



Section 1. Product and Company Identification

Product Name Potassium Hydroxide Flake
CAS Number 1310-58-3

Parchem - fine & specialty chemicals

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EMERGENCY RESPONSE NUMBER
CHEMTEL

Toll Free US & Canada: 1 (800) 255-3924

All other Origins: 1 (813) 248-0585

Collect Calls Accepted

Section 2. Hazards Identification

Classification of the substance or mixture

GHS Classification

GHS Physical Hazards: Corrosive to Metals

GHS Contact Hazard - Skin: Category 1B - Causes severe skin burns and eye damage.

GHS Contact Hazard - Eye: Category 1 - Causes serious eye damage

GHS Acute Toxicity - Oral: Category 4 - Harmful if swallowed.

GHS Target Organ Toxicity (Single Exposure): Category 1 - Causes damage to:
Gastrointestinal System, Respiratory System

GHS Carcinogenicity: Not classified as a carcinogen per GHS criteria. This product is not classified as a carcinogen by NTP, IARC or OSHA.

GHS Hazardous To Aquatic Environment - Acute Hazard: Category 3 - Harmful to aquatic life

Unknown Acute Toxicity: Not applicable. This product is a substance, and this information is only applicable to mixtures.

GHS Label Elements

Pictograms:



Signal word: DANGER

Hazard and precautionary statements

GHS Hazard Statements

Physical Hazard Statements

May be corrosive to metals

Health Hazard Statements

Causes serious eye damage



Causes severe skin burns and eye damage
Harmful if swallowed
Causes damage to organs (Gastrointestinal System and Respiratory System)

GHS Precautionary Statements

Prevention

Wear protective gloves/protective clothing/eye protection/face protection
Wash thoroughly after handling
Do not breathe dust, fume, gas, mist, vapors, or spray
Do not eat, drink or smoke when using this product
Keep only in original container

Response

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.
Continue rinsing
Immediately call a POISON CENTER or doctor/physician
IF ON SKIN (or hair): Remove/Take off Immediately all contaminated clothing. Rinse SKIN with water/shower
Wash contaminated clothing before reuse
IF SWALLOWED: Rinse mouth. Do NOT induce vomiting
IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell
IF INHALED: Remove person to fresh air and keep comfortable for breathing
IF exposed or concerned: call a POISON CENTER or doctor/physician
Specific treatment (see First Aid information on product label and/or Section 4 of the SDS)
Absorb spillage to prevent material damage

Storage

Store in corrosive resistant and NON-ALUMINUM container with a resistant inner liner (NOTE: flammable hydrogen gas may be generated if aluminum container and/or aluminum fittings are used)
Store locked up

Disposal

Dispose of contents and container in accordance with applicable local, regional, national, and/or international regulations.

Hazards Not Otherwise Classified (HNOC): None identified

Major Health Hazards: Corrosive. Causes serious eye damage. Causes severe skin burns and serious eye damage. Harmful if swallowed. Causes damage to gastrointestinal tract and respiratory system.

Physical Hazards: MAY BE CORROSIVE TO METALS. Mixing with water, acid, or incompatible materials may cause splattering and release of heat. Do not store in aluminum container or use aluminum fittings or transfer lines, as flammable hydrogen gas may be generated.

Ecological Hazards: This material has exhibited moderate toxicity to aquatic organisms.

Precautionary Statements: Wear protective gloves, protective clothing, eye, and face protection. Do not get in eyes, on skin, or on clothing. Wash thoroughly after handling. Do not



breathe dust. Do not ingest. Do not eat, drink, or smoke when using this product. Keep container tightly closed. Use only with adequate ventilation.

Additional Hazard Information: Toxicity may be delayed, and may not be readily visible. Significant exposures must be referred for medical attention immediately. There is no specific antidote.

Section 3. Composition / Information on Ingredients

Common Name Potassium Hydroxide Flake
Synonym(s) Caustic Potash, Anhydrous
Formula KOH
CAS Number 1310-58-3

COMPONENT	CAS NUMBER	CONCENTRATION
Potassium Hydroxide	1310-58-3	84.0 – 92.0%
Water	7732-18-5	8.0 – 16.0%

Section 4. First Aid Measures

Inhalation: If inhalation of dust occurs and adverse effects result, remove to uncontaminated area. Evaluate ABC's (is Airway constricted, is Breathing occurring, and is blood Circulating) and treat symptomatically. GET MEDICAL ATTENTION IMMEDIATELY.

Skin Contact: Immediately flush contaminated areas with water. Remove contaminated clothing, jewelry and shoes. Wash contaminated areas with large amounts of water. GET MEDICAL ATTENTION IMMEDIATELY. Thoroughly clean and dry contaminated clothing before reuse. Discard contaminated leather goods.

