

Caustic Potash

SECTION 1. IDENTIFICATION

Product Identifier	Caustic Potash
Other Means of Identification	Potassium Hydroxide
Recommended Use	Drilling Mud Additive.
Restrictions on Use	None known.
Supplier Identifier	Bri-Chem Supply Corp, 9351 Grant Street, Ste 380, Thornton, CO, 80229, 720-236-1012, www.brichemsupplycorp.com
Emergency Phone No.	ChemTrec, (800) 424-9300, 24/7
SDS No.	0481

SECTION 2. HAZARD IDENTIFICATION

Classification

Corrosive to metals - Category 1; Acute toxicity (Oral) - Category 4; Skin corrosion - Category 1B; Serious eye damage - Category 1; Specific target organ toxicity (single exposure) - Category 1; Aquatic hazard (Acute) - Category 3

Label Elements



Signal Word:

Danger

Hazard Statement(s):

May be corrosive to metals.

Harmful if swallowed.

Causes severe skin burns and eye damage.

Causes serious eye damage.

Causes damage to organs.

(Gastrointestinal System and Respiratory System)

Precautionary Statement(s):

Prevention:

Do not breathe dust/fume/gas/mist/vapours/spray.

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

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

Wash hands thoroughly after handling.

Keep only in original container

Response:

IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

IF SWALLOWED: Call a POISON CENTRE or doctor if you feel unwell.

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

Wash contaminated clothing before reuse

IF INHALED: Remove person to fresh air and keep comfortable for breathing.

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Immediately call a POISON CENTRE or doctor.

Specific treatment (see supplemental first aid instruction on this label).

Absorb spillage to prevent material damage.

Storage:

Store in corrosive resistant 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 local, regional, national and international regulations.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS No.	%	Other Identifiers	Other Names
Potassium hydroxide	1310-58-3	84.0-92.0	Caustic Potash	
Water	7732-18-5	8.0-16.0		

SECTION 4. FIRST-AID MEASURES

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 eye contact lenses, if present, then continue rinsing. GET MEDICAL ATTENTION IMMEDIATELY.

Ingestion

If swallowed, do not induce vomiting. For definite or probably 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 and 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, neurosis, and/or perforation.

Acute Symptoms/ Effects:

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.

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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 blood borne pathogen transmission.

Notes to Physician:

Medical observation and assessment is recommended for all ingestion, 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 of airway, breathing, and circulation, Surgical intervention may be required.

Immediate Medical Attention and Special Treatment

Target Organs

None Known.

SECTION 5. FIRE-FIGHTING MEASURES

Extinguishing Media

Suitable 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.

Unsuitable Extinguishing Media

None known.

Specific Hazards Arising from the Product

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.

May decompose upon heating to produce corrosive and/or toxic fumes.

Special Protective Equipment and Precautions for Fire-fighters

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.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment, and Emergency Procedures

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

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.

Methods and Materials for Containment and Cleaning Up

Shovel dry material into suitable container. Recycle or dispose according to regulations.

SECTION 7. HANDLING AND STORAGE

Conditions for Safe Storage

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.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control Parameters

Chemical Name	ACGIH TLV®		OSHA PEL		AIHA WEEL	
	TWA	STEL	TWA	Ceiling	8-hr TWA	TWA
Potassium hydroxide	2 mg/m ³			2 mg/m ³		

OSHA = US Occupational Safety and Health Administration. 2 mg/m³ aCGIH® = American Conference of Governmental Industrial Hygienists. 2 mg/m³.

Appropriate Engineering Controls

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

Individual Protection Measures

Eye/Face Protection

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

Skin Protection

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 legs over boots. Thoroughly clean and dry contaminated clothing before reuse. Discard contaminated leather goods. Wear chemical protective gloves. Consult a glove supplier for assistance in selecting an appropriate chemical resistant glove.

