

1. IDENTIFICATION

Product Name	Caustic Potash
Other Names	Lye; Potassium hydrate
Uses	Cleaning/washing agents and additives; Flotation agents; pH regulation; lubricants and additives; bleaching agents; Laboratory chemical; Electroplating; Process regulators.
Chemical Family	No Data Available
Chemical Formula	KOH
Chemical Name	Potassium hydroxide
Product Description	No Data Available

Contact Details of the Supplier of this Safety Data Sheet

Organisation	Location	Telephone
Redox Pty Ltd	2 Swettenham Road Minto NSW 2566 Australia	+61-2-97333000
Redox Pty Ltd	11 Mayo Road Wiri Auckland 2104 New Zealand	+64-9-2506222
Redox Inc.	3960 Paramount Boulevard Suite 107 Lakewood CA 90712 USA	+1-424-675-3200
Redox Chemicals Sdn Bhd	Level 2, No. 8, Jalan Sapir 33/7 Seksyen 33, Shah Alam Premier Industrial Park 40400 Shah Alam Sengalor, Malaysia	+60-3-5614-2111

Emergency Contact Details

For emergencies only; DO NOT contact these companies for general product advice.

Organisation	Location	Telephone
Poisons Information Centre	Westmead NSW	1800-251525 131126
Chemcall	Australia	1800-127406 +64-4-9179888

2. HAZARD IDENTIFICATION

Poisons Schedule (Aust) Schedule 6

Globally Harmonised System

Hazard Classification	Hazardous according to the criteria of the Globally Harmonised System of Classification and Labelling of Chemicals (GHS)
Hazard Categories	Corrosive to Metals - Category 1 Acute Toxicity (Oral) - Category 4 Skin Corrosion/Irritation - Category 1B Serious Eye Damage/Irritation - Category 1



Pictograms



Signal Word

Danger

Hazard Statements

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

Precautionary Statements

- | | |
|------------|---|
| Prevention | <ul style="list-style-type: none"> P270 Do not eat, drink or smoke when using this product. P280 Wear protective gloves/protective clothing/eye protection/face protection. P260 Do not breathe dusts or mists. |
| Response | <ul style="list-style-type: none"> P301 + P330 + P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. P303 + P361 + P353 IF ON SKIN (or hair): Remove/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. P310 Immediately call a POISON CENTER or doctor/physician. P363 Wash contaminated clothing before reuse. P390 Absorb spillage to prevent material damage. |
| Storage | <ul style="list-style-type: none"> P405 Store locked up. P406 Store in corrosive resistant container with a resistant inner liner. |
| Disposal | <ul style="list-style-type: none"> P501 Dispose of contents/container in accordance with local / regional / national / international regulations. |

National Transport Commission (Australia)

Australian Code for the Transport of Dangerous Goods by Road & Rail (ADG Code)

Dangerous Goods Classification

Dangerous Goods according to the criteria of the Australian Code for the Transport of Dangerous Goods by Road & Rail (ADG Code)

3. COMPOSITION/INFORMATION ON INGREDIENTS

Ingredients

Chemical Entity	Formula	CAS Number	Proportion
Potassium hydroxide	KOH	1310-58-3	<=100 %

4. FIRST AID MEASURES

Description of necessary measures according to routes of exposure

- Swallowed** IF SWALLOWED: Rinse mouth, then drink plenty of water. Do NOT induce vomiting. Immediately call a Poison Centre or doctor/physician for advice. Keep victim calm and warm - Obtain immediate medical care. Never give anything by mouth to an unconscious person.
- Eye** IF IN EYES: Immediately flush eyes with running water for several minutes, holding eyelids open and occasionally lifting the upper and lower lids. Remove contact lenses if present and easy to do. Continue rinsing for at least 15 minutes. Immediately call a Poison Centre or doctor/physician for advice - Obtain immediate medical care.
- Skin** IF ON SKIN (or hair): Remove contaminated clothing and shoes immediately. Flush skin and hair with running water



for at least 15 minutes. For gross contamination, drench contaminated clothing and skin with plenty of water before removing clothes. For minor skin contact, avoid spreading material on unaffected skin. Immediately call a Poison Centre or doctor/physician for advice. In case of burns, cover with a clean, dry dressing - Obtain immediate medical care.

