

Material Safety Data Sheet

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Version 1.4

According to 91/155/EEC

1 - Product and Company Information

Product Name POTASSIUM HYDROXIDE, PELLETS, 99.99%,
SEMICONDUCTOR GRADE (NO BULK SALES
ALLOWED)

Product Number 306568

Company Sigma-Aldrich Pte Ltd
#08-01 Citilink Warehouse
Singapore 118529
Singapore

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2 - Composition/Information on Ingredients

Product Name	CAS #	EC no	Annex I Index Number
POTASSIUM HYDROXIDE	1310-58-3	215-181-3	019-002-00-8

Formula KOH

Molecular Weight 56.11 AMU

Synonyms Caustic potash * Hydroxyde de potassium (French)
* Kaliumhydroxid (German) * Kaliumhydroxyde
(Dutch) * LYE * Potassa * Potasse caustique
(French) * Potassio (idrossido di) (Italian) *
Potassium hydrate * Potassium hydroxide (ACGIH)
* Potassium (hydroxyde de) (French)

3 - Hazards Identification

SPECIAL INDICATION OF HAZARDS TO HUMANS AND THE ENVIRONMENT
Harmful if swallowed. Causes severe burns.

4 - First Aid Measures

AFTER INHALATION

If inhaled, remove to fresh air. If not breathing give
artificial respiration. If breathing is difficult, give oxygen.

AFTER SKIN CONTACT

In case of skin contact, flush with copious amounts of water for
at least 15 minutes. Remove contaminated clothing and shoes.
Call a physician.

AFTER EYE CONTACT

In case of contact with eyes, flush with copious amounts of
water for at least 15 minutes. Assure adequate flushing by
separating the eyelids with fingers. Call a physician.

AFTER INGESTION

If swallowed, wash out mouth with water provided person is

conscious. Call a physician immediately. Do not induce vomiting.

5 - Fire Fighting Measures

CONDITIONS OF FLAMMABILITY

May react with metals, releasing flammable hydrogen gas.

EXTINGUISHING MEDIA

Suitable: Carbon dioxide, dry chemical powder, or appropriate foam.

Unsuitable: Do not use water.

SPECIAL RISKS

Specific Hazard(s): Emits toxic fumes under fire conditions.

SPECIAL PROTECTIVE EQUIPMENT FOR FIREFIGHTERS

Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes.

6 - Accidental Release Measures

PERSONAL PRECAUTION PROCEDURES TO BE FOLLOWED IN CASE OF LEAK OR SPILL

Evacuate area.

PROCEDURE(S) OF PERSONAL PRECAUTION(S)

Wear self-contained breathing apparatus, rubber boots, and heavy rubber gloves.

METHODS FOR CLEANING UP

Sweep up, place in a bag and hold for waste disposal. Ventilate area and wash spill site after material pickup is complete.

7 - Handling and Storage

HANDLING

Directions for Safe Handling: Do not breathe dust. Do not get in eyes, on skin, on clothing. Avoid prolonged or repeated exposure.

STORAGE

Conditions of Storage: Keep tightly closed. Store in a cool dry place.

Incompatible Materials: Absorbs carbon dioxide from air.

SPECIAL REQUIREMENTS: Air sensitive. Very hygroscopic.

8 - Exposure Controls / Personal Protection

ENGINEERING CONTROLS

Safety shower and eye bath. Use only in a chemical fume hood.

GENERAL HYGIENE MEASURES

Wash contaminated clothing before reuse. Discard contaminated shoes. Wash thoroughly after handling.

EXPOSURE LIMITS

Country	Source	Type	Value
Poland		NDS	0.5 MG/M3
Poland		NDSch	1 MG/M3
Poland		NDSP	-

EXPOSURE LIMITS - DENMARK

Source	Type	Value
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Remarks: L OEL TWA 2 mg/m3

EXPOSURE LIMITS - NORWAY

Source	Type	Value
OEL	OEL	2 mg/m3

Remarks: T

EXPOSURE LIMITS - SWITZERLAND

Source	Type	Value
OEL	OEL	2 mg/m3

Remarks: E

EXPOSURE LIMITS - UNITED KINGDOM

Source	Type	Value
OEL	STEL	2 mg/m3

PERSONAL PROTECTIVE EQUIPMENT

Respiratory Protection: Government approved respirator.
Hand Protection: Compatible chemical-resistant gloves.
Eye Protection: Chemical safety goggles.

