ESSENTIAL CHEMISTRY. INNOVATIVE SOLUTIONS.

# SAFETY DATA SHEET

**Print Date:** *April 1, 2019*

## Section 1: Product & Company Information

**Product Identifier:** **Potassium Hydroxide, 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; pharmaceutic acid(alkalizer); Chemical peeling of fruits and vegetables; absorption of CO2, SO3 and NO3 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.*
*H402: Harmful to aquatic life.*

**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 [2] | Common Name/Synonym(s) | CAS # [3] | Weight % | Impurity or Stabilizing Additive |
|---|---|---|---|---|
| *Potassium Hydroxide* | *Caustic Potash, Potassium Lye, Potassium Hydrate* | *1310-58-3* | *45%* | *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 CNETER OR LISCENCED HEALTH CARE PROVIDER.*

**Ingestion**

*IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. IF SWALLOWED: call a POISON CENTER or doctor/physician if you feel unwell.*

**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, s 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.*

**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 n 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/m³* | *US. ACGIH Threshold Limit Values* |

**Biological Limit Values**

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

**Appropriate Engineering Controls**

*Provide local exhaust ventilation where dust or mist may be generated. Ensure compliance with applicable exposure limits.*

**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 I 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 pant legs 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:** | *-85 to 39 °F (-65 to 4 °C)* |
| **Initial Boiling Point and Boiling Range:** | *216 to 289 °F (102-143 °C)* |
| **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:** | *4 mmHg @ 77 °F (25°C) 50% Solution*<br>*20 mmHg @ 77 °F (25°C) 20% 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 (n-octanol/water):** | *No data available.* |
| **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 Decomposition Products**

*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 trac. 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. Orla burns are significance 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 repeat 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.)*

**Inhalation**

*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. Sever and permanent scarring may occur. Aspiration of this material may cause the same condition.*

**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 the 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**

*None known.*

**Specific Target Organ Toxicity – Single Exposure**

*None known.*

**Specific Target Organ Toxicity – Repeated Exposure**

*None known.*

**Aspiration Hazard**

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

**Other Effects**

*None known.*

## Section 12: Ecological Information

**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**

*No data available.*

**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 biodegration.*

**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+ and OH-. 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**

*No data available.*

**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.*

**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.*

## Section 14: Transportation Information

**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.*

## Section 16: Other Information

**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)*

*Prepared By:* Regulatory Manager
*Version #:* 001

*Issue Date: September 23, 2015*
*Revision Date: April 1, 2019*
*Revisions: 1*

**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*
*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*
*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*
*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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