

Potassium Hydroxide 90%

Section 1 - Chemical Product and Company Identification

Product name: Potassium Hydroxide 90%

Recommended use : Laboratory chemicals, Testing, Research and Industrial use

Restriction of use : Not for use other than for non-drinking, testing, research and industrial purposes

Company Identification

Company : OCI Company Ltd.

Address : 94, Sogong-ro, Jung-gu, Seoul, KOREA

Tel No. : 82 - 2 - 727 - 9494

Section 2 - Hazards Identification

- 1) Hazard Classification
- Acute hazard (Oral) : 4
 - Skin corrosion/irritation : 1
 - Serious eye damage / Eye irritation : 1
 - Specific target organ toxicity following single exposure : 1
 - Aspiration hazard : 1

2) Warning signal

Symbol



Signal word

Danger

Hazard statement

H290 May be corrosive to metals
H301 Toxic if swallowed
H304 May be fatal if swallowed and enters airways
H314 Causes severe skin burns and eye damage
H318 Causes serious eye damage
H370 Causes damage to organs

Prevention precautionary statements

P260 Do not breathe dust/fume/gas/mist/vapours/spray
P264 Wash thoroughly after handling
P270 Do not eat, drink or smoke when using this product
P280 Wear protective gloves/protective clothing/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): Take off immediately all contaminated clothing. Rinse skin with water/shower

P304+P340 IF INHALED: Remove victim 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.

P308+P311 IF exposed or concerned : Call a POISON Center/doctor/...

P310 Immediately call a POISON CENTER or doctor/physician.

P321 Specific treatment.

P330 Rinse mouth.

P331 Do NOT induce vomiting

P363 Wash contaminated clothing before reuse.

P405 Store locked up.

P501 Dispose of contents/container to the related laws.

3) NFPA

Potassium Hydroxide

Health Rating 3

Flammability Rating 0

Reactivity Rating 1

Section 3 - Composition, Information on Ingredients

Component: Potassium Hydroxide

CAS No.: 1310-58-3

Content: 90%

Component: Water

CAS No.: 7732-18-5

Content: 10%

Section 4 - First Aid Measures

General information: Get medical advice/attention if you feel unwell. Show this safety data sheet to the doctor in attendance.

Ingestion: Call a physician or poison control center immediately. Do NOT induce vomiting. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs.

Inhalation: Move to fresh air. Call a physician or poison control center immediately. Apply artificial respiration if victim is not breathing. If breathing is difficult, give oxygen.

Skin contact: Immediately flush with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Call a physician or poison control center immediately. Wash contaminated clothing before reuse. Destroy or thoroughly clean contaminated shoes.

Eye contact: Immediately flush with plenty of water for at least 15 minutes. If easy to do, remove contact lenses. Call a physician or poison control center immediately. In case of irritation from airborne exposure, move to fresh air. Get medical attention immediately.

Most important symptoms/effects, acute and delayed Symptoms: Causes severe skin and eye burns. Causes digestive tract burns.

Indication of immediate medical attention and special treatment needed Treatment: Treat symptomatically. Symptoms may be delayed.

Section 5 - Fire Fighting Measures

General fire hazards: In case of fire and/or explosion do not breathe fumes.

Suitable (and unsuitable) extinguishing media

Suitable extinguishing media: Water spray, foam, dry powder or carbon dioxide.

Unsuitable extinguishing media: None known.

Specific hazards arising from the chemical: Fire may produce irritating, corrosive and/or toxic gases.

Special protective equipment and precautions for firefighters Special fire fighting procedures: Move containers from fire area if you can do so without risk. Use water spray to keep fire-exposed containers cool.

Special protective equipment for fire-fighters: Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA.

Section 6 - Accidental Release Measures

Personal precautions, protective equipment and emergency procedures: Keep unauthorized personnel away. Ventilate closed spaces before entering them. Use personal protective equipment. See Section 8 of the MSDS for Personal Protective Equipment. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing.

Methods and material for containment and cleaning up: Sweep up and place in a clearly labeled container for chemical waste. Clean surface thoroughly to remove residual contamination. Neutralize spill area and washings with dilute acetic acid.

Notification Procedures: Dike for later disposal. Prevent entry into waterways, sewer, basements or confined areas. Stop the flow of material, if this is without risk. Inform authorities if large amounts are involved.