Inhaled	IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Immediately call a Poison Centre or doctor/physician for advice. Apply resuscitation if victim is not breathing - Do not use direct mouth-to-mouth method if victim ingested or inhaled the substance; use alternative respiratory method or proper respiratory device. Administer oxygen if breathing is difficult. Keep victim calm and warm - Obtain immediate medical care.
Advice to Doctor	Symptoms may be delayed - Medical observation and assessment is recommended for all exposures. Treat symptomatically. Ensure that attending medical personnel are aware of the identity and nature of the product(s) involved, and take precautions to protect themselves.
Medical Conditions Aggravated by Exposure	May aggravate pre-existing eye, skin and respiratory conditions (including asthma and other breathing disorders).

5. FIRE FIGHTING MEASURES

General Measures	If safe to do so, move undamaged containers from fire area. Cool containers with water spray until well after fire is out. Avoid getting water inside containers.
Flammability Conditions	Non-combustible; Material does not burn.
Extinguishing Media	If material is involved in a fire, use dry chemical, Carbon dioxide (CO ₂), foam or water spray for extinction - Do not use water jets.
Fire and Explosion Hazard	Risk of violent reaction or explosion: Contact with metals may evolve flammable hydrogen gas. Contact with moisture or water may generate sufficient heat to ignite combustible materials. Containers may explode when heated.
Hazardous Products of Combustion	Fire or heat will produce irritating, toxic and/or corrosive gases, including Potassium oxides.
Special Fire Fighting Instructions	Contain runoff from fire control water or dilution water - Runoff may be toxic and/or corrosive and pollute waterways.
Personal Protective Equipment	Liquid-tight chemical protective clothing (splash suit) in combination with self-contained breathing apparatus (SCBA) should be worn.
Flash Point	No Data Available
Lower Explosion Limit	No Data Available
Upper Explosion Limit	No Data Available
Auto Ignition Temperature	No Data Available
Hazchem Code	2W

6. ACCIDENTAL RELEASE MEASURES

General Response Procedure	Ventilate enclosed spaces before entering. ELIMINATE all ignition sources (no smoking, flares, sparks or flames). Do not touch or walk through spilled material. Avoid dust formation. Do not breathe dust; Prevent contact with eyes, skin and clothing.
Clean Up Procedures	Collect material (sweep or vacuum up) and place it into suitable containers for later disposal (see SECTION 13).
Containment	Stop leak if safe to do so – Prevent entry into waterways, drains or confined areas. Prevent dust cloud. Cover with dry earth, sand or other non-combustible material followed by a plastic sheet to minimise spreading or contact with rain. Do NOT get water inside containers.
Decontamination	Wash away remainder with plenty of water.
Environmental Precautionary Measures	Spillages and decontamination runoff should be prevented from entering drains and watercourses.
Evacuation Criteria	Spill or leak area should be isolated immediately. Keep unauthorised personnel away. Keep upwind and to higher ground. Large spill: Consider initial downwind evacuation of areas within at least 250 m; Immediately contact Police or Fire Brigade.
Personal Precautionary Measures	Do not touch damaged containers or spilled material unless wearing appropriate protective clothing (see SECTION 8). Large spill: Wear self-contained breathing apparatus (SCBA) and chemical splash suit.



