

Safety Data Sheet POTASSIUM HYDROXIDE

SDS no. QFBP311N • Version 1.0 • Date of issue: 2024-09-02

SECTION 1: Identification

GHS Product identifier

Product name POTASSIUM HYDROXIDE

Other means of identification

Product	Product Code
POTASSIUM HYDROXIDE Pellet LR	PL161
POTASSIUM HYDROXIDE Flake LR	PL012
POTASSIUM HYDROXIDE Pellet AR	PA161
Caustic potash, Potassium hydrate, Lye	
POTASSIUM HYDROXIDE EP/BP Pellet	PP324

Recommended use of the chemical and restrictions on use

Soap manufacture, bleaching, paint removers, food additive, dyestuffs, liquid fertilizers, manufacture of potassium carbonate and tetrapotassium pyrophosphate, electrolyte in alkaline storage batteries and some fuel cells, absorbent for carbon dioxide and hydrogen sulfide, herbicides, electroplating, printing inks, photoengraving and lithography, mordant for wood, mercerizing cotton, organic synthesis, analytical chemistry and laboratory reagent.

Supplier's details

Name	ChemSupply Australia Pty Ltd
Address	38-50 Bedford Street 5013 Gillman South Australia Australia
Telephone	08 8440 2000
email	www.chemsupply.com.au

Emergency phone number

CHEMCALL 1800 127 406 (Australia) / +64-4-917-9888 (International)

SECTION 2: Hazard identification

General hazard statement

Classified as dangerous goods according to the Australian Dangerous Goods Code (ADG).

Classified as Hazardous according to the Globally Harmonised System of classification and labelling of Chemicals (GHS) including Work, Health and Safety regulations, Australia.

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Classification of the substance or mixture

GHS classification in accordance with: UN GHS revision 7

- Acute toxicity, oral, Cat. 4
- Serious eye damage/eye irritation, Cat. 1
- Skin corrosion/irritation, Cat. 1A
- Corrosive to metals, Cat. 1

GHS label elements, including precautionary statements

Pictograms



Signal word

Danger

Hazard statement(s)

H290
H302
H314

May be corrosive to metals
Harmful if swallowed
Causes severe skin burns and eye damage

Precautionary statement(s)

P260
P280
P301+P330+P331
P303+P361+P353

P304+P340
P305+P351+P338

Do not breathe dust/fume/gas/mist/vapors/spray.
Wear protective gloves/protective clothing/eye protection/face protection.
IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].
IF INHALED: Remove person to fresh air and keep comfortable for breathing.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
Immediately call a POISON CENTER/doctor/physician
Wash contaminated clothing before reuse.
Absorb spillage to prevent material-damage.
Store locked up.
Store in a corrosive resistant/... container with a resistant inner liner.
Dispose of contents/container to an approved waste disposal facility

SECTION 3: Composition/information on ingredients

Mixtures

Molecular weight: 56.11

Components

Component	CAS no.	Concentration
Potassium hydroxide (EC no.: 215-181-3; Index no.: 019-002-00-8)	1310-58-3	<= 100 % (weight)
CLASSIFICATIONS: Acute toxicity, oral, Cat. 4; Skin corrosion/irritation, Cat. 1A. HAZARDS: H302 - Harmful if swallowed; H314 - Causes severe skin burns and eye damage. [SCLs/M-factors/ATEs]: Skin Corr. 1A; H314: C ≥ 5 %; Skin Corr. 1B; H314: 2 % ≤ C < 5 %; Skin Irrit. 2; H315: 0,5 % ≤ C < 2 %; Eye Irrit. 2; H319: 0,5 % ≤ C < 2 %		

SECTION 4: First-aid measures

Description of necessary first-aid measures

General advice	Advice to Doctor: Burns are not immediately painful, onset of pain may be minutes to hours.
If inhaled	If inhaled, remove from contaminated area to fresh air immediately. Apply artificial respiration if not breathing. If breathing is difficult, give oxygen. Immediately medical attention is required.
In case of skin contact	Immediately remove contaminated clothing and wash affected area with water for at least 15 minutes. Ensure contaminated clothing is washed before re-use. Seek medical advice /attention depending on the severity.
In case of eye contact	If in eyes, hold eyelids apart and flush the eye continuously with running water. Continue flushing until advised to stop by the Poisons Information Centre or a doctor, or for at least 15 minutes. Seek immediate medical assistance.
If swallowed	Rinse mouth thoroughly with water immediately, repeat until all traces of product have been removed. DO NOT INDUCE VOMITING. Seek immediate medical advice.

Most important symptoms/effects, acute and delayed

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

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

For advice, contact the National Poisons Information Centre (Phone Australia 13 11 26; New Zealand 0800 764 766) or a doctor.