Eye Contact: Immediately flush contaminated eyes with a directed stream of water for as long as possible. Remove contact lenses, if present, then continue rinsing. GET MEDICAL ATTENTION IMMEDIATELY.

Ingestion: If swallowed, do not induce vomiting. For definite or probable ingestion, do not administer oral fluids. If vomiting occurs spontaneously, keep airway clear. Monitor airway. Volume resuscitation (IV fluids) and circulatory support (CPR) may be required. Never give anything by mouth to an unconscious or convulsive person. GET MEDICAL ATTENTION IMMEDIATELY.

Most Important Symptoms/Effects (Acute and Delayed) Corrosive. This material may be corrosive to any tissue it comes in contact with. It can cause serious burns and extensive tissue destruction resulting in: liquefaction, necrosis, and/or perforation.

Acute Symptoms/Effects: Listed below.

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: When skin is exposed to solid product with moisture, may cause redness, itching, irritation, swelling, burns (first, second, or third degree), liquefaction of skin, and damage to underlying tissues (deep and painful wounds).



Eye: Serious Eye Damage. Eye exposures may cause eye lid burns, conjunctivitis, corneal edema, corneal burn, 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.

Delayed Symptoms/Effects: - Repeated or prolonged exposures to skin that cause irritation may cause a chronic dermatitis

Medical Conditions Aggravated by Exposure: Corrosive. May aggravate pre-existing eye, skin, and respiratory conditions (including asthma and other breathing disorders).

Protection of First-Aiders: 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 dust. At minimum, treating personnel should utilize PPE sufficient for prevention of bloodborne pathogen transmission.

Notes to Physician: Medical observation and assessment is recommended for all ingestions, all eye exposures, and symptomatic inhalation and dermal exposures. 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. There is no antidote. Treatment is supportive care. Follow normal parameters for airway, breathing, and circulation. Surgical intervention may be required.

Section 5. Firefighting Measures

Fire Hazard: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. May react with chemically reactive metals such as aluminum, zinc, magnesium, copper, etc. to release hydrogen gas which can form explosive mixtures in air.

Extinguishing Media: Use extinguishing agents appropriate for surrounding fire. Use water spray to keep containers cool. Avoid direct contact of this product with water as this can cause an exothermic reaction.

Firefighting: Move container from fire area if it can be done without risk. Cool containers with water. Wear NIOSH approved positive-pressure self-contained breathing apparatus operated in pressure demand mode. Avoid contact with skin and eyes. Avoid inhalation of material or combustion by-products.

Hazardous Combustion Products: No information available

Sensitivity to Mechanical Impact: Not sensitive.

Sensitivity to Static Discharge: Not sensitive.

Lower Flammability Level (air): Not flammable

Upper Flammability Level (air): Not flammable

Flash point: Not flammable

Auto-ignition Temperature: Not determined



GHS Physical Hazards: Corrosive to Metals

Section 6. Accidental Release Measures

Personal Precautions: Avoid contact with skin, eyes, and clothing. Do not breathe vapors, fumes or mist. Wear appropriate personal protective equipment recommended in Section 8, Exposure Controls/Personal Protection, of the SDS.

Methods and Materials for Containment and Cleaning Up: Shovel dry material into suitable container. Recycle or dispose according to 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 dust. Do not get in eyes, on skin, or on clothing. Wash thoroughly after handling. When mixing, slowly add to water to minimize heat generation and spattering.

Safe Storage Conditions: Store and handle in accordance with all current regulations and standards. Keep container tightly closed and properly labeled. Store in a cool, dry, well ventilated area. Do not store in aluminum container or use aluminum fittings or transfer lines, as flammable hydrogen gas may be generated. Keep separated from incompatible substances (see below or Section 10 of the Safety Data Sheet).

Incompatibilities/Materials to Avoid: Acids, halogenated compounds, and prolonged contact with aluminum, brass, bronze, copper, lead, tin, zinc, or other alkali sensitive metals or alloys, water

GHS Physical Hazards: Corrosive to Metals

Section 8. Exposure Controls / Personal Protection

Regulatory Exposure Limits: None. This product does not contain any components that have non-regulatory occupational exposure limits (OEL's).

OEL: Occupational Exposure Limit; OSHA: United States Occupational Safety and Health Administration; PEL: Permissible Exposure Limit; TWA: Time Weighted Average; STEL: Short Term Exposure Limit

Non-Regulatory Exposure Limits: Listed below for the product components that have non-regulatory occupational exposure limits (OEL's).

- **The Non-Regulatory United States Occupational Safety and Health Administration (OSHA) limits, if shown, are the Vacated 1989 PEL's (vacated by 58 FR 35338, June 30, 1993).**

- The American Conference of Governmental Industrial Hygienists (ACGIH) is a voluntary organization of professional industrial hygiene personnel in government or educational institutions in the United States. The ACGIH develops and publishes recommended occupational exposure limits



each year called Threshold Limit Values (TLVs) for hundreds of chemicals, physical agents, and biological exposure indices.

