1. PRODUCT AND COMPANY IDENTIFICATION

Product name: Potassium hydroxide
Product Number: P5958
Brand: Sigma-Aldrich
Company: Sigma-Aldrich
3050 Spruce Street
SAINT LOUIS MO  63103
USA
Telephone: +18003255832
Fax: +18003255052
Emergency Phone #: (314) 776-6555

2. HAZARDS IDENTIFICATION

Emergency Overview

OSHA Hazards
Toxic by ingestion, Corrosive

GHS Label elements, including precautionary statements

Pictogram

Signal word Danger
Hazard statement(s)
H301 Toxic if swallowed.
H314 Causes severe skin burns and eye damage.
H402 Harmful to aquatic life.

Precautionary statement(s)
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310 Immediately call a POISON CENTER or doctor/physician.

HMIS Classification
Health hazard: 3
Flammability: 0
Physical hazards: 1

NFPA Rating
Health hazard: 3
Fire: 0
Reactivity Hazard: 1
Special hazard: W

Potential Health Effects
Inhalation May be harmful if inhaled. Material is extremely destructive to the tissue of the mucous membranes and upper respiratory tract.
Skin May be harmful if absorbed through skin. Causes skin burns.
Eyes Causes eye burns.
Ingestion Toxic if swallowed. Causes burns.

3. COMPOSITION/INFORMATION ON INGREDIENTS
Synonyms : Caustic potash

Formula : HKO
Molecular Weight : 56.11 g/mol

<table>
<thead>
<tr>
<th>CAS-No.</th>
<th>EC-No.</th>
<th>Index-No.</th>
<th>Concentration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Potassium hydroxide</td>
<td>1310-58-3</td>
<td>215-181-3</td>
<td>019-002-00-8</td>
</tr>
</tbody>
</table>

4. FIRST AID MEASURES

General advice
Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

If inhaled
If breathed in, move person into fresh air. If not breathing give artificial respiration. Consult a physician.

In case of skin contact
Take off contaminated clothing and shoes immediately. Wash off with soap and plenty of water. Consult a physician.

In case of eye contact
Continue rinsing eyes during transport to hospital. Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

If swallowed
Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

5. FIRE-FIGHTING MEASURES

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

Special protective equipment for fire-fighters
Wear self contained breathing apparatus for fire fighting if necessary.

Further information
Gives off hydrogen by reaction with metals. The product itself does not burn.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions
Use personal protective equipment. Avoid dust formation. Avoid breathing dust. Ensure adequate ventilation. Evacuate personnel to safe areas.

Environmental precautions
Do not let product enter drains.

Methods and materials for containment and cleaning up
Pick up and arrange disposal without creating dust. Keep in suitable, closed containers for disposal.

7. HANDLING AND STORAGE

Precautions for safe handling
Avoid formation of dust and aerosols. Provide appropriate exhaust ventilation at places where dust is formed.

Conditions for safe storage
Keep container tightly closed in a dry and well-ventilated place. Absorbs carbon dioxide (CO2) from air.

Air sensitive. strongly hygroscopic
8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

<table>
<thead>
<tr>
<th>Components</th>
<th>CAS-No.</th>
<th>Value</th>
<th>Control parameters</th>
<th>Update</th>
<th>Basis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Potassium hydroxide</td>
<td>1310-58-3</td>
<td>C</td>
<td>2 mg/m³</td>
<td>2007-01-01</td>
<td>USA. ACGIH Threshold Limit Values (TLV)</td>
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<tr>
<td>Remarks</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Eye, skin, &amp; Upper Respiratory Tract irritation</td>
</tr>
</tbody>
</table>

Personal protective equipment

**Respiratory protection**
Where risk assessment shows air-purifying respirators are appropriate use a full-face particle respirator type N100 (US) or type P3 (EN 143) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

**Hand protection**
Handle with gloves.

**Eye protection**
Face shield and safety glasses

**Skin and body protection**
Choose body protection according to the amount and concentration of the dangerous substance at the work place.

