

# SAFETY DATA SHEET

## Potassium Hydroxide, Solid

### SECTION 1 PRODUCT AND COMPANY IDENTIFICATION

**Product Name:** Caustic Potash, Caustic Potash Flake, Caustic Potash Walnut, Caustic Potash 90%, Caustic Potash Briquettes 90%

**Identified Uses:** Chemical manufacturing, fertilizer, batteries, soaps

**Company Information:**

Alliance Chemical  
 204 South Edmond St  
 Taylor, Texas, 76574

**24-hour Emergency Phone:** CHEMTEL (800) 255-3924

### SECTION 2 HAZARDS IDENTIFICATION

**GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)**

**GHS label elements, including precautionary statements:**

Signal Word: **Danger**

Pictogram(s):



**Hazard Statements**

H302	Harmful if swallowed.
H314	Causes severe skin burns and eye
H318	damage. Causes serious eye damage.
H402	Harmful to aquatic life.

**Precautionary Statements**

P260	Do not breathe dust/fume/gas/mist/vapors/spray.
P264	Wash skin thoroughly after handling.
P273	Avoid release to the environment.
P270	Do not eat, drink or smoke when using this product.
P280	Wear protective gloves/eye protection/face protection.
P301 + P310	IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.

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.
P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P304 + P340	IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
P310	Immediately call a POISON CENTER or doctor/physician.
P321	Specific treatment (see supplemental first aid instructions on this label).
P390	Absorb spillage to prevent material damage.
P363	Wash contaminated clothing before reuse.
P405	Store locked up.
P406	Store in corrosive resistant stainless steel container with a resistant inner liner.
P501	Dispose of contents/container in accordance with local/state/national regulations.

### SECTION 3 COMPOSITION/INFORMATION ON INGREDIENTS

**Synonyms:**

CHEMICAL NAME:	Potassium Hydroxide
TRADE NAME:	Caustic Potash, Caustic Potash Walnut, Anhydrous
SYNONYMS:	Caustic Potash, Potassium Hydrate, Lye, KOH
CONCENTRATION:	>90% potassium hydroxide (balance is moisture)

C.A.S:	1310-58-3
WHMIS:	D1B, E

CHEMICAL FORMULA:	KOH
CHEMICAL FAMILY:	Alkali

### SECTION 4 FIRST AID MEASURES

**Description of first aid measures:**

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

**If inhaled:**

If breathed in, move person into fresh air. If breathing is difficult, give humidified air. Give oxygen but only by a certified physician. If breathing stops, provide artificial respiration. Get medical attention immediately.

**In case of skin contact:**

Immediately take off all contaminated clothing. Wash off IMMEDIATELY with plenty of water for at least 15-20 minutes. Get medical attention. Wash clothing separately before reuse. Destroy or thoroughly clean contaminated shoes.

**In case of eye contact:**

Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a physician or poison control center immediately.

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**If ingested:**

Never give anything by mouth to an unconscious person. Rinse mouth with water. Give plenty of water to drink. Consult a physician.

**SECTION 5****FIRE FIGHTING MEASURES**

Flash Point:	Material is not flammable.
Extinguishing Media:	Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.
Auto Ignition Temp:	Non-combustible.
Special Fire Fighting Procedures:	Wear self-contained breathing apparatus and full protective clothing. In case of fire and/or explosion do not breathe fumes. Move containers from fire area if you can do so without risk. Use water spray to cool unopened containers.
Unusual Fire/Explosion Hazards:	Reacts with metals (aluminum, brass, copper, zinc, etc.) to generate flammable hydrogen gas, which then may cause fire and explosion.

**SECTION 6****ACCIDENTAL RELEASE MEASURES****Environmental Precautions:**

Do not discharge into drains, water courses or onto the ground.

**Containment and Cleaning:**

Cleanup personnel must wear proper protective equipment. Completely contain spilled material with dikes, sandbags, etc., and prevent any run-off into ground or surface waters or sewers. Recover as much material as possible into containers for disposal. Remaining material may be neutralized with dilute hydrochloric or acetic acid. Neutralization products, both liquid and solid, must be recovered for disposal.

**Waste Control Procedures:**

All disposals of this material must be done in accordance with federal, state and local regulations. Waste characterization and compliance with disposal regulations are the responsibilities of the waste generator.