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

Personal Protective Equipment

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

Skin and Body Protection: Wear protective clothing to minimize skin contact. When potential for contact with wet material exists, wear chemical protective suit. When potential for contact with dry material exists, wear disposable coveralls suitable for dust exposure. Always place pants legs over boots. Thoroughly clean and dry contaminated clothing before reuse. Discard contaminated leather goods.

Hand Protection: Wear chemical protective gloves. Consult a glove supplier for assistance in selecting an appropriate chemical resistant glove.

Protective Material Types: Butyl rubber, Natural rubber, Nitrile, Polyvinyl chloride (PVC)

Respiratory Protection: A NIOSH approved respirator with N95 dust/mist filter (1/2 face piece) or N100 dust/mist filter (full face piece) cartridges may be permissible under certain circumstances where airborne concentrations are expected to exceed exposure limits, or when symptoms have been observed that are indicative of overexposure. If eye irritation occurs, a full face style mask should be used. A respiratory protection program that meets 29 CFR 1910.134 must be followed whenever workplace conditions warrant use of a respirator.

Section 9. Physical and Chemical Properties

Physical state: Solid

Color: White, Off-white

Odor: Odorless

Odor Threshold: Not applicable.

Molecular Weight: 56.11

Molecular Formula: KOH

Boiling Point/Range: Not applicable

Melting Point/Range: 752°F (400°C)

Vapor Pressure (1013°C): 60 mmHg

Vapor Density (Air=1): Not applicable

Relative Density/Specific Gravity (20°C, water=1): 2.044

Density (20°C): 2.04 g/cc

Water Solubility: 100%

pH: Not applicable

Volatility: 0%

Evaporation Rate (Ether=1): Not applicable

Partition Coefficient (n-Octanol/Water): No information available

Flash point: Not flammable



Flammability (Solid, gas): Not flammable
Lower Flammability Level (Air): Not flammable
Upper Flammability Level (Air): Not flammable
Auto-ignition Temperature: Not determined
Viscosity: Not applicable

Section 10. Stability and Reactivity

Reactivity: Soluble in water, releasing heat sufficient to ignite combustibles. Reacts with acids, giving off heat.

Chemical Stability: Stable at normal temperatures and pressures.

Possibility of Hazardous Reactions: Mixing with water, acid, or incompatible materials may cause splattering and release of large amounts of heat. When moist, reacts 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: (e.g., static discharge, shock, or vibration) -. No information available.

Incompatibilities/ Materials to Avoid: Acids, halogenated compounds, and prolonged contact with aluminum, brass, bronze, copper, lead, tin, zinc or other alkali sensitive metals or alloys. water.

Hazardous Decomposition Products: None known

Hazardous Polymerization: Will not occur.

Section 11. Toxicological Information

Toxicity Data:

Product Toxicity Data: Dry Caustic Potash (All Grades)

Component Toxicity Data

Note: The component toxicity data is populated by the LOLL database and may differ from the product toxicity data given.

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
Potassium hydroxide (CAS# 1310-58-3)	284 mg/kg (Rat)	----	----

Potential Health Effects

Eye contact: Corrosive. Causes serious eye damage which can result in: severe irritation, pain and burns, and permanent damage including blindness.

Skin contact: Corrosive. Causes severe skin burns. Prolonged or repeat skin exposures can result in dermatitis.

Inhalation: Toxic if inhaled. 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 mucus membranes and respiratory system.

Ingestion: Toxic if swallowed. Corrosive. May cause severe mucus membrane burns and gastrointestinal burns. 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.

Signs and Symptoms of Exposure: Signs and symptoms of exposure vary, and are dependent on the route of exposure, degree of exposure, and duration of exposure.

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: When skin is exposed to solid product with moisture, may cause redness, itching, irritation, swelling, burns (first, second, or third degree), liquefaction of skin, and damage to underlying tissues (deep and painful wounds).

Eye: Serious Eye Damage. Eye exposures may cause eye lid burns, conjunctivitis, corneal edema, corneal burn, 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.

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.

Chronic Toxicity: Repeated and prolonged skin contact may result in dermatitis.

GHS Health Hazards: Listed below.

GHS Acute Toxicity - Oral: Category 4 - Harmful if swallowed.

GHS Contact Hazard - Skin: Category 1B - Causes severe skin burns and eye damage

GHS Contact Hazard - Eye: Category 1 - Causes serious eye damage

GHS Carcinogenicity: Not classified as a carcinogen per GHS criteria. This product is not classified as a carcinogen by NTP, IARC, or OSHA.