**Hygiene measures**
Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

9. PHYSICAL AND CHEMICAL PROPERTIES

**Appearance**
Form solid

**Safety data**
- pH 13.5
- Melting point 361 °C (682 °F)
- Boiling point 1,320 °C (2,408 °F)
- Flash point no data available
- Ignition temperature no data available
- Lower explosion limit no data available
- Upper explosion limit no data available
- Vapour pressure 1 hPa (1 mmHg) at 719 °C (1,326 °F)
- Density 2.044 g/cm³
- Water solubility soluble

10. STABILITY AND REACTIVITY

**Chemical stability**
Heat of solution is very high, and with limited amounts of water, violent boiling may occur. Stable under recommended storage conditions.
Conditions to avoid
Do not heat above melting point.

Materials to avoid
Nitro compounds, Organic materials, Magnesium, Copper, Water, reacts violently with; Metals, Light metals, Contact with aluminum, tin and zinc liberates hydrogen gas. Contact with nitromethane and other similar nitro compounds causes formation of shock-sensitive salts., vigorous reaction with; Alkali metals, Halogens, Azides, Anhydrides

Hazardous decomposition products
Hazardous decomposition products formed under fire conditions. - Potassium oxides

11. TOXICOLOGICAL INFORMATION

Acute toxicity
LD50 Oral - rat - 273 mg/kg

Skin corrosion/irritation
Skin - rabbit - Severe skin irritation - 24 h

Serious eye damage/eye irritation
Eyes - rabbit - Eye irritation - 24 h

Respiratory or skin sensitization
no data available

Germ cell mutagenicity
no data available

Carcinogenicity
IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Reproductive toxicity
no data available

Specific target organ toxicity - single exposure (GHS)
no data available

Specific target organ toxicity - repeated exposure (GHS)
no data available

Aspiration hazard
no data available

Potential health effects
Inhalation May be harmful if inhaled. Material is extremely destructive to the tissue of the mucous membranes and upper respiratory tract.

Ingestion Toxic if swallowed. Causes burns.

Skin May be harmful if absorbed through skin. Causes skin burns.

Eyes Causes eye burns.

Additional Information
RTECS: TT2100000

12. ECOLOGICAL INFORMATION

Toxicity
Toxicity to fish LC50 - Gambusia affinis (Mosquito fish) - 80 mg/l - 96 h

Persistence and degradability
no data available

**Bioaccumulative potential**
no data available

**Mobility in soil**
no data available

**PBT and vPvB assessment**
no data available

**Other adverse effects**
no data available

### 13. DISPOSAL CONSIDERATIONS

**Product**
Observe all federal, state, and local environmental regulations. Contact a licensed professional waste disposal service to dispose of this material.

**Contaminated packaging**
Dispose of as unused product.

### 14. TRANSPORT INFORMATION

**DOT (US)**
- UN-Number: 1813
- Class: 8
- Packing group: II
- Proper shipping name: Potassium hydroxide, solid
- Reportable Quantity (RQ): 1000 lbs
- Marine pollutant: No
- Poison Inhalation Hazard: No

**IMDG**
- UN-Number: 1813
- Class: 8
- Packing group: II
- EMS-No: F-A, S-B
- Proper shipping name: POTASSIUM HYDROXIDE, SOLID
- Marine pollutant: No

**IATA**
- UN-Number: 1813
- Class: 8
- Packing group: II
- Proper shipping name: Potassium hydroxide, solid

### 15. REGULATORY INFORMATION

**OSHA Hazards**
Toxic by ingestion, Corrosive

**DSL Status**
All components of this product are on the Canadian DSL list.

**SARA 302 Components**
SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

**SARA 313 Components**
SARA 313: This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

**SARA 311/312 Hazards**
Acute Health Hazard

**Massachusetts Right To Know Components**
- Potassium hydroxide 1310-58-3 2007-03-01

**Pennsylvania Right To Know Components**
- Potassium hydroxide 1310-58-3 2007-03-01
New Jersey Right To Know Components

Potassium hydroxide

California Prop. 65 Components
This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

16. OTHER INFORMATION

Further information
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The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Sigma-Aldrich Co., shall not be held liable for any damage resulting from handling or from contact with the above product. See reverse side of invoice or packing slip for additional terms and conditions of sale.