

**Section 1: Product & Company Information**

**Product Identifier:** Potassium Hydroxide, 30-45% Solution

**Other Means of Identification**

Product Number: 141000

**Recommended Use and Restrictions on Use**

**Recommended Use:** Intermediate in industrial manufacturing processes, such as manufacture of potassium fertilizers, potassium carbonate or other potassium salts and other organic chemicals. Food Processing; alkaline batteries; detergents/ soaps; dyeing, bleaching, and mercerizing cotton, paint and varnish removers, Electroplating, photoengraving, and lithography; analytical chemistry and in organic synthesis; pharmaceutical acid(alkalizer); Chemical peeling of fruits and vegetables; absorption of CO<sub>2</sub>, SO<sub>3</sub> and NO<sub>3</sub> in gas streams and pH adjustments.

**Restrictions on Use:** Produced in a non-mercury cell process. Meets ANSI/AWWA B511-10 ad food chemical Codex (FCC) test requirements. Liquid Caustic Potash is produced in a c-GMP facility.

**Manufacturer / Importer / Supplier / Distributor Information**

**Company Name:** CORECHEM Inc.

**Address:** 4320 Greenway Drive  
Knoxville, TN 37918  
USA

**Information Telephone Number:** 1-865-524-4239

**Fax Number:** 1-865-524-3375

**Website:** www.corecheminc.com

**Contact Person:** Regulatory Manager

**E-mail:** regulatory@corecheminc.com

**Emergency Phone Number:** Chemtrec® 1-800-424-9300 / Outside USA 1-703-527-3887 (monitored 24 hours/day)

**Section 2: Hazards Identification**

**GHS Hazard Classification(s)**

In accordance with OSHA Hazard Communication Standard 29 CFR 1910.1200 (HazCom 2012).

**Physical Hazard(s)**

Corrosive to Metals - 1

**Health Hazard(s)**

Acute Toxicity, Oral - 4

Corrosion/Irritation, Skin - 1B

(Corrosion)Damage/Irritation, Eye - 1

**Environmental Hazard(s)**

Aquatic, Acute - 3

**Label Elements**

**Signal Word**

**DANGER**

**Hazard Symbol(s)**



**Hazard Statement(s)**

H290: May be corrosive to metals.

H302: Harmful if swallowed.

H314: Causes severe skin burns and eye damage.

H318: Causes serious eye damage.

## Precautionary Statements

### General

Not applicable.

### Prevention

P234: Keep only in original container.

P260: Do not breathe dust/fume/gas/mist/vapors/spray.

P264: Wash face, hands and any exposed skin thoroughly after handling.

P270: Do not eat, drink or smoke when using this product.

P273: Avoid release to the environment.

P280: Wear protective gloves/protective clothing/eye protection/face protection.

### Response

P301 + P312: IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.

P301 + P330 + P331: IF SWALLOWED: rinse mouth. Do NOT induce vomiting.

P303 + P361 + P353: IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.

P304 + P340: IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing.

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.

P321: Specific treatment (see supplemental first aid instructions on this label).

P330: Rinse mouth.

P363: Wash contaminated clothing before reuse.

P390: Absorb spillage to prevent material damage.

### Storage

P405: Store locked up.

P406: Store in corrosive resistant container with a resistant inner liner.

### Disposal

P501: Dispose of contents/container to an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.

**Hazard(s) not otherwise classified (HNOC)**

None known.

## Section 3: Composition/Information on Ingredients

### Substance

| Chemical Identity <sup>2</sup> | Common Name/Synonym(s)                           | CAS # <sup>3</sup> | Weight % | Impurity or Stabilizing Additive |
|--------------------------------|--------------------------------------------------|--------------------|----------|----------------------------------|
| Potassium Hydroxide            | Caustic Potash, Potassium Lye, Potassium Hydrate | 1310-58-3          | 30 – 55% | No                               |

1. Information regarding the composition and the percent ranges of the mixtures ingredients are not presented as it Confidential Business Information (CBI). Where a medical emergency exists (as determined by medical professional), timely disclosure of CBI is assured. The information omitted pertains to only the names of the substances and the concentration in the mixture (product) and can only be requested by a doctor/physician or Local/State/Provincial or Federal Authority.

2. Non-hazardous ingredients are not presented as to protect the proprietary formula of the product.

3. "—"Indicates ingredient is a mixture and contains multiple ingredients or may have no identifying CAS number.