**SECTION 7****HANDLING AND STORAGE****Precautions to be taken for handling and storage:**

This material generates considerable amounts of heat when added to water. Storage areas should be free of potential contact with acids, organics and reactive metals. Keep container tightly closed. Store in a cool, dry, well-ventilated place. Store in corrosive-resistant container with a resistant inner liner. Store away from incompatible materials. Store at temperatures not exceeding 40°C/104°F. Compatible storage materials may include, but not be limited to, the following: nickel and nickel alloys, steel, plastics, plastic or rubber-lined steel, FRP or Derakane vinyl ester resin.

**Precautions for repair:**

**Equipment:** Only personnel trained and qualified in handling this product should prepare equipment for maintenance. Wash thoroughly with water.

**Other precautions:** Spillage, when wet, can be slippery. Potassium hydroxide is very hygroscopic and will become wet upon sitting in open moist air.

## SECTION 8

## EXPOSURE CONTROL/PERSONAL PROTECTION

**Principal Component:** Potassium Hydroxide

**Occupational Exposure Limits:**

**Regulatory Limits:**

Component	ACGIH TLV	OSHA PEL	15 Minute STEL	NIOSH IDLH
Inhalable Particulate	2 mg/m <sup>3</sup> (ceiling)	---	---	---

**Exposure Controls:**

Eye Protection:

Chemical splash goggles and face shield.

Respiratory Protection:

None is normally required; however, if dusting, misting or heavy vapor formation should occur, a NIOSH-approved respirator shall be worn.

Other Protection:

Rubber boots. Rubbers over leather shoes are not recommended. Rubber apron, rainwear or disposal Tyvek suit with hard hat should be worn.

Ventilation Recommended:

Provide adequate ventilation to meet TLV requirements.

Glove Type Recommended:

Rubber, nitrile, neoprene, PVL.

Additional Information:

Safety eyewash/shower stations must be available in the work area.

**Appropriate Engineering Controls:**

Good general ventilation 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.

## SECTION 9

## PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties:

Appearance	Whitish flake, walnut, pieces, etc.
Odor	No odor
Odor threshold	Not available
pH	>14 (in aqueous solution)
Initial boiling point	1,320°C
Flash point	Not flammable
Evaporation rate	No data available
Flammability (solid, gas)	Not flammable
Upper/lower flammability or explosive limits	Not flammable
Autoignition temperature	No data available
Water solubility	Very soluble
Physical state	Solid at room temperature
Molecular weight	56.1
Melting point	361°C
Specific gravity (water = 1)	2.044 at 15.6°C (60°F)

Bulk density	1,300 kg/m <sup>3</sup>
Vapor pressure	No data available
Vapor density	No data available
Partition coefficient: n-octanol/water	No data available

## SECTION 10

## STABILITY AND REACTIVITY

Stability:	Stable under normal condition.
Conditions to avoid:	Exposure to air can form potassium carbonate.
Incompatibility:	Organic chemicals, nitrocarbons, halocarbons and certain metals or alloys (aluminum, brass, copper, zinc, etc.). Oxidizing agents, acids. Initiates or catalyzes violent reactions of acetaldehyde, acrolein or acrylonitrile.
Hazardous decomposition products:	When KOH and certain metals (aluminum, brass, copper, zinc, etc.) react, hydrogen is generated which can be flammable or explosive.
Polymerization:	Hazardous polymerization will generally not occur.
Additional Information:	Trichlorethylene will react to form dichloroacetylene, which is spontaneously flammable.

## SECTION 11

## TOXICOLOGICAL INFORMATION

### Information on likely routes of exposure:

**Skin Contact:** Major potential hazard – Contact with the skin can cause severe burns with deep ulcerations. Contact with solution or mist can cause multiple burns with temporary loss of hair at contact site. Solutions may not cause immediate pain or irritation upon skin contact. Prolonged or repeated contact with dilute solutions may cause drying and cracking of skin and possible skin damage.

**Skin Absorption:** It can penetrate to deeper layers of skin and corrosion will continue until removed. The severity of injury depends on the concentration and the duration of exposure.

**Eye Contact:** Major potential hazard – Liquid in the eye can cause severe destruction and blindness. These effects can occur rapidly affecting all parts of the eye. Mist or dust can cause irritation with high concentrations causing destructive burns.

**Inhalation:** By analogy with sodium hydroxide, inhalation of solution mist is expected to cause mild irritation at 2 mg/m<sup>3</sup>. More severe burns and tissue damage in the upper respiratory tract can occur at higher concentrations. Pneumonitis can result from severe exposures.