7. HANDLING AND STORAGE

Handling	Safety showers and eyewash facilities should be provided within the immediate work area for emergency use. Ensure adequate ventilation (local exhaust or respiratory protection required). Handle in accordance with good industrial hygiene and safety practice. Avoid dust formation. Do not breathe dust; Prevent contact with eyes, skin and clothing. Wear protective gloves/protective clothing/eye protection/face protection (see SECTION 8). To avoid violent reaction, ALWAYS add material to water and NEVER water to material. Absorb spillage to prevent material damage.
Storage	Store in a cool, dry and well-ventilated place, in an area having corrosion-resistant concrete floor. Keep container tightly closed - Check regularly for spills. Avoid exposure to moisture/humidity. Avoid exposure to air. Keep away from food, feedstuffs and incompatible materials (see SECTION 10). Store locked up.
Container	Keep only in the original container or corrosive resistant container/container with a resistant inner liner.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

General	SUBSTANCE: Potassium hydroxide (CAS No. 1310-58-3); - Safe Work Australia Exposure Standard: TWA = 2 mg/m ³ (Peak limitation). - New Zealand WES: TWA = 2 mg/m ³ (Ceiling). - NIOSH REL: TWA = 2 mg/m ³ (Ceiling).
Exposure Limits	No Data Available
Biological Limits	No information available.
Engineering Measures	A system of local and/or general exhaust is recommended to keep employee exposures as low as possible. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at its source, preventing dispersion of it into the general work area.
Personal Protection Equipment	- Respiratory protection: Wear respiratory protection in case of inadequate ventilation or if an inhalation risk exists. Recommended: Full-face particle respirator (filter type N100 or P3) as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards. - Eye/face protection: Wear appropriate eye protection to prevent eye contact. Recommended: Chemical goggles or Face-shield and safety glasses. Use equipment for eye protection tested and approved under appropriate government standards. - Hand protection: Wear protective gloves. Recommended (full/splash contact): Impervious gloves, e.g. Nitrile rubber (Minimum layer thickness: 0.11 mm; Break through time: 480 min). - Skin/body protection: Wear appropriate personal protective clothing to prevent skin contact. Recommended: Overalls, safety shoes. The type of protective equipment must be selected according to the concentration and amount of the hazardous substance(s) at the specific workplace.
Special Hazards Precautions	No information available.
Work Hygienic Practices	Do not eat, drink or smoke when using this product. Wash hands before breaks and at the end of workday. Wash contaminated clothing and other protective equipment before storage or re-use.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State	Solid
Appearance	Deliquescent solid; lumps, rods, sticks, pellets, flakes
Odour	Odourless
Colour	Colourless, white, off-white or slightly yellow
pH	13.5 0.1 M soln.
Vapour Pressure	1 mmHg (@ 714 °C)
Relative Vapour Density	No Data Available
Boiling Point	1,324 °C
Melting Point	380 °C
Freezing Point	No Data Available
Solubility	110 g/100 ml water - Soluble in ethanol 25°C
Specific Gravity	2.04 (Water = 1)
Flash Point	No Data Available



Auto Ignition Temp	No Data Available
Evaporation Rate	No Data Available
Bulk Density	No Data Available
Corrosion Rate	No Data Available
Decomposition Temperature	No Data Available
Density	2.04 g/cm ³
Specific Heat	No Data Available
Molecular Weight	56.10 g/mol
Net Propellant Weight	No Data Available
Octanol Water Coefficient	No Data Available
Particle Size	No Data Available
Partition Coefficient	No Data Available
Saturated Vapour Concentration	No Data Available
Vapour Temperature	No Data Available
Viscosity	No Data Available
Volatile Percent	No Data Available
VOC Volume	No Data Available
Additional Characteristics	Deliquescent - Rapidly absorbs Carbon dioxide and water from air.
Potential for Dust Explosion	No information available.
Fast or Intensely Burning Characteristics	No information available.
Flame Propagation or Burning Rate of Solid Materials	No information available.
Non-Flammables That Could Contribute Unusual Hazards to a Fire	Contact with moisture or water may generate sufficient heat to ignite combustible materials.
Properties That May Initiate or Contribute to Fire Intensity	Non-combustible; Material does not burn.
Reactions That Release Gases or Vapours	Fire or heat will produce irritating, toxic and/or corrosive gases, including Potassium oxides.
Release of Invisible Flammable Vapours and Gases	Contact with metals may evolve flammable hydrogen gas.

