

# OTTO CHEMIE PVT LTD

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ISO 9001: 2015

## MATERIAL SAFETY DATA SHEET

### 1. Identification

#### 1.1 GHS Product identifier

Potassium hydroxide, flakes, 85%

Code P 2295

### 2. Hazard identification

#### 2.1 Classification of the substance or mixture

Acute toxicity - Oral, Category 4

Skin corrosion, Category 1A

#### 2.2 GHS label elements, including precautionary statements

Pictogram(s)



Signal word

Danger

Hazard statement(s)

H302 Harmful if swallowed

H314 Causes severe skin burns and eye damage

Precautionary statement(s)

Prevention

P264 Wash ... thoroughly after handling.

P270 Do not eat, drink or smoke when using this product.

P260 Do not breathe dust/fume/gas/mist/vapours/spray.

P280 Wear protective gloves/protective clothing/eye protection/face protection.

Response

P301+P312 IF SWALLOWED: Call a POISON

CENTER/doctor/ 2026 if you feel unwell.

P330 Rinse mouth.

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 [or shower].

P363 Wash contaminated clothing before reuse.

P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.

P310 Immediately call a POISON CENTER/doctor/ 2026

P321 Specific treatment (see ... on this label).

P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Storage

P405 Store locked up.

Disposal

P501 Dispose of contents/container to ...

#### 2.3 Other hazards which do not result in classification

none

### 3. Composition/information on ingredients

#### 3.1 Substances

Chemical name	Common names and synonyms	CAS number	EC number	Concentration
potassium hydroxide	potassium hydroxide	1310-58-3	none	100%

### 4. First-aid measures

#### 4.1 Description of necessary first-aid measures

General advice

Consult a physician. Show this safety data sheet to the doctor in attendance.

If inhaled

Fresh air, rest. Refer immediately for medical attention.

In case of skin contact

Remove contaminated clothes. Rinse skin with plenty of water or shower for at least 15 minutes. Refer immediately for medical attention.

In case of eye contact

First rinse with plenty of water for several minutes (remove contact lenses if easily possible), then refer for medical attention.

If swallowed

Rinse mouth. Do NOT induce vomiting. If within a few minutes after ingestion, one small glass of water may be given to drink. Refer immediately for medical attention.

4.2 Most important symptoms/effects, acute and delayed

Causes severe burns of eyes, skin, and mucous membranes. (USCG, 1999)

4.3 Indication of immediate medical attention and special treatment needed, if necessary

Immediate first aid: Remove patient from contact with the material. Ensure that adequate decontamination has been carried out. If patient is not breathing, start artificial respiration, preferably with a demand valve resuscitator, bag-valve-mask device, or pocket mask, as trained. Perform CPR if necessary. Immediately flush contaminated eyes with gently flowing water. Do not induce vomiting. If vomiting occurs, lean patient forward or place on the left side (head-down position, if possible) to maintain an open airway and prevent aspiration. Keep patient quiet and maintain normal body temperature. Obtain medical attention. /Inorganic Bases/Alkaline Corrosives and Related Compounds/

5. Fire-fighting measures

5.1 Extinguishing media

Suitable extinguishing media

Suitable extinguishing media: Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

5.2 Specific hazards arising from the chemical

Excerpt from ERG Guide 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Some are oxidizers and may ignite combustibles (wood, paper, oil, clothing, etc.). Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. For electric vehicles or equipment, ERG Guide 147 (lithium ion batteries) or ERG Guide 138 (sodium batteries) should also be consulted. (ERG, 2016)

5.3 Special protective actions for fire-fighters

Wear self-contained breathing apparatus for firefighting if necessary.

6. Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Use personal protective equipment. Avoid dust formation. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Avoid breathing dust. For personal protection see section 8.

6.2 Environmental precautions

Personal protection: chemical protection suit including self-contained breathing apparatus. Do NOT let this chemical enter the environment. Sweep spilled substance into covered plastic containers. Carefully collect remainder. Then store and dispose of according to local regulations.

6.3 Methods and materials for containment and cleaning up

Personal precautions, protective equipment and emergency procedures: Wear respiratory protection. Avoid dust formation. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Avoid breathing dust...

7. Handling and storage

7.1 Precautions for safe handling

Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Avoid exposure - obtain special instructions before use. Provide appropriate exhaust ventilation at places where dust is formed. For precautions see section 2.2.

7.2 Conditions for safe storage, including any incompatibilities

Separated from food and feedstuffs, strong acids and metals. Store only in original container. Dry. Well closed. Store in an area without drain or sewer access. Keep container tightly closed in a dry and well-ventilated place. Absorbs carbon dioxide (CO<sub>2</sub>) from air. Air sensitive. Strongly hygroscopic. Storage class (TRGS 510): Non-combustible, corrosive hazardous materials.

8. Exposure controls/personal protection

8.1 Control parameters

Occupational Exposure limit values

Recommended Exposure Limit: Ceiling Value: 2 mg/cu m.

Biological limit values

no data available

8.2 Appropriate engineering controls

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

8.3 Individual protection measures, such as personal protective equipment (PPE)

Eye/face protection

Safety glasses with side-shields conforming to EN166. Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin protection

Wear impervious clothing. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace. Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands. The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.

Respiratory protection

Wear dust mask when handling large quantities.

