

Safety Data Sheet SODIUM HYDROXIDE

SDS no. FB4MH9MJ • Version 1.0 • Date of issue: 2024-08-31

SECTION 1: Identification

GHS Product identifier

Product name SODIUM HYDROXIDE

Other means of identification

Product Name Product Code

| | |
|--------------------------------|-------|
| Sodium Hydroxide AR Minipearl | SA000 |
| Sodium Hydroxide Pellet ARI | SA178 |
| Sodium Hydroxide LR Minipearl | SL000 |
| Sodium Hydroxide Pellet LRI | SL178 |
| Sodium Hydroxide Minipearl TGI | ST000 |

Recommended use of the chemical and restrictions on use

Acid neutralisation, chemical manufacture, rayon, cellophane, petroleum refining, pulp and paper, aluminium, detergents, soap, cellulose, textile processing, vegetable oil refining, plastics, explosives, dyestuffs, paint and paint remover, metal cleaning, etching and electroplating, reclaiming rubber, regenerating ion exchange resins, organic fusions, peeling of fruits and vegetables in food industry, cleaning products, food additive and laboratory reagent. Note these grades of sodium hydroxide are food grade.

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.

Dangerous goods of Class 8 (Corrosive) are incompatible in a placard load with any of the following:

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Class 1, Class 4.3, Class 5, Class 6, if the Class 6 dangerous goods are cyanides and the Class 8 dangerous goods are acids, Class 7; and are incompatible with food and food packaging in any quantity.

Not to be loaded on the same vehicle with strong acids.

Classification of the substance or mixture

GHS classification in accordance with: UN GHS revision 7

- Serious eye damage/eye irritation, Cat. 1
- Skin corrosion/irritation, Cat. 1A
- Specific target organ toxicity following single exposure, Cat. 3
- Corrosive to metals, Cat. 1

GHS label elements, including precautionary statements

Pictograms



Signal word

Danger

Hazard statement(s)

H290

May be corrosive to metals

H314

Causes severe skin burns and eye damage

H335

May cause respiratory irritation

Precautionary statement(s)

P260

Do not breathe dust/fume/gas/mist/vapors/spray.

P271

Use only outdoors or in a well-ventilated area.

P280

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

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].

P304+P340

IF INHALED: Remove person to fresh air and keep 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/doctor/physician

P363

Wash contaminated clothing before reuse.

P390

Absorb spillage to prevent material-damage.

P403+P233

Store in a well-ventilated place. Keep container tightly closed.

P405

Store locked up.

P406

Store in a corrosive resistant/... container with a resistant inner liner.

P501

Dispose of contents/container to an approved waste disposal facility

SECTION 3: Composition/information on ingredients

Mixtures

Molecular weight: 40.01

Components

| Component | CAS no. | Concentration |
|---|-----------|----------------|
| Sodium hydroxide (EC no.: 215-185-5; Index no.: 011-002-00-6) | 1310-73-2 | 100 % (weight) |

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CLASSIFICATIONS: Skin corrosion/irritation, Cat. 1A; Serious eye damage/eye irritation, Cat. 1; Specific target organ toxicity following single exposure, Cat. 3.
HAZARDS: H314 - Causes severe skin burns and eye damage; H318 - Causes serious eye damage; H335 - May cause respiratory irritation. [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: In severe cases, where excessive amounts of sodium hydroxide has been ingested, endoscopy should be performed to determine the severity of the oesophageal burns. |
| If inhaled | If inhaled, remove from contaminated area to fresh air immediately. Apply artificial respiration if not breathing. If breathing is difficult, give oxygen. Get medical aid if cough or other symptoms appear. |
| In case of skin contact | Wash affected areas with copious quantities of water immediately. Remove contaminated clothing and wash before re-use. Seek urgent medical assistance. |
| In case of eye contact | If contact with the eye(s) occurs, wash with copious amounts of water for approximately 15 minutes holding eyelid(s) open. Take care not to rinse contaminated water into the non-affected eye. Seek medical attention. If available, a neutral saline solution may be used to flush the contaminated eye/s an additional 30 minutes. |
| 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 in an emergency, contact a Poisons Information Centre (Phone Australia 131 126) or a doctor at once.

