



# 45% Potassium Hydroxide Solution

Safety Data Sheet

North Metal and Chemical Company

## 1. Company Identification:

**Product Name** : 45% Potassium Hydroxide Solution  
**Synonyms** : Caustic Potash Solution, KOH, Potash Lye, Lye Solution  
**Product Use** : Industrial use, laboratory use, industrial manufacturing  
**Manufactured for** : North Metal and Chemical Company  
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**In Case of Emergency Call CHEMTREC (24 Hours): 1-800-424-9300 (USA & CANADA)**

## 2. Hazard Identification:

### GHS Classification:

Acute Oral Toxicity (Category 4)  
Skin Corrosion / Irritation (Category 1)  
Serious Eye Damage / Eye Irritation (Category 1)  
Corrosive to Metals (Category 1)

**Signal Word: Danger**

**Pictograms:**



### Hazard Statements:

**H302** : Harmful if swallowed  
**H314** : Causes severe skin burns and eye damage  
**H290** : May be corrosive to metals

### Precautionary Statements Prevention:

**P264** : Wash face, hands, and any exposed skin thoroughly after handling  
**P270** : Do not eat, drink, or smoke when using this product  
**P260** : Do not breathe dusts or mists  
**P280** : Wear protective gloves/protective clothing/eye protection/face protection  
**P234** : Keep only in original packaging.

### Precautionary Statements Response:

**P321** : Specific treatment (see First-Aid measures on SDS)  
**P310** : Immediately call a POISON CENTER or doctor/physician  
**P305 + P351 + P338**: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
**P303 + P361 + P353**: IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.  
**P363** : Wash contaminated clothing before reuse..  
**P304 + P340** : IF INHALED: Remove person to fresh air and keep comfortable for breathing.  
**P301 + P312** : IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.  
**P330** : Rinse mouth.  
**P331** : Do not induce vomiting.  
**P390** : Absorb spillage to prevent material damage.

## 2. Hazard Identification Continued:

### Precautionary Statements Storage:

**P405** : Store locked up

**P406** : Store in a corrosion resistant container with a resistant inner liner

### Precautionary Statements Disposal:

**P501** : Dispose of contents / container to an approved waste disposal plant

**Hazards Not Otherwise Classified (HNOC):** None Known

**Ingredient (s) With Unknown Acute Toxicity:** Not applicable

## 3. Composition/Information on Ingredient:

**Chemical Name** : Potassium Hydroxide Solution

**Chemical Formula** : KOH

Substance:	CAS Number:	Hazard	Compo. (%)
Potassium Hydroxide	1310-58-3	See Section 2	45-47%
Water	7732-18-5	-	Balance

## 4. First Aid Measures:

### Description of First-Aid Measures

**General Advice** : Show this safety data sheet to the doctor in attendance. Immediate medical attention is required.

**Inhalation** : Remove to fresh air. If breathing has stopped, give artificial respiration. Get medical attention immediately. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. If breathing is difficult, (trained personnel should) give oxygen. Delayed pulmonary edema may occur. Get immediate medical attention.

**Eye Contact** : Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Keep eye wide open while rinsing. Do not rub affected area. Get immediate medical attention.

**Skin Contact** : Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Get immediate medical attention.

**Ingestion** : Rinse mouth. Never give anything by mouth to an unconscious person. Do NOT induce vomiting. Get immediate medical attention.

**Self Protection of the First Aider:** Avoid contact with skin, eyes or clothing. Wear personal protective clothing (see section 8). Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination. Avoid direct contact with skin. Use barrier to give mouth-to-mouth resuscitation.

### Most important symptoms and effects, both acute and delayed

**Symptoms** : Burning sensation.

### Indication of any immediate medical attention and special treatment needed

**Note to physicians** : Product is a corrosive material. Use of gastric lavage or emesis is contraindicated. Possible perforation of stomach or esophagus should be investigated. Do not give chemical antidotes. Asphyxia from glottal edema may occur. Marked decrease in blood pressure may occur with moist rales, frothy sputum, and high pulse pressure

## 5. Fire Fighting Measures:

- Suitable Extinguishing Media** : Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
- Large Fire** : CAUTION: Use of water spray when fighting fire may be inefficient.
- Unsuitable extinguishing media** : Do not scatter spilled material with high pressure water streams.
- Specific hazards arising from the chemical** : The product causes burns of eyes, skin and mucous membranes. Thermal decomposition can lead to release of irritating gases and vapors.
- Hazardous combustion products** : Potassium oxides.
- Explosion data**
- Sensitivity to mechanical impact:** None.
- Sensitivity to static discharge:** None.
- Special protective equipment and precautions for firefighters** : Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.

## 6. Accidental Release Measures:

### Personal precautions, protective equipment and emergency procedures

- Personal precautions** : Attention! Corrosive material. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak. Avoid contact with skin, eyes or clothing. Use personal protective equipment as required. Ensure adequate ventilation.
- Other information** : Refer to protective measures listed in Sections 7 and 8.