SECTION 5: Fire-fighting measures

Suitable extinguishing media

Small fire: Use dry chemical, CO2 or water spray.

Large fire: Use water spray, fog or foam - Do NOT use water jets.

If safe to do so, move undamaged containers from the fire area. Cool containers with flooding quantities of water until well after the fire is out. Avoid getting water inside the containers.

Specific hazards arising from the chemical

Hazards from Combustion Products: May liberate toxic fumes in fire (Carbon and potassium oxides).

Material does not burn. Fire or heat will produce irritating, poisonous and/or corrosive gases. Contact with metals may evolve flammable hydrogen gas.

Special protective actions for fire-fighters

Wear SCBA and chemical splash suit. Fully encapsulating, gas-tight suits should be worn for maximum protection. Structural firefighter's uniform is NOT effective for these materials.

SECTION 6: Accidental release measures

Personal precautions, protective equipment and emergency procedures

Evacuate the area of all non-essential personnel. Avoid inhalation, contact with skin, eyes and clothing.

Wear protective clothing specified for normal operations (see Section 8)

Methods and materials for containment and cleaning up

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Clean-up Methods - Large Spillages: Do NOT touch or walk through this product. Do NOT touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if safe to do so. Prevent entry into waterways, drains, confined areas. Cover with DRY earth, sand or other non-combustible material followed by plastic sheet to minimize spreading or contact with rain. DO NOT GET WATER INSIDE CONTAINERS.

SECTION 7: Handling and storage

Precautions for safe handling

Avoid generation or accumulation of dusts. Avoid prolonged or repeated contact with skin and eyes. Wash hands and face thoroughly after working with material. Contaminated clothing should be removed and washed before reuse. Use in well ventilated areas. In case of insufficient ventilation, wear suitable respiratory equipment.

When diluting or preparing solution, add caustic to water slowly in small amounts to avoid boiling and splattering. Never use hot water!

Conditions for safe storage, including any incompatibilities

Corrosiveness: Corrosive to aluminum, tin, copper and zinc. Corrosive to steel at elevated temperatures.

SECTION 8: Exposure controls/personal protection

Appropriate engineering controls

Use ventilation adequate to keep exposures (airborne levels of dust, fume, vapor, gas, etc.) below recommended exposure limits.

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

Eye/face protection

The use of a face shield, chemical goggles or safety glasses with side shield protection as appropriate. Must comply with Australian Standards AS 1337 and be selected and used in accordance with AS 1336.

Skin protection

Recommendation: Rubber or plastic gloves.

Hand Protection: Ensure hand protection complies with AS 2161, Occupational protective gloves - Selection, use and maintenance.

Body protection

Footwear: Safety boots in industrial situations is advisory, foot protection should comply with AS 2210, Occupational protective footwear - Guide to selection, care and use.

Clean clothing or protective clothing should be worn, preferably with an apron. Clothing for protection against chemicals should comply with AS 3765 Clothing for Protection Against Hazardous Chemicals.

Respiratory protection

Where ventilation is not adequate, respiratory protection may be required. Avoid breathing dust, vapours or mists. Respiratory protection should comply with AS 1716 - Respiratory Protective Devices and be selected in accordance with AS 1715 - Selection, Use and Maintenance of Respiratory Protective Devices. Filter capacity and respirator type depends on exposure levels. In event of emergency or planned entry into unknown concentrations a positive pressure, full-facepiece SCBA should be used. If respiratory protection is required, institute a complete respiratory protection program including selection, fit testing, training, maintenance and inspection.

SECTION 9: Physical and chemical properties

Basic physical and chemical properties

Physical state

Solid

Appearance

White flakes or pellets.

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Color	No data available.
Odor	Odourless.
Odor threshold	No data available.
Melting point/freezing point	360 °C
Boiling point or initial boiling point and boiling range	1320 °C
Flammability	No data available.
Lower and upper explosion limit/flammability limit	No data available.
Flash point	No data available.
Explosive properties	No data available.
Auto-ignition temperature	No data available.
Decomposition temperature	No data available.
Oxidizing properties	No data available.
pH	pH ~ 14 (50 g/l H ₂ O).
Kinematic viscosity	No data available.
Solubility	Solubility in Water: Soluble~1,130 g/L at 20°C. Solubility in Organic Solvents: Soluble in alcohol and glycerol. Insoluble in ether.
Partition coefficient n-octanol/water (log value)	No data available.
Vapor pressure	1 hPa (1 mmHg, @ 719 °C, 1326 °F).; 1 hPa (1 mmHg, @ 714 °C, 1317 °F).
Evaporation rate	No data available.
Density and/or relative density	Specific Gravity: 2.044 @ 20 °C
Relative vapor density	No data available.
Particle characteristics	No data available.