**Ingestion:** Ingestion of potassium hydroxide can cause severe burning and pain in lips, mouth, tongue, throat and stomach. Severe scarring of the throat can occur after swallowing. Death can result from ingestion.

**Information on toxicological effects:**

Irritancy:	A study with a 10% solution showed severe tissue damage when applied to skin for 4 hours.
Sensitization:	Not available
Carcinogenicity:	Potassium hydroxide is not listed on the IARC, OSHA or NTP carcinogen lists.
Teratogenicity & Mutagenicity:	Not available
Reproductive Toxicology:	Not available
Toxicological Synergism:	Not available

**Product Species Test Results:**LD<sub>50</sub>: 333 mg/kg (oral rat)LC<sub>50</sub>: Fresh water mosquito fish: 80.0 mg/L (24 Hours, static)**SECTION 12****ECOLOGICAL INFORMATION****Ecological Information:**

Persistence and degradability:	No data is available on the degradability of this product.
Bioaccumulative potential:	No data available for this product.
Mobility in soil:	Not available.
Other adverse effects:	No other adverse environmental effects (e.g., ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.
Aquatic toxicity:	May cause shifts in water pH outside the range of pH 7-9. This change may be toxic to aquatic organisms.

**Biodegradability:**

Not biodegradable (biodegradability term pertains to an organic material capable of decomposition as a result of attack by microorganisms). However, potassium hydroxide will be neutralized by acidity present in natural environment.

**SECTION 13****DISPOSAL CONSIDERATIONS**

Collect and reclaim or dispose in sealed containers at licensed waste disposal site if possible. Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container. Dispose of contents/container in accordance with local/regional/national/international regulations. Empty containers or liners may retain some product residues.

**SECTION 14****TRANSPORT INFORMATION****Shipping:**

Usual Shipping Containers:	Tank car, tank truck, ABS drums.
Usual Shelf Life:	Sealed containers, unlimited.
Storage/Transport Temperatures:	Ambient.

**Suitable Storage:**

Materials/Coatings: Steel, plastic, polyethylene (when dry).  
Unsuitable: Aluminum or galvanized containers.

**D.O.T. Information:**

UN number: 1813  
Class: 8  
Packing group: II  
Proper shipping name: Potassium Hydroxide, solid  
Reportable Quantity (RQ): 1000 lbs (100% KOH basis)  
Marine pollutant: No  
Poison Inhalation Hazard: No

**SECTION 15****REGULATORY INFORMATION****SARA 302 Components**

SARA 302: Not listed.

**SARA 313 Components**

SARA 313: Not regulated.

**SARA 311/312 Hazards**

EPCRA reporting quantities: TQ: 10,000 pounds (100% KOH basis).

**Massachusetts Right to Know Components**

Potassium Hydroxide CAS#: 1310-58-3

**Pennsylvania Right to Know Components**

Water CAS#: 7732-18-5  
Potassium Hydroxide CAS#: 1310-58-3

**New Jersey Right to Know Components**

Water CAS#: 7732-18-5  
Potassium Hydroxide CAS#: 1310-58-3

**California Prop. 65 Components**

As the result of the raw materials used in the manufacturing process, this product may contain chemicals at trace levels known to the State of California to cause cancer, birth defects, or other reproductive harm.

**OSHA PSM TPQ:** Not listed

**Toxic Substances Control Act (TSCA):**

CAS# 1310-58-3 is listed on the TSCA inventory.

**Comprehensive Environmental Response Compensation Liability Act: (CERCLA)**

CAS# 1310-58-3 is listed on the CERCLA list.

**SECTION 16****OTHER INFORMATION****NFPA Rating:**

Health Hazard: 3

Fire Hazard: 0

Reactivity Hazard: 1

**HMIS Rating:**

Health Hazard: 3

Chronic Health Hazard:

Flammability: 0

Physical Hazard: 1

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Version 1.0	For the new GHS SDS Standard	Revision Date: 2/4/2015
Version 1.1	Graphics updated	Revision Date: 3/9/2015
Version 1.2	Description update	Revision Date: 4/20/2015
Version 1.3	Changes to Sections 1, 9	Revision Date: 7/29/2015
Version 1.4	Changes to Sections 1	Revision Date: 4/15/2016
Version 1.5	Changed P501 text (Section 2)	Revision Date: 6/15/16
Removed Version, Updated Format		Revision Date: 5/16/2018
Corrected section 2 H301 to H302 Harmful if swallowed, Section 15 changed oral, rat		Revision Date: 5/22/2018
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