### Methods and material for containment and cleaning up

- Methods for containment** : Prevent further leakage or spillage if safe to do so. Keep out of drains, sewers, ditches and waterways. Use water spray to reduce vapors or divert vapor cloud drift.
- Methods for cleaning up** : Soak up with inert absorbent material. Pick up and transfer to properly labeled containers.

## 7. Handling and Storage:

### Precautions for safe handling

**Advice on safe handling:** Handle in accordance with good industrial hygiene and safety practice. Do not breathe dust/fume/gas/mist/vapors/spray. Avoid contact with skin, eyes or clothing. In case of insufficient ventilation, wear suitable respiratory equipment. Handle product only in closed system or provide appropriate exhaust ventilation. Do not eat, drink or smoke when using this product. Take off contaminated clothing and wash before reuse.

### Conditions for safe storage, including any incompatibilities

**Storage Conditions:** Keep containers tightly closed in a dry, cool and well-ventilated place. Protect from moisture. Store locked up. Keep out of the reach of children. Store away from other materials

## 8. Exposure Controls and Personal Protection:

### Control Parameters

#### Exposure Limits:

	OSHA PEL	ACGIH TLV	NIOSH
Potassium Hydroxide	-	Ceiling: 2mg/m <sup>3</sup>	Ceiling: 2mg/m <sup>3</sup>

### Appropriate engineering controls

**Engineering controls** : Showers, eyewash stations, ventilation systems.

### Individual protection measures, such as personal protective equipment

**Eye/face protection** :Tight sealing safety goggles. Face protection shield.

**Hand protection** :Wear suitable gloves. Impervious gloves.

**Skin and body protection** :Wear suitable protective clothing. Long sleeved clothing. Chemical resistant apron.

**Respiratory protection** :No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required.

**General hygiene considerations** :Wear suitable gloves and eye/face protection. Do not eat, drink or smoke when using this product. Regular cleaning of equipment, work area and clothing is recommended. Avoid contact with skin, eyes or clothing. Remove and wash contaminated clothing and gloves, including the inside, before re-use. Contaminated work clothing should not be allowed out of the workplace. Wash hands before breaks and immediately after handling the product

## 9. Chemical and Physical Properties:

<b>Appearance</b>	: Clear Liquid	<b>Evaporation Rate</b>	: No data available
<b>Odor</b>	: Odorless	<b>Lower Explosive Limit</b>	: No data available
<b>Odor threshold</b>	: Not available	<b>Upper Explosive Limit</b>	: No data available
<b>Color</b>	: Colorless to Pale Yellow	<b>Vapor Pressure</b>	: No data available
<b>pH</b>	: >13	<b>Vapor Density</b>	: No data available
<b>Melting Point</b>	: No data available	<b>Specific Gravity</b>	: approx. 1.46 @ 20°C
<b>Freezing Point</b>	: No data available	<b>Solubility</b>	: Soluble
<b>Boiling Range</b>	: No data available	<b>Partition Coefficient</b>	
<b>Flash Point</b>	: No data available	<b>n-octanol/water</b>	: No data available
<b>Ignition Temp.</b>	: No data available	<b>Auto Ignition Temp.</b>	: No data available
<b>Thermal Decomposition</b>	: No data available	<b>Molecular Weight</b>	: 56.11 g/mol

## 10. Stability and Reactivity:

**Reactivity** : Corrosive to metals. Contact with metals may evolve flammable hydrogen gas.

**Chemical stability** :Stable under normal conditions

**Possibility of hazardous reactions** :None under normal processing.

**Conditions to avoid** :Exposure to air or moisture over prolonged periods. Incompatible materials Metals. Water. Acrolein. Acrylonitrile. Chlorinated hydrocarbons. Chlorine dioxide. Maleic anhydride. Nitroethane. Nitroparaffins. Nitropropane. 2-nitrophenol. Phosphorus. Potassium persulfate. Tetrahydrofuran.

**Hazardous decomposition products** :Potassium oxides.

## 11. Toxicological Information:

### Information on likely routes of exposure

#### Product Information

- Inhalation** :Specific test data for the substance or mixture is not available. Corrosive by inhalation. (based on components). Inhalation of corrosive fumes/gases may cause coughing, choking, headache, dizziness, and weakness for several hours. Pulmonary edema may occur with tightness in the chest, shortness of breath, bluish skin, decreased blood pressure, and increased heart rate. Inhaled corrosive substances can lead to a toxic edema of the lungs. Pulmonary edema can be fatal.
- Eye contact** :Specific test data for the substance or mixture is not available. Causes serious eye damage. (based on components). Corrosive to the eyes and may cause severe damage including blindness. May cause irreversible damage to eyes.
- Skin contact** :Specific test data for the substance or mixture is not available. Corrosive. (based on components). Causes burns.
- Ingestion** :Specific test data for the substance or mixture is not available. Causes burns. (based on components). Ingestion causes burns of the upper digestive and respiratory tracts. May cause severe burning pain in the mouth and stomach with vomiting and diarrhea of dark blood. Blood pressure may decrease. Brownish or yellowish stains may be seen around the mouth. Swelling of the throat may cause shortness of breath and choking. May cause lung damage if swallowed. May be fatal if swallowed and enters airways.