Respiratory Protection

A NIOSH approved respirator with N95 dust/mist filter (1/2 facepiece) or N100 dust/mist filter (full facepiece) 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

Basic Physical and Chemical Properties

Appearance	White - Off-white.
Odour	Odourless
pH	> 12 (1% solution)
Melting Point/Freezing Point	752 °F (400 °C) (melting); 400 °C (752 °F) (freezing)
Initial Boiling Point/Range	2408 °F (1320 °C)
Vapour Pressure	60 mm Hg
Relative Density (water = 1)	2.044 at 20 °C
Solubility	Very soluble in water

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Other Information

Physical State	Solid
Specific Gravity	2.044 @ 20°C

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

Avoid contact with incompatible materials.

Incompatible Materials

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.

SECTION 11. TOXICOLOGICAL INFORMATION

Acute Toxicity

Chemical Name	LC50	LD50 (oral)	LD50 (dermal)
Potassium hydroxide	Not available	365 mg/kg (rat)	Not available

LC50: No information was located.

Oral Rat - 365 mg/kg

LD50 (dermal): No information was located.

Skin Corrosion/Irritation

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

Serious Eye Damage/Irritation

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

STOT (Specific Target Organ Toxicity) - Single Exposure

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.

Aspiration Hazard

If swallowed, may pose a lung aspiration hazard during vomiting.

Carcinogenicity

Not Known.

Reproductive Toxicity

Development of Offspring

Not Available.

Sexual Function and Fertility

Not Available.

Effects on or via Lactation

Not Available.

Germ Cell Mutagenicity

Not Available.

Interactive Effects

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.

Other Information

Chronic Toxicity:

Repeated and prolonged skin contact may result in dermatitis.

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

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)

LC 50 (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)

Persistence and Degradability

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.

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.

Other Adverse Effects

This material has exhibited slight toxicity to terrestrial organisms.

SECTION 13. DISPOSAL CONSIDERATIONS

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Disposal Methods

Reuse or re process, if possible. Dispose in accordance with all applicable regulations. Dispose of container in accordance with applicable local, regional national, and/or international regulations. Container rinstate must be disposed of in compliance with applicable regulations.

SECTION 14. TRANSPORT INFORMATION

Regulation	UN No.	Proper Shipping Name	Transport Hazard Class(es)	Packing Group
US DOT	UN1813	Caustic Potash (Potassium hydroxide)	8	II
Canadian TDG	UN1813	Caustic Potash (Potassium hydroxide)	8	II
IMO (Marine)	UN1813	Caustic Potash (Potassium hydroxide)	8	II

Special Precautions Please note: Secure containers (full and/or empty) with suitable hold-down devices during shipment.

Transport in Bulk According to Annex II of MARPOL 73/78 and the IBC Code

Not applicable

SECTION 15. REGULATORY INFORMATION

Safety, Health and Environmental Regulations

Canada

WHMIS 1988 Classification

D1A - Very Toxic; E - Corrosive

USA

Toxic Substances Control Act (TSCA) Section 8(b)

All component are listed or exempt.

Additional USA Regulatory Lists

OSHA Regulatory Status:

This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 19*10.1200)

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 Centre at (800) 424-8802 or (202) 426-2675

SARA EHS Chemical 940 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 web site. This product is not produced under all current Good Manufacturing Practices (cGMP) requirements as defined by the Food and Drug Administration (FDA).

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

State Regulations

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.

SECTION 16. OTHER INFORMATION

NFPA Rating **Health - 3**

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Disclaimer

This Health and Safety information is correct to the best of our knowledge and belief at the date of its publication, but we cannot accept liability for any loss, injury or damage which may result from its use. We shall ensure, so far as is reasonably practicable, that any revision of this Data Sheet is sent to all customers to whom we have directly supplied this substance, but must point out that it is the responsibility of any intermediate supplier to ensure that such revision is passed to the ultimate user. The information given in the Data Sheet is designed only as guidance for safe handling, storage, and the use of the substance. It is not a specification nor does it guarantee any specific properties. All chemicals should be handled only by competent personnel, within a controlled environment. Should further information be required, this can be obtained through the sales office whose address is at the top of this data sheet.

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