Environmental precautions: Do not contaminate water sources or sewer. Prevent further leakage or spillage if safe to do so. Avoid discharge into drains, water courses or onto the ground.

Section 7 - Handling and Storage

Precautions for safe handling: Avoid inhalation of dust and vapors. Do not get in eyes, on skin, on clothing. Do not taste or swallow. Wash hands thoroughly after handling. Do not eat, drink or smoke when using the product.

Conditions for safe storage, including any incompatibilities: Do not store in metal containers. Keep containers tightly closed. Store in cool, dry place. Store in a well-ventilated place.

Section 8 - Exposure Controls, Personal Protection

Control parameters

Occupational exposure limits

Chemical identity	Type	Exposure Limit values	Source
POTASSIUM HYDROXIDE	Ceiling	2 mg/m ³	US. ACGIH Threshold Limit Values (2011)
	REL	2 mg/m ³	US. NIOSH: Pocket Guide to Chemical Hazards (2010)
	Ceiling	2 mg/m ³	US. OSHA Table Z-1-A (29 CFR 1910.1000) (1989)

Appropriate engineering controls No data available.

Individual protection measures, such as personal protective equipment

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. An eye wash and safety shower must be available in the immediate work area.

Eye/face protection: Wear safety glasses with side shields (or goggles) and a face shield.

Skin protection

Hand protection: Chemical resistant gloves

Other: Wear appropriate clothing to prevent reasonably probable skin contact.

Respiratory protection: In case of inadequate ventilation use suitable respirator. High-efficiency particulate respirator with full facepiece.

Hygiene measures: Provide eyewash station and safety shower. Observe good industrial hygiene practices. 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: White Solid

Form: Solid

Color: White

Odor: Odorless

Odor threshold: Not applicable

pH: 13.5 (0.1M Solution)

Melting point/freezing point: 380 °C

Initial boiling point and boiling range: 1324 °C

Flash Point: Incombustible

Evaporation rate: No data available.

Flammability (solid, gas): Incombustible

Upper/lower limit on flammability or explosive limits : Incombustible

Vapor pressure: 1 mmHg (719°C)

Vapor density: No data available.

Relative density: 2.04

Solubility(ies)

Solubility in water: 112 g/100ml (20°C water)

Solubility (other): Soluble in ethanol

Partition coefficient (n-octanol/water): No data available.

Auto-ignition temperature: 290 °C

Decomposition temperature: No data available.

Viscosity: No data available.

Molecular Formula: KOH

Molecular weight: 56.11

Section 10 - Stability and Reactivity

Reactivity: Reacts violently with strong acids.

Chemical stability: Material is stable under normal conditions.

Possibility of hazardous reactions: Hazardous polymerization does not occur. The substance is hygroscopic and will absorb water by contact with the moisture in the air.

Conditions to avoid: Avoid contact with oxidizing agents. Reacts violently with strong acids. Heat. Moisture.

Incompatible materials: Moisture. Oxidizing agents. Acids. Maleic Anhydride Halogens. Nitromethane. Contact with metals may evolve flammable hydrogen gas.

Hazardous decomposition products: Oxides of potassium.

Section 11 - Toxicological Information

Information on likely routes of exposure

Ingestion: May cause burns of the gastrointestinal tract if swallowed.

Inhalation: Causes severe burns.

Skin contact: Causes severe skin burns.

Eye contact: Causes serious eye damage.

Information on toxicological effects

Acute toxicity (list all possible routes of exposure)

Oral Product: ATEmix (Rat): 303.3 mg/kg

Dermal Product: No data available.

Inhalation Product: No data available.

Repeated dose toxicity Product: No data available.

Skin corrosion/irritation Product: Causes severe skin burns.

Serious eye damage/eye irritation Product: Causes serious eye damage.

Respiratory or skin sensitization Product: Not a skin nor a respiratory sensitizer.

Carcinogenicity Product: This substance has no evidence of carcinogenic properties.