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 (sodium oxide).

Material does not burn. Fire or heat will produce irritating, poisonous and/or corrosive gases.

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 substance contact. Avoid generation of dusts: do not inhale dusts. Ensure supply of fresh air in enclosed rooms.

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

Methods and materials for containment and cleaning up

Sweep up (avoid generating dust) and remove to a suitable, clearly labelled container for disposal in accordance with local regulations.

Seek expert advice on handling and disposal.

Avoid release to the environment.

SECTION 7: Handling and storage

Precautions for safe handling

Avoid generation or accumulation of dusts. Contaminated clothing should be removed and washed before reuse. Application of skin-protective barrier cream is recommended. Wash hands and face thoroughly after working with material. Use in well ventilated areas away from all ignition sources. In case of insufficient ventilation, wear suitable respiratory equipment. When diluting or preparing solution, add caustic to water in small amounts to avoid boiling and splattering.

Conditions for safe storage, including any incompatibilities

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

Store in a cool, dry place. Store away from acids. Keep containers securely sealed and protected against physical damage.

Other Information: Containers made of nickel alloys are preferred. Steel containers are acceptable if temperatures are not elevated.

SECTION 8: Exposure controls/personal protection

Control parameters

CAS: 1310-73-2

Sodium hydroxide

ACGIH (USA): (C) 2 mg/m³ TLV® inhalation; AU/SWA (Australia): 2 Peak limitation mg/m³ TWA inhalation;

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

Clean impervious clothing should be worn. Clothing for protection against chemicals should comply with AS 3765 Clothing for Protection Against Hazardous Chemicals.

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.

Body Protection: 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

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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, deliquescent flakes, pellets or minipeal. |
| Color | No data available. |
| Odor | Odourless. |
| Odor threshold | Odourless. |
| Melting point/freezing point | 318 - 323 °C |
| Boiling point or initial boiling point and boiling range | 1390 °C @ 760 mm Hg |
| Flammability | Non-combustible. |
| 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 | 12 (0.05% soln); 13 (1% soln); 14 (5% soln) |
| Kinematic viscosity | No data available. |
| Solubility | Solubility in Water: Soluble. Solubility in Organic Solvents: Soluble in alcohol and glycerol. Insoluble in acetone and ether. |
| Partition coefficient n-octanol/water (log value) | No data available. |
| Vapor pressure | No data available. |
| Evaporation rate | No data available. |
| Density and/or relative density | Specific Gravity: 2.130 @ 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)

Other Information: Absorbs water and carbon dioxide from the air.

SECTION 10: Stability and reactivity

Reactivity

Stable under normal conditions of storage and handling.

Reacts with incompatible materials

Chemical stability

Slowly absorbs moisture from air, reacting with carbon dioxide and forming sodium carbonate.

Possibility of hazardous reactions

May react violently with strong acids. In contact with water, reaction may generate enough heat to ignite combustible materials. In contact with metals, reaction may produce flammable and explosive hydrogen gas. May react with organohalogen compounds to form spontaneously combustible compounds. May react explosively in contact with nitro and chloro organic compounds. May form explosive products with ammonia plus silver nitrate, benzene and benzene sulfonyl chloride, tetrahydrofuran, sodium tetrahydroborate, and trichlorophenol sodium salt plus methyl alcohol plus tichlorobenzene plus heat.

Hazardous Polymerization: Will not occur.

Conditions to avoid

Exposure to moisture.

Avoid storing in direct sunlight and avoid extremes of temperature.

Incompatible materials

Strong acids, ally alcohol, ally chloride, phosphorous, metals (aluminium, magnesium, tin, zinc), nitro compounds (nitroethane, nitromethane, nitroparaggins, nitropropane) and chloro organic compounds, organic halogen compounds (trichloroethylene), water.