## Section 4: First-Aid Measures

### General Information

Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. In the case of accident or if you feel unwell, seek medical advice immediately (show the label where possible). Wash contaminated clothing before reuse.

### Inhalation

IF INHALED: Remove person to fresh air and keep at rest in a position comfortable for breathing. IF INHALED: Immediately call a POISON CENTER or physician.

### Skin Contact

IF ON SKIN (or hair) Remove immediately all contaminated clothing. Rinse skin with water/shower. SPECIFIC TREATMENT: wash with lots of water. IF EXPOSED: (skin) immediately call a POISON CENTER OR ISCENCED HEALTH CARE PROVIDER. Wash contaminated clothing before reuse. Discard contaminated leather goods.

**Eye Contact**

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do so. Continue rinsing. SPECIFIC TREATMENT: Wash with lots of water. IF EXPOSED (eyes) immediately call a POISON CENTER OR LICENSED HEALTH CARE PROVIDER.

**Ingestion**

Call a physician or poison control center immediately. Rinse mouth. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs.

**Most important symptoms/effects, acute and delayed****Symptoms**

Inhalation (Breathing) Respiratory System Effects: Exposure to airborne material may cause irritation, redness of upper and lower airways, coughing, laryngeal spasm and edema, shortness of breath, bronchio constriction, and possible pulmonary edema. Severe and permanent scarring may occur. Aspiration of this material may cause the same conditions. Skin: Skin corrosion. Exposure to skin may cause redness, itching, irritation, swelling, burns, (first, second, or third degree) liquefaction of the skin, and damage to underlying tissues (deep and painful wounds) Eye: Serious eye damage. Eye exposures may cause eyelid burns, conjunctivitis, corneal edema, corneal burns, corneal perforation, damage to internal contents of the eye, permanent visual defects, and blindness and/ or loss of the eye. Ingestion (Swallowing) Gastrointestinal system effects: Exposure by ingestion may cause irritation, swelling, and perforation of upper and lower gastrointestinal tissues. Permanent scarring may occur. Ingestion may result in corrosive injury to the upper gastrointestinal tract. Signs and symptoms include vomiting, blood in vomit, drooling, difficulty swallowing, pain with swallowing, and abdominal pain. Hoarseness, cough, difficulty breathing are indicators of serious complications. Esophageal injury may occur in absence of oral burns. Oral burns are significant and further investigation is required. Repeated or prolonged exposures to skin that cause irritation, may cause chronic dermatitis.

**Indication of immediate medical attention and special treatment needed****Hazards**

Corrosive. May aggravate pre-existing eye, skin, and respiratory conditions (including asthma and other breathing disorders.) Protect yourself by avoiding contact with this material. Use personal protective equipment. Refer to section 8 for specific personal protective equipment recommendations. Avoid contact with skin and eyes. Do not ingest. Do not breathe vapors or spray mist. At minimum, treating personnel should utilize PPE sufficient for prevention of bloodborne pathogen transmission.

**Treatment**

Medical observation and assessment is recommended for all ingestions. All eye exposures, and symptomatic inhalation and dermal exposures. If medical observation is required, monitor for a minimum of 4 hours or the onset or worsening of symptoms. For symptomatic ingestion, do not administer oral fluids and consider investigation by endoscopy, x-ray, or CT scan. Esophageal perforation, airway compromise, hypotension, and shock are possible. For prolonged exposures and significant exposures, consider delayed injury to exposed tissues. If burn is present, treat as any thermal burn, after decontamination. There is no antidote. Treatment is supportive care. Surgical intervention may be required.

**Section 5: Fire-Fighting Measures****General Fire Hazards**

Noncombustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes.

**Suitable (and Unsuitable) Extinguishing Media****Suitable Extinguishing Media**

Use extinguishing agents appropriate for surrounding fire. Caution should be taken if using water as an extinguishing agent since adding water to potassium hydroxide can generate heat and cause spattering if applied directly to dry or concentrated potassium hydroxide.

**Unsuitable Extinguishing Media**

Do not use a solid water stream as it may scatter and spread fire. Do not use halogenated extinguishing agents.

**Specific Hazards Arising from the Chemical**

The heating of the closed container causes an increase of the internal pressure, which can cause its abrupt rupture. Product can react with chemically reactive metals such as aluminum, zinc, magnesium, copper, etc. releasing hydrogen gas, which is highly flammable and can form explosive mixtures with air.