10. STABILITY AND REACTIVITY

General Information	The substance is a strong base, it reacts violently with acid and is corrosive in moist air to metals such as zinc, aluminium, tin and lead, evolving flammable hydrogen gas. Reacts with ammonium salts to produce ammonia and causing fire hazard. Attacks some forms of plastics, rubber or coatings. Rapidly absorbs carbon dioxide and water from air. Contact with moisture or water will generate heat.
Chemical Stability	This material is stable under recommended storage at normal temperature and pressure.
Conditions to Avoid	Avoid dust formation. Avoid exposure to moisture/humidity. Avoid exposure to air. Avoid contact with organic materials.
Materials to Avoid	Incompatible/reactive with strong acids, water, metals (when wet), ammonium salts, halogenated hydrocarbons, maleic anhydride.
Hazardous Decomposition Products	Fire or heat will produce irritating, toxic and/or corrosive gases, including Potassium oxides.
Hazardous Polymerisation	Will not occur.

11. TOXICOLOGICAL INFORMATION

General Information	- Acute toxicity: Harmful if swallowed; Corrosive to the gastrointestinal tract, causing abdominal pain, burning sensation, perforation of upper and lower gastrointestinal tissues, shock or collapse.
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- Skin corrosion/irritation: Causes severe skin burns; Corrosive to skin, causing redness, pain, blisters, liquefaction of skin and damage to underlying tissues, deep and painful wounds.
- Eye damage/irritation: Causes serious eye damage; Corrosive to eyes, causing redness, pain, blurred vision, severe deep burns; Can result in permanent injury, blindness.
- Respiratory/skin sensitisation: Not considered to be a skin sensitiser.
- Germ cell mutagenicity: Chronic, systemic health effects are not expected.
- Carcinogenicity: Chronic, systemic health effects are not expected.
- Reproductive toxicity: Chronic, systemic health effects are not expected.
- STOT (single exposure): Corrosive to the respiratory tract, causing burning sensation, cough, sore throat, laboured breathing, shortness of breath, possible pulmonary edema. Symptoms may be delayed.
- STOT (repeated exposure): Chronic, systemic health effects are not expected. Prolonged or repeat skin exposures can result in dermatitis.
- Aspiration toxicity: No information available.

Acute

Ingestion Acute toxicity (Oral):
- LD50, Rats: 273 - 1,230 mg/kg bw.

Carcinogen Category None

12. ECOLOGICAL INFORMATION

Ecotoxicity Aquatic toxicity:
- LC50, Fish (Gambusia affinis): 80 mg/l (96 h).
- EC50, Crustacea (Daphnia magna): 660 mg/l (48 h).
- EC50, Algae (Nitscheria linearis): 1,337 mg/l (120 h).

Persistence/Degradability This material is believed to exist in the disassociated state in the environment.

Mobility Not expected to be absorbed in soil due to its dissociation properties and high water solubility.

Environmental Fate This material is alkaline and may raise the pH of surface waters with low buffering capacity. Harmful to aquatic life - Prevent entry into drains and waterways.

Bioaccumulation Potential Not expected to bioconcentrate in organisms.

Environmental Impact No Data Available

13. DISPOSAL CONSIDERATIONS

General Information Dispose of contents/container via a licensed disposal company and in accordance with local/regional/national regulations.
- Waste treatment method(s): Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber.

Special Precautions for Land Fill Contaminated packaging: Dispose of as unused product.

14. TRANSPORT INFORMATION

Land Transport (Australia)

ADG Code

Proper Shipping Name POTASSIUM HYDROXIDE, SOLID
Class 8 Corrosive Substances
Subsidiary Risk(s) No Data Available
EPG 37 Toxic And/Or Corrosive Substances Non-Combustible
UN Number 1813
Hazchem 2W
Pack Group II



Special Provision No Data Available

Sea Transport

IMDG Code

Proper Shipping Name POTASSIUM HYDROXIDE, SOLID
Class 8 Corrosive Substances
Subsidiary Risk(s) No Data Available
UN Number 1813
Hazchem 2W
Pack Group II
Special Provision No Data Available
EMS F-A, S-B
Marine Pollutant No