9 - Physical and Chemical Properties

Appearance	Physical State: Solid	
Property	Value	At Temperature or Pressure
pH	13.5	
BP/BP Range	1,320 °C	
MP/MP Range	361 °C	
Flash Point	N/A	
Flammability	N/A	
Autoignition Temp	N/A	
Oxidizing Properties	N/A	
Explosive Properties	N/A	
Explosion Limits	N/A	
Vapor Pressure	1 mmHg	719 °C
SG/Density	2.044 g/cm3	
Partition Coefficient	N/A	
Viscosity	N/A	
Vapor Density	N/A	
Saturated Vapor Conc.	N/A	
Evaporation Rate	N/A	
Bulk Density	N/A	
Decomposition Temp.	N/A	
Solvent Content	N/A	
Water Content	N/A	
Surface Tension	N/A	
Conductivity	N/A	
Miscellaneous Data	N/A	
Solubility	Solubility in Water: Soluble.	

10 - Stability and Reactivity

STABILITY

Stable: Stable.
Conditions of Instability: Absorbs carbon dioxide from air. Heat of solution is very high, and with limited amounts of water, violent boiling may occur
Conditions to Avoid: Tin. Do not heat above melting point.
Materials to Avoid: Nitro compounds, Zinc, Organic materials,

Magnesium, Copper, Water, Aluminum.

HAZARDOUS DECOMPOSITION PRODUCTS

Hazardous Decomposition Products: Hydrogen gas, Carbon monoxide, Potassium oxides.

HAZARDOUS POLYMERIZATION

Hazardous Polymerization: Will not occur

11 - Toxicological Information

RTECS NUMBER: TT2100000

ACUTE TOXICITY

LD50
Oral
Rat
273 mg/kg
other fish
80 ppm

TLM
24 HR

LD50
Oral
Rat
860 mg/kg

LD50
Oral
Rat
273 mg/kg

IRRITATION DATA

Skin
Human
50 mg
24 HR

Remarks: Severe irritation effect

Skin
Rabbit
50 mg
24 HR

Remarks: Severe irritation effect

Skin
Rabbit
1 mg
24 HR

Remarks: Mild irritation effect

Eyes
Rabbit
24 HOURS

Remarks: Moderate irritation effect

Skin
Human
50 mg
24H
Remarks: Severe irritation effect

Skin
Rabbit
50 mg

24H
Remarks: Severe irritation effect

Eyes
Rabbit
1 mg
24H
Remarks: Rinsed

Skin
Guinea pig
50 mg
24H
Remarks: Severe irritation effect

SIGNS AND SYMPTOMS OF EXPOSURE

Inhalation may result in spasm, inflammation and edema of the larynx and bronchi, chemical pneumonitis, and pulmonary edema. Symptoms of exposure may include burning sensation, coughing, wheezing, laryngitis, shortness of breath, headache, nausea, and vomiting. Material is extremely destructive to tissue of the mucous membranes and upper respiratory tract, eyes, and skin. To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

ROUTE OF EXPOSURE

Skin Contact: Causes severe burns.
Skin Absorption: May be harmful if absorbed through the skin.
Eye Contact: Causes severe burns.
Inhalation: May be harmful if inhaled. Material is extremely destructive to the tissue of the mucous membranes and upper respiratory tract.
Ingestion: Toxic if swallowed.

CHRONIC EXPOSURE - MUTAGEN

Rat
1800 MG/KG
Cell Type: Ascites tumor
Cytogenetic analysis

Hamster
12 MMOL/L
Cell Type: ovary
Cytogenetic analysis

12 - Ecological Information

ECOTOXICOLOGICAL EFFECTS

Test Type: LC50 Fish
Species: other fish
Time: 24 h
Value: 165 mg/l

Test Type: LC50 Fish
Species: Pimephales promelas (Fathead minnow)
Value: > 750 mg/l

Species: other fish
Time: 24 h
Value: 80 mg/l

13 - Disposal Considerations

SUBSTANCE DISPOSAL

Contact a licensed professional waste disposal service to dispose of this material. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber. Observe all federal, state, and local environmental regulations.

14 - Transport Information

RID/ADR

UN#: 1813
Class: 8
PG: II
Proper Shipping Name: Potassium hydroxide, solid

IMDG

UN#: 1813
Class: 8
PG: II
Proper Shipping Name: Potassium hydroxide, solid
Marine Pollutant: No
Severe Marine Pollutant: No

IATA

UN#: 1813
Class: 8
PG: II
Proper Shipping Name: Potassium hydroxide, solid
Inhalation Packing Group I: No

15 - Regulatory Information

CLASSIFICATION AND LABELING ACCORDING TO EU DIRECTIVES

ANNEX I INDEX NUMBER: 019-002-00-8

INDICATION OF DANGER: C

Corrosive.

R-PHRASES: 22 35

Harmful if swallowed. Causes severe burns.

S-PHRASES: 26 36/37/39 45

In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Wear suitable protective clothing, gloves, and eye/face protection. In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

COUNTRY SPECIFIC INFORMATION

Germany

WGK: 1

SWITZERLAND

SWISS POISON CLASS: 2

16 - Other Information

WARRANTY

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

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