**Hazardous Combustion Products:** May react with chemically reactive metals such as aluminum, zinc, magnesium, copper etc. to release hydrogen gas which can form explosive mixtures in the air.

**Physical Hazards not otherwise classified:** mixing with water or other low pH materials may cause heat to be released. Do not store in aluminum containers or use aluminum fittings or transfer lines, as flammable hydrogen gas will be generated. Accelerated corrosion can occur in areas where equipment is subjected to extremely high temperatures.

**Special Protective Equipment and Precautions for Firefighters****Special Fire-Fighting Equipment Procedures**

Move container from fire area if it can be done without risk. Cool Containers with water. Do not apply water directly on this product. Heat is generated when mixed with water. Wear NIOSH approved positive pressure self-contained breathing apparatus operated in pressure demand mode. Avoid contact with the skin.

**Special Protective Equipment for Fire-Fighters**

As in any fire, wear self-contained breathing apparatus pressure-demand (OSHA/NIOSH approved or equivalent) and full protective gear.

**Section 6: Accidental Release Measures**

## Personal Precautions, Protective Equipment and Emergency Procedures

Avoid contact with skin, eyes and clothing. Wear appropriate personal protective equipment recommended in section 8, exposure controls/ personal Protection, of the SDS. Isolate area. Keep unnecessary and unprotected personnel from entering the area. Use appropriate safety equipment. For additional information, refer to section 8, Exposure controls and personal protection. Refer to section 7, handling, for additional precautionary measures. Take any precaution to avoid mixing with combustibles or incompatible materials. Ensure adequate ventilation, especially in confined areas.

## Methods and Materials for Containment and Clean-Up

Recovery: In case of spill or leak, stop the leak as soon as possible. Small and large spills: Contain spilled material if possible. Completely contain spilled material with dikes, sandbags, etc. After containment, collect the spilled material and transfer to a chemical waste area. Liquid material may be removed with properly rated vacuum truck. The recovered product must be transferred to an appropriate and compatible container (stainless steel, PVC, Fiberglass or similar.) Seal and label the container.

**Neutralization:** Neutralize residue with dilute acid and follow with a liberal covering of sodium bicarbonate or another acceptable drying agent. See section 13, Disposal considerations, for additional information.

Final Disposal: Recycle or dispose according to regulations.

Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Absorb in vermiculite, dry sand or earth and place into containers. Following product recovery, flush area with water.

Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination.

Never return spills in original containers for re-use. Retain and dispose of contaminated wash water. For waste disposal, see Section 13 of the SDS.

## Notification Procedures

In the event of a spill or accidental release, notify relevant authorities in accordance with all applicable regulations.

## Environmental Precautions

Keep out of water supplies and sewers. This material is alkaline and may raise the pH of surface waters with low buffering capacity. Releases should be reported, if required, to appropriate agencies.

## Section 7: Handling and Storage

### Precautions for Safe Handling

Avoid breathing vapor or mist. Do not get in eyes, on skin, or on clothing. Wash skin and contaminated clothing thoroughly after handling. Wear personal protective equipment as described in Exposure Controls/ Personal Protection (Section 8) of the SDS. Keep equipment clean by immediately washing off any spill or accumulation of Caustic Potash. When mixing always add the caustic Potash slowly to the water surface with consistent stirring. Never add the water to the Caustic Potash.

### Conditions for Safe Storage, including any Incompatibilities

Caustic Potash is a corrosive chemical, which is normally handled in either steel, nickel, nickel alloys or certain types of plastic equipment. The specific material will depend on the conditions under which the material is being used. Do not store in an aluminum container, use aluminum fittings, or aluminum transfer lines, as aluminum will quickly corrode, and flammable hydrogen gas will be generated. Store and handle in accordance with all current regulations and standards. Keep container tightly closed and properly labeled. Keep separated from incompatible substances (see below or section 10 of the safety data sheet).

Incompatibilities/ materials to avoid: Flammable liquids, Acids, halogenated compounds, water, prolonged contact with aluminum, brass, bronze, copper, lead, tin, zinc, or other alkali sensitive metals or alloys.

Additional information: Do not store in aluminum container or use aluminum fittings or transfer lines, as flammable hydrogen gas may be generated.

Physical hazards not otherwise classified: Mixing with water or other low pH material may cause heat to be released. Do not store in aluminum container or use aluminum fittings or transfer lines, as flammable hydrogen gas will be generated. Accelerated corrosion can occur in areas where equipment is subjected to extremely high temperatures.