Specific Target Organ Toxicity (Single Exposure): Category 1 - Respiratory System, Gastrointestinal System

Section 12. Ecological Information

Ecotoxicity Data

Aquatic Toxicity: This material is alkaline and may raise the pH of surface waters with low buffering capacity. This material has exhibited moderate toxicity to aquatic organisms.

Freshwater Fish Toxicity

LC50 (Mosquito fish): 80 mg/L/96 hr (static bioassay in fresh water at 18 - 19°C)

LC50 (Fathead Minnow): 179 mg/L/96 hr (static at 22.3 - 24.7°C)



Invertebrate Toxicity

EC50 (*Daphnia magna*): 60 mg/L/48 hr (static bioassay at 20.3 - 20.7°C)

Algae Toxicity

ErC50 (*Selenastrum capricornutum*): 61 mg/L/96 hr (static bioassay at 23 - 23.9°C)

Fate and Transport

Biodegradation: This material is inorganic and not subject to biodegradation.

Persistence: 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.

Bioconcentration: This material is not expected to bioconcentrate in organisms.

Bioaccumulative Potential: 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.

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

Additional Ecological Information: This material has exhibited slight toxicity to terrestrial organisms.

Section 13. Disposal Considerations

Waste Treatment Methods: Dispose of product and contaminated packaging in accordance with all local, state, and federal environmental control regulations.

Section 14. Transport Information

Land Transport

U.S. DOT 49 CFR 172.101

UN Number: UN1813

Proper Shipping Name: Potassium Hydroxide, Solid

Hazard Class/ Division: 8

Packing Group: II

Labeling Requirements: 8

RQ (lbs): RQ 1,000 Lbs. (Potassium hydroxide)

Canadian Transportation of Dangerous Goods

UN Number: UN1813

Shipping Name: Potassium hydroxide, solid

Class or Division: 8

Packing/Risk Group: II

Labeling Requirements: 8

Maritime Transport (IMO / IMDG)

UN Number: UN1813

Proper Shipping Name: Potassium hydroxide, solid



Hazard Class/Division: 8
Packing Group: II
Labeling Requirements: 8

Section 15. Regulatory Information

US Regulations

OSHA Regulatory Status: This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200)

CERCLA Sections 102a/103 Hazardous Substances (40 CFR 302.4): If a release is reportable under CERCLA section 103, notify the state emergency response commission and local emergency planning committee. In addition, notify the National Response Center at (800) 424-8802 or (202) 426-2675.

Component	CERCLA Reportable Quantities
Potassium Hydroxide	1000 lb. (Final RQ)

SARA EHS Chemical (40 CFR 355.30): Not regulated

EPCRA Sections 311/312 Hazard Categories (40 CFR 370.10): Acute Health Hazard

EPCRA Section 313 (40 CFR 372.65): Not regulated.

OSHA Process Safety (PSM) (29 CFR 1910.119): Not regulated

FDA: This material has Generally Recognized as Safe (GRAS) status under specific FDA regulations. Additional information is available from the Code of Federal Regulations which is accessible on the FDA's website. This product is not produced under all current Good Manufacturing Practices (cGMP) requirements as defined by the Food and Drug Administration (FDA).

National Inventory Status

US Inventory Status: Toxic Substance Control Act (TSCA): All components are listed or exempt.

TSCA 12(b): This product is not subject to export notification.

Canadian Chemical Inventory: All components of this product are listed on either the DSL or the NDSL.

State Regulations

Component: Potassium hydroxide (CAS# 1310-58-3)

California Proposition 65 Cancer WARNING: Not Listed

California Proposition 65 CRT List - Male reproductive toxin: Not Listed

California Proposition 65 CRT List - Female reproductive toxin: Not Listed

Massachusetts Right to Know Hazardous Substance List: Listed

New Jersey Right to Know Hazardous Substance List: 1571

New Jersey Special Health Hazards Substance List: Corrosive

New Jersey - Environmental Hazardous Substance List: Not Listed



Pennsylvania Right to Know Hazardous Substance List: Listed
Pennsylvania Right to Know Special Hazardous Substances: Not Listed
Pennsylvania Right to Know Environmental Hazard List: Present
Rhode Island Right to Know Hazardous Substance List: Listed

Canadian Regulations

• This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the SDS contains all the information required by the Controlled Products Regulations

WHMIS - Classifications of Substances

- D1B - Poisonous and Infectious Material; Materials causing immediate and serious toxic effects - Toxic material
- E - Corrosive material

HMIS Rating

Health: 3
Flammability: 0
Reactivity: 1

NFPA Rating

Health: 3
Flammability: 0
Reactivity: 1

Section 16. Other Information

Disclaimer: 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.

REVISION DATE: 6/17/2016