IARC Monographs on the Evaluation of Carcinogenic Risks to Humans:

No carcinogenic components identified

US. National Toxicology Program (NTP) Report on Carcinogens:

No carcinogenic components identified

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050):

No carcinogenic components identified

Germ cell mutagenicity

In vitro Product: No mutagenic components identified

In vivo Product: No mutagenic components identified

Reproductive toxicity Product: No components toxic to reproduction

Specific target organ toxicity - single exposure Product: Respiratory tract irritation.

Specific target organ toxicity - repeated exposure Product: None known.

Aspiration hazard Product: Not classified

Other effects: None known.

Section 12 - Ecological Information

Ecotoxicity:

Acute hazards to the aquatic environment:

Fish Product: No data available.

Specified substance(s):

POTASSIUM HYDROXIDE LC 50 (Western mosquitofish (*Gambusia affinis*), 96 h): 80 mg/l Mortality

Aquatic invertebrates Product: No data available.

Chronic hazards to the aquatic environment:

Fish Product: No data available.

Aquatic invertebrates Product: No data available.

Toxicity to Aquatic Plants Product: No data available.

Persistence and degradability Biodegradation Product: Expected to be readily biodegradable.

BOD/COD ratio Product: No data available.

Bioaccumulative potential

Bioconcentration factor (BCF) Product: No data available on bioaccumulation.

Partition coefficient n-octanol / water (log Kow) Product: No data available.

Mobility in soil: The product is water soluble and may spread in water systems.

Other adverse effects: Harmful to aquatic organisms. The product may affect the acidity (pH-factor) in water with risk of harmful effects to aquatic organisms.

Section 13 - Disposal Considerations

Disposal instructions: Discharge, treatment, or disposal may be subject to national, state, or local laws.

Contaminated packaging: Since emptied containers retain product residue, follow label warnings even after container is emptied.

Section 14 - Transport Information

UN Number: 1813

Shipping Name: Potassium hydroxide

Hazard Class: 6.1

Packing Group: II

Marine Pollutant: : No data available

Safety measures : Fire F-A, Flow out S-B

Section 15 - Regulatory Information

US federal regulations

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

None present or none present in regulated quantities.

CERCLA Hazardous Substance List (40 CFR 302.4):

POTASSIUM HYDROXIDE Reportable quantity: 1000 lbs.

Superfund amendments and reauthorization act of 1986 (SARA) Hazard categories

X Acute (Immediate) X Chronic (Delayed) Fire Reactive Pressure Generating

SARA 302 Extremely hazardous substance

None present or none present in regulated quantities.

SARA 304 Emergency release notification

Chemical identity RQ

POTASSIUM HYDROXIDE 1000 lbs.

SARA 311/312 Hazardous chemical

Chemical identity Threshold Planning Quantity

POTASSIUM HYDROXIDE 500 lbs

SARA 313 (TRI reporting)

None present or none present in regulated quantities.

Clean Water Act Section 311 Hazardous Substances (40 CFR 117.3)

POTASSIUM HYDROXIDE Reportable quantity: 1000 lbs.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130):

None present or none present in regulated quantities.

US state regulations

US. California Proposition 65

No ingredient regulated by CA Prop 65 present.

US. New Jersey Worker and Community Right-to-Know Act

POTASSIUM HYDROXIDE Listed

US. Massachusetts RTK - Substance List

POTASSIUM HYDROXIDE Listed

US. Pennsylvania RTK - Hazardous Substances

POTASSIUM HYDROXIDE Listed

US. Rhode Island RTK

POTASSIUM HYDROXIDE Listed

Inventory Status:

Australia AICS:	On or in compliance with the inventory
Canada DSL Inventory List:	On or in compliance with the inventory
EINECS, ELINCS or NLP:	On or in compliance with the inventory
Japan (ENCS) List:	On or in compliance with the inventory
China Inv. Existing Chemical Substances:	Not in compliance with the inventory.
Korea Existing Chemicals Inv. (KECI):	On or in compliance with the inventory
Canada NDSL Inventory:	Not in compliance with the inventory.
Philippines PICCS:	On or in compliance with the inventory
US TSCA Inventory:	On or in compliance with the inventory
New Zealand Inventory of Chemicals:	On or in compliance with the inventory
Japan ISHL Listing:	Not in compliance with the inventory.
Japan Pharmacopoeia Listing:	Not in compliance with the inventory.

Section 16 - Other Information

Sources : KOSHA, National Emergency Management Agency

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