## Section 8: Exposure Controls/Personal Protection

### Control Parameters

#### Occupational Exposure Limits

| Chemical Identity   | Type    | Value               | Source                                    |
|---------------------|---------|---------------------|-------------------------------------------|
| Potassium Hydroxide | Ceiling | 2 mg/m <sup>3</sup> | US. ACGIH Threshold Limit Values          |
| Potassium Hydroxide | TWA     | 2mg/m <sup>3</sup>  | US NIOSH Pocket Guide to Chemical Hazards |

#### Biological Limit Values

The product does not contain any relevant quantities of hazardous materials with assigned biological limit values.

### Appropriate 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.

### Individual protection measures, such as personal protective equipment (PPE)

## General Information

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.

## Eye/Face Protection

Wear chemical safety goggles with a face shield to protect eye and skin contact when appropriate. Provide an emergency eyewash fountain and quick drench shower in the immediate work area.

## Skin Protection

### Hand Protection

Wear appropriate chemical resistant gloves. If contact with forearms is likely, wear gauntlet style gloves. Consult a glove supplier for assistance in selecting an appropriate chemical resistant glove. Protective material types include: Butyl Rubber, Natural rubber, Nitrile, Polyvinyl Chloride (PVC) Tychem, Tyvek.

### Other

Wear protective clothing to minimize skin contact. When potential for contact with wet material exists, wear Tychem or similar chemical protective suit. When potential for contact with dry material exists, wear disposable coveralls suitable for dust exposure, such as Tyvek. Always place pants over boots. Thoroughly clean and dry contaminated clothing before reuse. Discard contaminated leather goods.

## Respiratory Protection

Where risk assessment shows air purifying respirators are appropriate, use a NIOSH approved full-facepiece respirator with an N100, R100 or P100 filter. For an emergency or planned entry into unknown concentrations or IDLH conditions, use any self-contained breathing apparatus (SCBA) that has a full facepiece and is operated in a pressure-demand or other positive pressure mode OR any supplied air respirator that has a full facepiece and is operated in a pressure-demand or other positive pressure mode OR any supplied-air respirator with an auxiliary self-contained positive pressure breathing apparatus (e.g. airline with auxiliary escape pack) A respiratory protection program that meets 29 CFR 1910.134 must be followed whenever workplace conditions warrant use of a respirator.

## Hygiene Measures

When using, do not eat, drink or smoke. 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. Discard contaminated footwear that cannot be cleaned. Wash hands before breaks and immediately after handling the product. Wash contaminated clothing before reuse. Avoid contact with eyes, skin, and clothing.

## Section 9: Physical and Chemical Properties

### Appearance:

Physical State: Liquid  
 Color: Clear to Slightly Hazy

### Odor:

Odorless

### Odor Threshold:

No data available.

### pH:

14 (0.5% Solution)

### Melting Point/Freezing Point:

-27.4 °F (-33 °C) (45% Solution)

### Initial Boiling Point and Boiling

271.4 °F (133 °C) (45% Solution)

### Range:

### Flash Point:

Not applicable.

### Evaporation Rate (butyl acetate=1):

No data available.

### Flammability (solid, gas):

No data available.

### Upper/Lower Limit on Flammability or Explosive Limits

Flammability Limit – Upper: No data available.

Flammability Limit – Lower: No data available.

Explosive Limit – Upper: No data available.

Explosive Limit – Lower: No data available.

### Vapor Pressure:

6.4 mmHg @ 77 °F (25°C) 45% Solution

### Vapor Density (air =1):

9.09 -12.67 lbs./gal (1.09-1.52 kg/L) @ 15.6 °C

### Relative Density (water=1):

1.457 (45% solution) at 60 °F (15.6 °C)

### Solubility(ies):

Solubility in water: Completely miscible with water.

Solubility (other): No data available.

### Partition coefficient

No data available.

### (n-octanol/water):

### Auto-Ignition Temperature:

No data available.

### Decomposition Temperature:

No data available.

### Viscosity:

See Caustic Potash Technical Handbook page 36 (Graph 7: Viscosity of aqueous KOH solution)

### Other Information:

Molecular Weight: 56.1 g/mol

Formula: KOH

**Section 10: Stability and Reactivity****Reactivity**

Soluble in water, releasing heat enough to ignite combustibles. Reacts with acids, giving off heat.