### Symptoms related to the physical, chemical and toxicological characteristics

- Symptoms** :Redness. Burning. May cause blindness. Coughing and/ or wheezing.

### Acute toxicity

#### Numerical measures of toxicity

The following values are calculated based on chapter 3.1 of the GHS document

ATEmix (oral)	1,111.10 mg/kg
ATEmix (dermal)	99,999.00 mg/kg
ATEmix (inhalation-gas)	99,999.00 ppm
ATEmix (inhalation-vapor)	99,999.00 mg/l
ATEmix (inhalation-dust/mist)	99,999.00 mg/l

#### Component Information

	Oral LD50	Dermal LD50	Inhalation LC50
Potassium Hydroxide	284 mg/kg (Rat)	-	-
Water	>90 mL/kg (Rat)	-	-

### Delayed and immediate effects as well as chronic effects from short and long-term exposure

**Skin corrosion/irritation** Classification based on data available for ingredients. Causes severe skin burns and eye damage.

**Serious eye damage/eye irritation** Classification based on data available for ingredients. Causes serious eye damage. Causes burns.

**Respiratory or skin sensitization** No information available.

**Germ cell mutagenicity** No information available.

**Carcinogenicity** No information available.

**Reproductive toxicity** No information available.

**STOT - single exposure** No information available.

**STOT - repeated exposure** No information available.

**Target organ effects** Respiratory system, Eyes, Skin.

**Aspiration hazard** No information available.

**Other adverse effects** No information available.

**Interactive effects** No information available.

## 12. Ecological Information:

### Ecotoxicity

Chemical name	Algae / aquatic plants	Fish	Toxicity to	Crustacea
Potassium Hydroxide	-	96h, LC50: 80mg/L (gambusia affinis)	-	48h, EC50: 56mg/L (ceriodaphnia dubia)

**Persistence and degradability** No information available

### Bioaccumulation

### Component Information

Chemical name	Partition Coefficient
Potassium Hydroxide	0.83

**Other adverse effects** No information available

## 13. Disposal Considerations:

### Disposal methods

**Waste from residues/unused products** :Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation.

**Contaminated packaging** :Do not reuse empty containers. Dispose of contents/containers in accordance with local regulations.

**California Hazardous Waste Status** :This product contains one or more substances that are listed with the State of California as a hazardous waste

## 14. Transport Information:

Regulatory Information	UN No.	Proper Shipping Name	UN Class	Packing Group
US DOT	1814	Potassium Hydroxide Solution	8	II
TDG	1814	Potassium Hydroxide Solution	8	II
ICAO (air)	1814	Potassium Hydroxide Solution	8	II
IATA	1814	Potassium Hydroxide Solution	8	II
IMDG	1814	Potassium Hydroxide Solution	8	II

## 15. Regulatory Information:

### U.S. FEDERAL REGULATIONS:

**TSCA:** CAS# 1310-58-3 is listed as active on the TSCA inventory.

#### SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.

#### SARA 311/312 Hazard Categories

Should this product meet EPCRA 311/312 Tier reporting criteria at 40 CFR 370, refer to Section 2 of this SDS for appropriate classifications.

#### CWA (Clean Water Act)

This product contains the following substances which are regulated pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

Chemical name	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants	CWA - Hazardous Substances
Potassium Hydroxide	1000 lb	-	-	X

#### CERCLA

This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302).

Chemical name	Hazardous Substances RQs	Extremely Hazardous Substances RQs	Reportable Quantity (RQ)
Potassium Hydroxide	1000 lb	-	RQ 1000lb final RQ

### US State Regulations

**California Proposition 65 :** This product does not contain any Proposition 65 chemicals.

#### U.S. State Right-to-Know Regulations

Chemical name	New Jersey	Massachusetts	Pennsylvania
Potassium Hydroxide	X	X	X

### U.S. EPA Label Information

**EPA Pesticide Registration Number :** Not applicable

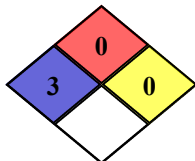
## 16. Other Information:

NFPA Rating Scale:

NFPA: National Fire Protection Association

Numeric Scale for Health (Blue), Flammability (Red), and Physical Hazard (Yellow):

### NFPA Rating:



### NFPA Key:

HEALTH 3 - Serious
FLAMMABILITY 0 - Minimal
REACTIVITY 0 - Slight
SPECIFIC HAZARD -None

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Reasons for Revision: Formatted for OSHA 2024 Final Rule

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