Air Transport

IATA DGR

Proper Shipping Name POTASSIUM HYDROXIDE, SOLID
Class 8 Corrosive Substances
Subsidiary Risk(s) No Data Available
UN Number 1813
Hazchem 2W
Pack Group II
Special Provision No Data Available

National Transport Commission (Australia)

Australian Code for the Transport of Dangerous Goods by Road & Rail (ADG Code)

Dangerous Goods Classification Dangerous Goods according to the criteria of the Australian Code for the Transport of Dangerous Goods by Road & Rail (ADG Code)

15. REGULATORY INFORMATION

General Information No Data Available

Poisons Schedule (Aust) Schedule 6

National/Regional Inventories

Australia (AICS) Listed
Canada (DSL) Not Determined
Canada (NDSL) Not Determined
China (IECSC) Not Determined
Europe (EINECS) 215-181-3
Europe (REACH) Not Determined
Japan (ENCS/METI) Not Determined
Korea (KECI) Not Determined



Malaysia (EHS Register)	Not Determined
New Zealand (NZIoC)	Listed
Philippines (PICCS)	Not Determined
Switzerland (Giftliste 1)	Not Determined
Switzerland (Inventory of Notified Substances)	Not Determined
Taiwan (NCSR)	Not Determined
USA (TSCA)	Not Determined

16. OTHER INFORMATION

Related Product Codes CAPOTA0600, CAPOTA0700, CAPOTA0800, CAPOTA0900, CAPOTA0950, CAPOTA1000, CAPOTA1001, CAPOTA1002, CAPOTA1003, CAPOTA1004, CAPOTA1005, CAPOTA1006, CAPOTA1007, CAPOTA1008, CAPOTA1009, CAPOTA1010, CAPOTA1011, CAPOTA1012, CAPOTA1013, CAPOTA1014, CAPOTA1015, CAPOTA1016, CAPOTA1017, CAPOTA1018, CAPOTA1019, CAPOTA1020, CAPOTA1050, CAPOTA1100, CAPOTA1200, CAPOTA1201, CAPOTA1202, CAPOTA1203, CAPOTA1204, CAPOTA1205, CAPOTA1206, CAPOTA1207, CAPOTA1208, CAPOTA1209, CAPOTA1210, CAPOTA1211, CAPOTA1212, CAPOTA1213, CAPOTA1214, CAPOTA1215, CAPOTA1216, CAPOTA1217, CAPOTA1218, CAPOTA1219, CAPOTA1220, CAPOTA1221, CAPOTA1222, CAPOTA1223, CAPOTA1224, CAPOTA1225, CAPOTA1226, CAPOTA1227, CAPOTA1228, CAPOTA1229, CAPOTA1230, CAPOTA1231, CAPOTA1232, CAPOTA1233, CAPOTA1234, CAPOTA1235, CAPOTA1236, CAPOTA1237, CAPOTA1238, CAPOTA1239, CAPOTA1240, CAPOTA1241, CAPOTA1242, CAPOTA1243, CAPOTA1244, CAPOTA1245, CAPOTA1250, CAPOTA1270, CAPOTA1300, CAPOTA1350, CAPOTA1351, CAPOTA1352, CAPOTA1353, CAPOTA1360, CAPOTA1400, CAPOTA1500, CAPOTA1600, CAPOTA1700, CAPOTA1800, CAPOTA1813, CAPOTA1814, CAPOTA1815, CAPOTA1816, CAPOTA1817, CAPOTA1818, CAPOTA1819, CAPOTA1824, CAPOTA1826, CAPOTA1827, CAPOTA1828, CAPOTA1829, CAPOTA1830, CAPOTA1831, CAPOTA1832, CAPOTA1833, CAPOTA1834, CAPOTA1835, CAPOTA1836, CAPOTA1837, CAPOTA1838, CAPOTA1839, CAPOTA1840, CAPOTA1841, CAPOTA1842, CAPOTA1843, CAPOTA1844, CAPOTA1845, CAPOTA1846, CAPOTA1847, CAPOTA1848, CAPOTA1849, CAPOTA1850, CAPOTA1851, CAPOTA1852, CAPOTA1853, CAPOTA1854, CAPOTA1855, CAPOTA1856, CAPOTA1857, CAPOTA1858, CAPOTA1859, CAPOTA1860, CAPOTA1861, CAPOTA1862, CAPOTA1863, CAPOTA1864, CAPOTA1869, CAPOTA1870, CAPOTA1871, CAPOTA1872, CAPOTA1873, CAPOTA1874, CAPOTA1875, CAPOTA1876, CAPOTA1877, CAPOTA1878, CAPOTA1879, CAPOTA1880, CAPOTA1881, CAPOTA1882, CAPOTA1883, CAPOTA1884, CAPOTA1885, CAPOTA1900, CAPOTA1901, CAPOTA1920, CAPOTA2000, CAPOTA2100, CAPOTA2150, CAPOTA2155, CAPOTA2250, CAPOTA2255, CAPOTA2500, CAPOTA3000, CAPOTA3001, CAPOTA3002, CAPOTA3003, CAPOTA3004, CAPOTA3005, CAPOTA3010, CAPOTA3011, CAPOTA3020, CAPOTA3030, CAPOTA3031, CAPOTA3050, CAPOTA3060, CAPOTA3100, CAPOTA3101, CAPOTA3102, CAPOTA3103, CAPOTA3104, CAPOTA3500, CAPOTA4000, CAPOTA4001, CAPOTA4002, CAPOTA4003, CAPOTA4600, CAPOTA4700, CAPOTA5000, CAPOTA5100, CAPOTA6000, CAPOTA7000, CAPOTA7500, CAPOTA8000, CAPOTA8050, CAPOTA9000, CAPOTA9050, CAPOTB4400, CAPOTB4500, CAPOTB4501, CAPOTB4502