**Chemical Stability**

Material is stable under normal conditions.

**Possibility of Hazardous Reactions**

Mixing with water, acid, or incompatible materials may cause splattering and release large amounts of heat. Will react with some metals forming flammable hydrogen gas. Carbon monoxide gas may form upon contact with reducing sugars, food and beverage products in enclosed spaces.

**Conditions to Avoid**

Reacts violently with strong acids. This product may react with oxidizing agents. Do not mix with other chemicals. Corrosive to aluminum, tin, zinc, copper and most alloys in which they are present including brass and bronze. Corrosive to steels at elevated temperatures above 40°C (104°F).

**Incompatible Materials**

Flammable liquids; acids, Halogenated compounds, water; prolonged contact with aluminum, brass, bronze, copper, lead, tin, zinc, or other alkali sensitive metals or alloys.

**Hazardous  
Products****Decomposition**

Thermal decomposition can lead to release of toxic/corrosive fumes of potassium oxide.

**Section 11: Toxicological Information****Information on routes of exposure**

**Ingestion:** Toxic if swallowed. Corrosive. May cause severe mucous membrane burns and gastrointestinal burns. Ingestion may cause burns and perforation of the GI tract. If swallowed, may pose a lung aspiration hazard during vomiting. Lung aspiration may result in chemical pneumonitis, pulmonary edema, and damage to lung tissue or death. Gastrointestinal System Effect: Exposure by ingestion may cause irritation, swelling, and perforation of upper and lower gastrointestinal tissues. Permanent scarring may occur. Ingestion may result in corrosive injury to the upper gastrointestinal tract. Signs and symptoms include vomiting, blood in vomit, drooling, difficulty swallowing, and abdominal pain. Hoarseness, cough, difficulty breathing, are indicators of serious complications. Esophageal injury may occur in absence of oral burns. Oral burns are significant and further investigation is indicated.

**Inhalation:** May cause severe irritation of the respiratory tract with coughing, choking, pain, and possibly burns of the mucous membranes. This material can be extremely destructive to the tissue of the mucous membranes and respiratory systems.

**Skin Contact:** Corrosive. Causes severe skin burns. Prolonged or repeated skin exposures can result in dermatitis.

**Eye Contact:** Causes severe eye burns and damage.

**Information on Toxicological Effects****Acute Toxicity (List all possible routes of exposure)****Oral**

Potassium Hydroxide: LD50 (Rat): 365 mg/kg

Potassium Hydroxide: LD50 (Rat): 284 mg/kg

**Dermal**

Skin Corrosion. Exposure to skin may cause redness, itching, irritation, swelling, burns, (first, second, or third degree) liquefaction of the skin, and damage to the underlying tissue. (deep and painful wounds.) Direct skin contact can cause severe burns if not quickly rinsed away with copious amounts of water, there is no indication that skin contact with potassium hydroxide can elicit systemic poisoning.

**Inhalation**

There are no acute inhalation toxicity data available for this material. Potassium hydroxide is a corrosive substance at concentrations of about 2% and higher. For this reason, there is no need for further acute toxicity testing. In addition, all human exposure cases were the result of unintentional ingestion or suicide attempts not applicable to the occupational setting; therefore, GHS classification for acute inhalation toxicity is not possible.

**Acute Toxicity**

When in solution, this material will affect all tissues with which it comes in contact. The severity of the tissue damage is a function of its concentration, the length of tissue contact time, and local tissue conditions. After exposure there may be a time delay before irritation and other effects occur. This material is a strong irritant and is corrosive to the skin, eyes, and mucous membranes. This material may cause severe burns and permanent damage to any tissue with which it comes into contact.

**Skin Corrosion/Irritation**

Skin Corrosion. Exposure to skin may cause redness, itching, irritation, swelling, burns (Second and third degree) liquefaction of skin, and damage to underlying tissue (deep and painful wounds.)

**Serious Eye Damage/Eye Irritation**

Serious eye damage. Eye exposures may cause eyelid burns, conjunctivitis, corneal edema, corneal burns, corneal perforation, damage to internal contents of the eye, permanent visual defects, and

## Respiratory/Skin Sensitization

Respiratory System Effects: Exposure to airborne material may cause irritation, redness, of upper and lower airways, coughing, laryngeal spasm and edema, shortness of breath, bronchio constriction, and possible pulmonary edema. Severe and permanent scarring may occur. Aspiration of this material may cause the same conditions.