Thermal hazards

no data available

### 9. Physical and chemical properties

Physical state	White Flake
Colour	White or colorless, orthorhombic, deliquescent pieces, lumps, or sticks having crystalline fracture
Odour	Odorless
Melting point/ freezing point	360\°C
Boiling point or initial boiling point and boiling range	1320\°C
Flammability	Noncombustible Solid; however, may react with H <sub>2</sub> O & other substances and generate sufficient heat to ignite combustible materials. Not combustible. Contact with moisture or water may generate sufficient heat to ignite combustible materials.
Lower and upper explosion limit / flammability limit	no data available
Flash point	15\°C
Auto-ignition temperature	Not flammable (USCG, 1999)
Decomposition temperature	no data available
pH	Strongly alkaline (1\% solution)
Kinematic viscosity	no data available
Solubility	In water: soluble
Partition coefficient n-octanol/water (log value)	no data available
Vapour pressure	1 mm Hg ( 719 \°C)
Density and/or relative density	1.456g/mL at 25\°C
Relative vapour density	no data available
Particle characteristics	no data available

### 10. Stability and reactivity

#### 10.1 Reactivity

no data available

#### 10.2 Chemical stability

Stable under recommended storage conditions.

#### 10.3 Possibility of hazardous reactions

When wet, attacks metals such as aluminum, tin, lead & zinc to produce flammable hydrogen gas. POTASSIUM HYDROXIDE, SOLUTION is a strong base dissolved in water. Reacts exothermically with all acids. Slowly dissolves glass. Attacks aluminum and zinc to generate flammable hydrogen gas. Ignited a polyethylene container liner when mixed with potassium persulfate by release of heat and oxygen [MCA Case History 1155. 1955].

#### 10.4 Conditions to avoid

no data available

#### 10.5 Incompatible materials

Acids, water, metals (when wet), halogenated hydrocarbons, maleic anhydride [Note: Heat is generated if KOH comes in contact with water & carbon dioxide from the air].

#### 10.6 Hazardous decomposition products

When heated to decomposition it emits toxic fumes of K<sub>2</sub>O.

### 11. Toxicological information

#### Acute toxicity

Oral: LD<sub>50</sub> Rat oral 363 mg/kg bw/day

Inhalation: no data available

Dermal: no data available

#### Skin corrosion/irritation

no data available

#### Serious eye damage/irritation

no data available

#### Respiratory or skin sensitization

no data available

#### Germ cell mutagenicity

no data available

#### Carcinogenicity

no data available

#### Reproductive toxicity

no data available

#### STOT-single exposure

no data available

#### STOT-repeated exposure

no data available

#### Aspiration hazard

no data available

## 12. Ecological information

### 12.1 Toxicity

Toxicity to fish: no data available

Toxicity to daphnia and other aquatic invertebrates: no data available

Toxicity to algae: no data available

Toxicity to microorganisms: no data available

### 12.2 Persistence and degradability

no data available

### 12.3 Bioaccumulative potential

no data available

### 12.4 Mobility in soil

no data available

### 12.5 Other adverse effects

no data available

## 13. Disposal considerations

### 13.1 Disposal methods

#### Product

The material can be disposed of by removal to a licensed chemical destruction plant or by controlled incineration with flue gas scrubbing. Do not contaminate water, foodstuffs, feed or seed by storage or disposal. Do not discharge to sewer systems.

#### Contaminated packaging

Containers can be triply rinsed (or equivalent) and offered for recycling or reconditioning. Alternatively, the packaging can be punctured to make it unusable for other purposes and then be disposed of in a sanitary landfill. Controlled incineration with flue gas scrubbing is possible for combustible packaging materials.

## 14. Transport information

### 14.1 UN Number

ADR/RID: UN1813

IMDG: UN1813

IATA: UN1813

### 14.2 UN Proper Shipping Name

ADR/RID: POTASSIUM HYDROXIDE, SOLID

IMDG: POTASSIUM HYDROXIDE, SOLID

IATA: POTASSIUM HYDROXIDE, SOLID

### 14.3 Transport hazard class(es)

ADR/RID: 8

IMDG: 8

IATA: 8

### 14.4 Packing group, if applicable

ADR/RID: II

IMDG: II

IATA: II

### 14.5 Environmental hazards

ADR/RID: no

IMDG: no

IATA: no

### 14.6 Special precautions for user

no data available

### 14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

no data available

## 15. Regulatory information

### 15.1 Safety, health and environmental regulations specific for the product in question

Chemical name	Common names and synonyms	CAS number	EC number
potassium hydroxide	potassium hydroxide	1310-58-3	none
European Inventory of Existing Commercial Chemical Substances (EINECS)			Listed.
EC Inventory			Listed.
United States Toxic Substances Control Act (TSCA) Inventory			Listed.
China Catalog of Hazardous chemicals 2015			Listed.
New Zealand Inventory of Chemicals (NZIoC)			Listed.
Philippines Inventory of Chemicals and Chemical Substances (PICCS)			Listed.
Vietnam National Chemical Inventory			Listed.
Chinese Chemical Inventory of Existing Chemical Substances (China IECSC)			Listed.

## Section 16: Other Information

This safety data sheet should be used in conjunction with technical sheets. It does not replace them. The information given is based on our knowledge of this product, at the time of publication. It is given in good faith. The attention of the user is drawn to the possible risks incurred by using the product for any other purpose other than that for which it was intended. This does not in any way excuse the user from knowing and applying all the regulations governing his activity. It is the sole responsibility of the user to take all precautions required in handling the product. The aim of the mandatory regulations mentioned is to help the user to fulfill his obligations regarding the use of hazardous products.