Supplemental information regarding physical hazard classes

No data available.

Further safety characteristics (supplemental)

No data available.

SECTION 10: Stability and reactivity

Reactivity

Stable under normal conditions of storage and handling.

Reacts with incompatible materials

Chemical stability

Stable under recommended storage conditions.

Absorbs water and carbon dioxide from the air.

Possibility of hazardous reactions

Contact with water, acids, flammable liquids, and organic halogen compounds (i.e. trichloroethylene) may risk of explosion or violent reaction, yielding heat and pressure which can burst an enclosed container. Contact with nitro compounds (i.e. nitromethane) can cause formation of shock sensitive salts. Contact with metals (i.e. aluminium, zinc, copper, magnesium, etc.), may produce formation of flammable hydrogen gas. Exothermic dissolution.

Conditions to avoid

Exposure to moisture. Heat, flames, ignition sources and incompatibles.

Incompatible materials

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Acids, azides, ammonium compounds, anhydride compounds, copper, chloro organic compounds, flammable liquids, halogens, halogenated compounds, magnesium, metals and light metals, maleic anhydride, nitro compounds, organic materials, organohalogen compounds, water.

Hazardous decomposition products

Carbon monoxide when reacting with carbohydrates and hydrogen gas when reacting with aluminium, zinc, and tin. Thermal oxidation can produce toxic fumes of potassium oxide.

SECTION 11: Toxicological information

Information on toxicological effects

Acute toxicity

Ingestion: Harmful if swallowed. Ingestion of flakes or pellets varies in degree of irritation depending on exposure. May cause violent pain in throat, vomiting, diarrhea, hematemesis, collapse and possible death. May cause perforation and burns of the digestive tract (oesophagus and stomach). If not immediately fatal, stricture of esophagus may develop.

Inhalation: Inhalation of dust or mist varies in degree of irritation depending on exposure. Irritation of the nose, throat and lungs with symptoms include sneezing, coughing, damage to the nasal or respiratory tract. High concentrations can cause lung damage (i.e. chemical pneumonitis).

Skin corrosion/irritation

Extremely corrosive. May cause severe burns with deep ulceration. Burns are not immediately painful, onset of pain may be minutes to hours.

Serious eye damage/irritation

Extremely corrosive. May penetrate deeply, causing severe burns. In severe cases, ulceration and permanent blindness may occur.

Respiratory or skin sensitization

No data available

Germ cell mutagenicity

No data available

Carcinogenicity

No data available.

Reproductive toxicity

No data available.

Summary of evaluation of the CMR properties

No data available.

Specific target organ toxicity (STOT) - single exposure

No data available.

Specific target organ toxicity (STOT) - repeated exposure

No data available.

Aspiration hazard

No data available.

Additional information

No data available.

SECTION 12: Ecological information

Toxicity

Harmful due to pH shift.

SECTION 13: Disposal considerations

Disposal methods

Product disposal

Waste material must be disposed of in accordance with the national and local regulations. Leave chemicals in original containers.

Other disposal recommendations

Do not discharge this material into waterways, drains and sewers.

SECTION 14: Transport information

ADG (Road and Rail)

UN Number: 1813

Class: 8

Packing Group: II

Proper Shipping Name: POTASSIUM HYDROXIDE, SOLID

Hazchem emergency action code (EAC)

2X

IMDG

UN Number: 1813

Class: 8

Packing Group: II

EMS Number:

Proper Shipping Name: POTASSIUM HYDROXIDE, SOLID

IATA

UN Number: 1813

Class: 8

Packing Group: II

Proper Shipping Name: POTASSIUM HYDROXIDE, SOLID

SECTION 15: Regulatory information

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

Australia SUSMP

Poison Schedule: S6

SECTION 16: Other information

Further information/disclaimer

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Standard for the Uniform Scheduling of Medicines and Poisons, Commonwealth of Australia

National Road Transport Commission, 'Australian Code for the Transport of Dangerous Goods by Road and Rail 7th. Ed.'

Safe Work Australia, 'National Code of Practice for the Preparation of Safety Data Sheets for Hazardous Chemicals', July 2020.

Safe Work Australia, 'National Guide for Classifying Hazardous Chemicals', July 2020.

Safe Work Australia, Workplace Exposure Standards for Airborne Contaminants, December 2019

Safe Work Australia, Hazardous Chemical Information System (HCIS), hcis.safeworkaustralia.gov.au

IATA, Dangerous Goods Regulations (DGR)

IMO, International Maritime Dangerous Goods Code (IMDG)