## Carcinogenicity

### IARC Monographs on the Evaluation of Carcinogenic Risks to Humans

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.

### US. National Toxicology Program (NTP) Report on Carcinogens

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.

### US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1052)

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.

## Germ Cell Mutagenicity

### In Vitro

No mutagenic components identified.

### In Vivo

No mutagenic components identified.

## Reproductive Toxicity

Potassium hydroxide is not expected to be systemically available in the body under normal handling and use conditions and for this reason it can be stated that the substance will not reach the fetus nor male and female reproductive organs. Therefore, it can be concluded that a specific study to determine the developmental or reproduction toxicity of potassium hydroxide is not necessary.

## Specific Target Organ Toxicity - Single

### Exposure

While there are no available inhalation studies due to animal welfare concerns; human experience with this substance is that it acts as a strong alkali in both dust and mist forms. Not only does it act as a corrosive to skin, eyes, and mucosa; inhalation exposure to dust or mists may cause irritation of the upper respiratory tract and tissue damage and pulmonary edema may develop.

## Specific Target Organ Toxicity - Repeated

### Exposure

While there are no available inhalation studies due to animal welfare concerns and while experience with this substance is mainly inflammation of upper respiratory tract, chronic exposures have been reported in the literature to cause ulcers in the nasal septum. However, there are no reports on investigation and research regarding what levels of airborne concentrations and the duration of exposure occurrence causes these nasal septum ulcers.

## Aspiration Hazard

Droplets of the product aspirated into the lungs through ingestion or vomiting may cause serious chemical pneumonia.

## Other Effects

None known.

## Ecotoxicity

### Acute Hazards to the Aquatic Environment

#### Fish

Potassium Hydroxide: LC50 (Mosquitofish (Gambusia Affinis Affinis), 96 h): 80 mg/l

#### Aquatic Invertebrates

Potassium Hydroxide: EC50( Daphnia Magna) 60 mg/L/48 hr. ( Static bioassay at 20.3-20.7 C)

#### Toxicity to Aquatic Plants

Potassium Hydroxide: ErC50 Green algae: 61 mg/kg (96 hour)

### Chronic Hazards to the Aquatic Environment

#### Fish

No data available.

#### Aquatic Invertebrates

No data available.

#### Toxicity to Aquatic Plants

No data available.

**Persistence and Degradability****Biodegradation**

This material is inorganic and not subject to biodegradation. This material is alkaline and may raise the pH of surface waters with low buffering capacity. This material is believed to exist in the disassociated state in the environment.

**BOD/COD Ratio**

No data available.

**Bioaccumulative Potential****Bioconcentration Factor (BCF)**

Potassium hydroxide is a strong alkaline substance that dissociates completely in water to K<sup>+</sup> and OH<sup>-</sup>. Considering its high water solubility, potassium hydroxide is not expected to bioconcentrate in organisms. Log Pow is not applicable for an inorganic compound that dissociates. Potassium hydroxide is a strong alkaline substance that dissociates completely in water to K<sup>+</sup> and OH<sup>-</sup>. Considering its high water solubility, potassium hydroxide is not expected to bioconcentrate in organisms. Log Pow is not applicable for an inorganic compound that dissociates.

**Partition Coefficient n-octanol / water (log Kow)**

No data available.

**Mobility in Soil**

Potassium hydroxide is not expected to be absorbed in soil due to its dissociation properties and high-water solubility.

**Other Adverse Effects**

This material has exhibited slight toxicity to terrestrial organisms. The risk that potassium hydroxide poses for the environment is essentially restricted to pH increase.

**Section 13: Disposal Considerations****Disposal Instructions**

Reuse or reprocess, if possible. Keep out of water supplies and sewers. May be subject to disposal regulations. Dispose of in accordance with all applicable regulations.

**Container Management:**

Dispose of container in accordance with applicable local, regional, national, and/or international regulations. Container rinsate must be disposed of in compliance with applicable regulations.

**Contaminated Packaging**

Dispose of container in accordance with all applicable local, regional, national and/or international regulations. Container rinsate must be disposed of in compliance with applicable regulations.