Sodium hydroxide : Caustic soda reacts with all the mineral acids to form the corresponding salts. It also reacts with weak-acid gases, such as hydrogen sulfide, sulfur dioxide, and carbon dioxide. Caustic soda reacts with amphoteric metals (Al, Zn, Sn) and their oxides to form complex anions such as AlO_2^- , ZnO_2^{2-} , SnO_2^{2-} , and H_2 (or H_2O with oxides). All organic acids also react with sodium hydroxide to form soluble salts. Another common reaction of caustic soda is dehydrochlorination.

Hazardous decomposition products

Sodium oxide.

Sodium hydroxide : Sodium oxides

SECTION 11: Toxicological information

Information on toxicological effects

Acute toxicity

Ingestion: Corrosive. Swallowing may cause severe burns of mouth, throat, and stomach. Severe scarring of tissue and death may result. Similar symptoms may be experienced as for inhalation with, severe pain, severe scarring of tissue, diarrhea, bleeding, vomiting, fall in blood pressure, collapse and death. Damage may appear days after exposure. Risk of perforation in the oesophagus and stomach.

Inhalation: H335 May cause respiratory irritation. Severe irritant. Effects from inhalation of dust or mist vary from mild irritation to serious damage or burns of the mucous membranes of the upper respiratory tract, depending on severity of exposure. Symptoms may include coughing, wheezing, laryngitis, shortness of breath, nausea, vomiting, sneezing, sore throat or runny nose. Severe chemical pneumonitis and pulmonary edema may occur.

Skin corrosion/irritation

Corrosive. Contact with skin causes severe burns and scarring. Can penetrate deeply. Burns are not immediately painful, onset of pain and irritation may be minutes to hours.

Serious eye damage/irritation

Corrosive. Causes severe burns. Can penetrate deeply. In severe cases, ulceration, permanent impairment of vision and permanent blindness may occur.

Respiratory or skin sensitization

No data available

Germ cell mutagenicity

No data available.

Carcinogenicity

No data available.

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Reproductive toxicity

No data available.

Summary of evaluation of the CMR properties

No data available.

Specific target organ toxicity (STOT) - single exposure

May cause respiratory irritation.

Specific target organ toxicity (STOT) - repeated exposure

No data available

Aspiration hazard

No data available

Additional information

Chronic Effects: Prolonged contact with dilute solution or dust has destructive effects upon tissue.

SECTION 12: Ecological information

Toxicity

Toxic for aquatic organisms. Harmful effect due to pH shift.

Persistence and degradability

Methods for the determination of biodegradability are not applicable to inorganic substances.

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: 1823

Class: 8

Packing Group: II

Proper Shipping Name: SODIUM HYDROXIDE, SOLID

Hazchem emergency action code (EAC)

2X

IMDG

UN Number: 1823

Class: 8

Packing Group: II

EMS Number:

Proper Shipping Name: SODIUM HYDROXIDE, SOLID

IATA

UN Number: 1823

Class: 8

Packing Group: II

Proper Shipping Name: SODIUM 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

ChemSupply Australia Pty Ltd does not warrant that this product is suitable for any use or purpose. The user must ascertain the suitability of the product before use or application intended purpose. Preliminary testing of the product before use or application is recommended. Any reliance or purported reliance upon ChemSupply Australia Pty Ltd with respect to any skill or judgement or advice in relation to the suitability of this product of any purpose is disclaimed. Except to the extent prohibited at law, any condition implied by any statute as to the merchantable quality of this product or fitness for any purpose is hereby excluded. This product is not sold by description. Where the provisions of Part V, Division 2 of the Trade Practices Act apply, the liability of ChemSupply Australia Pty Ltd is limited to the replacement of supply of equivalent goods or payment of the cost of replacing the goods or acquiring equivalent goods.

Preparation information

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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)