Revision	3
Revision Date	31 Jul 2018
Key/Legend	<p>< Less Than > Greater Than AICS Australian Inventory of Chemical Substances atm Atmosphere CAS Chemical Abstracts Service (Registry Number) cm² Square Centimetres CO₂ Carbon Dioxide COD Chemical Oxygen Demand deg C (°C) Degrees Celcius EPA (New Zealand) Environmental Protection Authority of New Zealand deg F (°F) Degrees Fahrenheit g Grams g/cm³ Grams per Cubic Centimetre g/l Grams per Litre HSNO Hazardous Substance and New Organism IDLH Immediately Dangerous to Life and Health immiscible Liquids are insoluble in each other. inHg Inch of Mercury inH₂O Inch of Water</p>



K Kelvin
kg Kilogram
kg/m³ Kilograms per Cubic Metre
lb Pound
LC50 LC stands for lethal concentration. LC50 is the concentration of a material in air which causes the death of 50% (one half) of a group of test animals. The material is inhaled over a set period of time, usually 1 or 4 hours.
LD50 LD stands for Lethal Dose. LD50 is the amount of a material, given all at once, which causes the death of 50% (one half) of a group of test animals.
ltr or **L** Litre
m³ Cubic Metre
mbar Millibar
mg Milligram
mg/24H Milligrams per 24 Hours
mg/kg Milligrams per Kilogram
mg/m³ Milligrams per Cubic Metre
Misc or **Miscible** Liquids form one homogeneous liquid phase regardless of the amount of either component present.
mm Millimetre
mmH₂O Millimetres of Water
mPa.s Millipascals per Second
N/A Not Applicable
NIOSH National Institute for Occupational Safety and Health
NOHSC National Occupational Health and Safety Commission
OECD Organisation for Economic Co-operation and Development
Oz Ounce
PEL Permissible Exposure Limit
Pa Pascal
ppb Parts per Billion
ppm Parts per Million
ppm/2h Parts per Million per 2 Hours
ppm/6h Parts per Million per 6 Hours
psi Pounds per Square Inch
R Rankine
RCP Reciprocal Calculation Procedure
STEL Short Term Exposure Limit
TLV Threshold Limit Value
tne Tonne
TWA Time Weighted Average
ug/24H Micrograms per 24 Hours
UN United Nations
wt Weight