**US Department of Transportation (DOT)**

UN Number: UN1814

UN Proper Shipping Name: Potassium hydroxide solution

Technical Name: -

Hazard Class : 8

Subsidiary Hazard Risk: -

Packing Group: II

DOT Label/Placard Exemptions: Not determined

Special Provisions: B2, IB2, T7, TP2

Packaging Exceptions: 49CFR 173.154

Packaging Non-Bulk: 49CFR 173.202

Packaging Bulk: 49CFR 173.242

Reportable Quantity (RQ): 1,000lb (454kg)

Marine Pollutant: No

Poison Inhalation Hazard: No

Special precautions for user: Transport within user's premises: always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

Emergency Response Guidebook (ERG) #: 154

*Important Note: Shipping descriptions may vary based on mode of transport, quantities, package size, and/or origin and destination. Consult your company's Hazardous Materials/Dangerous Goods expert for information specific to your situation.*

**Section 15: Regulatory Information****US Federal Regulations****Toxic Substance Control Act (TSCA), Chemical Substance Inventory, Section 8(b)**

This product or ingredient(s) are listed on the TSCA inventory. Any impurities present in this product are exempt from listing.

**Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) Hazardous Substance List (40 CFR 302.4)**

The following chemical(s) in this material are subject to reporting levels established by CERCLA:  
Potassium Hydroxide (CAS# 1310-58-3)

**Clean Air Act (CAA), Section 112(r)**

No chemical(s) in this material are subject to the reporting requirements of CAA.

**Emergency Planning and Community Right-To-Know Act (EPCRA)**

**EPCRA 302 Extremely Hazardous Substance**

No chemical(s) in this material are subject to the reporting requirements of SARA Title III, Section 302.

**EPCRA 304 Emergency Response Notification**

No chemical(s) in this material are subject to the reporting requirements of SARA Title III, Section 304.

**EPCRA 311/312 Emergency and Hazardous Materials Reporting**

Fire Hazard: No  
Sudden Release of Pressure: No  
Reactive: No  
Acute (Immediate) Health Hazard: Yes  
Chronic (Delayed) Health Hazard: Yes

**EPCRA 313 Toxic Chemical Release Inventory (TRI) Reporting**

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

**US State Regulations**

**California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65)**

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

*Important Note: Due to the changing nature of regulatory requirements, the information in this document should NOT be considered all-inclusive or authoritative. Users should make their own investigations to determine the suitability of the information for their particular purposes. International, Federal, State and Local regulations should be consulted to determine compliance with all required reporting requirements.*

**Hazardous Materials Identification System (HMIS®) Classification**

Health Hazard: 3

Chronic Health Hazard: \*

Flammability: 0

Physical Hazard: 1

(Hazard Rating: 0 – Minimal / 1 – Slight / 2 – Moderate / 3 – Serious / 4 – Severe)

**National Fire Protection Association (NFPA 704) Rating**

Health Hazard: 3

Fire Hazard: 0

Reactivity Hazard: 1

Special: N/A

(Hazard Rating: 0 – Minimal / 1 – Slight / 2 – Moderate / 3 – Serious / 4 – Severe)

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Sections Revised: 2-4, 8-9, 11-13

**Key to Abbreviations and**

**Acronyms**

ATE - Acute Toxicity Estimate

BCF - Bioconcentration Factor

EC50 - Effective concentration, 50%

IDHL - Immediately Dangerous to Life and Health

Kg - Kilogram

l - Liter

lb - Pound

LC50 - Lethal Concentration, 50%

LD50 - Lethal Dose, 50%

mg - milligram

ACGIH - American Conference of Industrial Hygienists

AIHA - American Industrial Hygiene Association

BEI - Biological Exposure Indices

CAS - Chemical Abstracts Service

DOT - US Department of Transportation

EPA - US Environmental Protection Agency

GHS - Globally Harmonized System of Classification and Labelling of Chemicals

IARC - International Agency for Research on Cancer

IATA - International Air Transport Association

IBC - Intermediate Bulk Container

ml – milliliter

N/A – Not Applicable

N/D – Not Determined

PEL – Permissible Exposure Limit

REL – Recommended Exposure Limit

STEL – Short-term Exposure Limit

TWA – Time weighted average

IMDG – International Maritime Dangerous Goods

NIOSH – National Institute for Occupational Safety and Health

NTP – National Toxicology Program

OSHA – US Occupational Health and Safety Administration

SARA – US EPA Superfund Amendments and Reauthorization Act

TSCA – US EPA Toxic Substances Control Act

UN – United Nations

## References

HSDB® – Hazardous Substances Data Bank

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