degradability**

Not determined.

**Bioaccumulation**

Not determined.

**Mobility**

No data available.

**Other Adverse Effects**

Not determined

**13. DISPOSAL CONSIDERATIONS****Waste Treatment Methods****Disposal of Wastes**

Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container. Dispose of contents/container in accordance with local/regional/national/international regulations. Waste code should be assigned in discussion between the user, the producer and the waste disposal company.

**Contaminated Packaging**

Empty containers should be taken to an approved waste handling site for recycling or disposal. Since emptied containers may retain product residue, follow label warnings even after container is emptied.

**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** UN1814  
**Proper Shipping Name** Potassium hydroxide, solution  
**Hazard Class** 8  
**Packing Group** II

**IATA**

**UN/ID No** UN1814  
**Proper Shipping Name** Potassium hydroxide, solution  
**Hazard Class** 8  
**Packing Group** II

**IMDG**

**UN/ID No** UN1814  
**Proper Shipping Name** Potassium hydroxide, solution  
**Hazard Class** 8  
**Packing Group** II

**15. REGULATORY INFORMATION****International Inventories**

Chemical Name	TSCA	DSL	NDSL	EINECS	ELINCS	ENCS	IECSC	KECL	PICCS	AICS
Potassium Hydroxide	Listed	Listed	Listed	Listed	X	Listed	Listed	X	Listed	Listed

**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

Potassium Hydroxide (CAS 1310-58-3) Listed

#### SARA 313

Not listed

### 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	X	X	X

## 16. OTHER INFORMATION

#### NFPA

#### Health Hazards

Not determined

#### Flammability

Not determined

#### Instability

Not determined

#### Special Hazards

Not determined

#### HMIS

#### Health Hazards

3

#### Flammability

0

#### Physical Hazards

1

#### Personal Protection

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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**