



ABN: 81 008 668 371

MATERIAL SAFETY DATA SHEET

Sodium Hydroxide (50% Solution)

Section 1 – Identification of the Material and Supplier

Product Name

Sodium Hydroxide (50% Solution).

Other names

Sodium hydroxide solution, caustic soda, lye solution. Company product 1290.

Recommended use

Water treatment, soap manufacture, chemical synthesis, mineral processing.

Company name

CSBP Limited

Address

Kwinana Beach Road, KWINANA

State

Western Australia

Postcode

6167

Telephone number

(08) 9411 8777 (Australia), +61 8 9411 8777 (Overseas)

Emergency telephone number

1800 093 333 (Australia), +61 8 9411 8444

Section 2 – Hazard Identification

Hazard Classification, including a statement of overall hazardous nature

HAZARDOUS SUBSTANCE.

Sodium hydroxide (50% solution) is classified as hazardous and specified in the NOHSC of Designated Hazardous Substances [NOHSC:10005(1999)].

DANGEROUS GOODS.

Sodium hydroxide (50% solution) is classified for physicochemical hazards and specified as dangerous in the Australian Code for the Transport of Dangerous Goods by Road and Rail (ADG Code), 7th Edition, (FORS, 2007).

Risk Phrases

Sodium hydroxide (50% solution) is classified as corrosive.

- R22** Harmful if swallowed.
R35 Causes severe burns.
R41 Risk of serious damage to eyes.

Safety Phrases

Sodium hydroxide (50% solution) is a hazardous substance.

- S1/2** Keep locked up, out of the reach of children.
S24/25 Avoid contact with skin and eyes.
S26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
S27 Take off immediately all contaminated clothing.
S28 After contact with skin, wash immediately with plenty of water.
S36/37/39 Wear suitable protective clothing, gloves and eye/face protection.
S45 In case of accident or if you feel unwell seek medical attention immediately (show the label where possible).

Poison Schedule

SUSDP Poison Schedule 6.



ABN: 81 008 668 371

MATERIAL SAFETY DATA SHEET

Sodium Hydroxide (50% Solution)

Section 3 – Composition/Information on Ingredients

Chemical identity of ingredients	Proportion of ingredients	CAS Number for ingredients
Sodium hydroxide	47 to 50 % (wt/wt)	1310-73-2
Sodium carbonate	Less than 0.5 % (wt/wt)	497-19-8
Water	Remainder	

Section 4 – First Aid Measures

First Aid

TO BE EFFECTIVE, FIRST AID MUST BE PROMPT.

SODIUM HYDROXIDE (50% SOLUTION) IS EXTREMELY CORROSIVE AND CAUSES SEVERE BURNS ON CONTACT.

OF PRIME IMPORTANCE IS THE PROTECTION OF THE RESCUER. NO ATTEMPT AT RESCUE SHOULD BE PERFORMED UNTIL AN APPROPRIATE HAZARD ASSESMENT OF THE EXPOSURE SITE IS MADE AND APPROPRIATE PERSONAL PROTECTION EQUIPMENT AND PERSONNEL ARE IN PLACE.

FIRST AID ATTENTION MUST BE GIVEN AS URGENTLY AS POSSIBLE AS OUTLINED BELOW. ALL SUSPECTED SODIUM HYDROXIDE (50% SOLUTION) INGESTION, INHALATION AND CONTACT SHOULD RECEIVE MEDICAL ATTENTION. TRAINING ON HANDLING SODIUM HYDROXIDE (50% SOLUTION) INCIDENTS USING THIS MSDS SHOULD BE PROVIDED BEFORE ANY SODIUM HYDROXIDE (50% SOLUTION) SOLUTION HANDLING OR USE COMMENCES.

First Aid Facilities

First aid procedures, equipment, medication and training for the treatment of exposure to sodium hydroxide solution should be in place BEFORE the use commences. First aid personnel should be aware of the nearest hospitals which are familiar with the treatment of sodium hydroxide exposure.

Equipment and medication in place should be:

Safety shower and eyewash stations immediately accessible in the workplace;

Eye-wash bottle;

Personal protective equipment for use by first aid personnel;

Fresh, clean, cool drinking water;

Resuscitation bag and mask (or Oxy-Viva);

Aqueous boric acid (1 % (wt/wt)).

FIRST AID PROCEDURES FOR DEALING WITH THIS PRODUCT AND EXPOSURE TO IT

1. Personal Protection By First Aid Personnel

First aid personnel providing first aid treatment to a patient exposed to sodium hydroxide solution should observe the following precautions for their own personal protection:

- Avoid contact with contaminated skin, clothing and equipment by wearing protective gloves;
- Wear chemical goggles as a minimum level of eye protection to prevent sodium hydroxide solution entering eyes;
- Avoid inhalation of sodium hydroxide solution vapours during rescue in contaminated areas by wearing suitable respiratory protection;
- Respiratory protection suggested is: an air supplied breathing apparatus, or positive pressure self-contained breathing apparatus.

2. Swallowed

If person is conscious, rinse mouth thoroughly with water immediately and give water or milk to drink.

DO NOT induce vomiting. Seek urgent medical attention.

MATERIAL SAFETY DATA SHEET

Sodium Hydroxide (50% Solution)

3. Eyes

Immediately irrigate with copious quantities of water, while holding eyelids open, for at least 15 minutes. Seek urgent medical attention.

4. Skin

Wash affected areas with copious amounts of water. Remove all contaminated clothing whilst continuing to wash. Contaminated clothing should be laundered before re-using.

Washing affected area with 1% aqueous boric acid solution, or dilute vinegar if available, may be helpful. Seek urgent medical attention.

5. Inhalation

Remove affected person from exposure to a well ventilated area. Keep warm and at rest. In emergency situations, if breathing is difficult give oxygen. If the affected person suffers cardiac arrest commence cardio-pulmonary resuscitation immediately.

Seek urgent medical attention.

ADVICE TO DOCTOR.

Sodium hydroxide (50% solution) is an alkali, which on contact with flesh causes a liquefaction necrosis on proteins, and is potentially much more dangerous than acid burns. Alkali agents liquefy tissue by denaturation of proteins and saponification of fats. In contrast to acids, whose tissue penetration is limited by the formation of a coagulum, alkalis can continue to penetrate very deeply into tissue.

Treatment for sodium hydroxide solution burns to eyes:

- Retract eyelids to ensure thorough irrigation of the conjunctival cul-de-sacs;
- Irrigate eyes with several litres of saline for at least 20 minutes;
- Perform pH tests, if available, before and after each set of eye irrigations, and continue this monitoring until the pH returns to the normal range (pH 7 to 8);
- DO NOT use neutralising agents or any other additives;
- Evaluate completely general appearance of the globe, conjunctiva, anterior chamber and cornea, with attention to redness, pallor, or opacification, and presence of foreign bodies;
- Stain with fluorescein to look for areas of increased uptake signifying corneal abrasion – a slit lamp examination may be useful – it allows for a more detailed examination of the cornea and anterior chamber, including the presence of a hyphema or hypopyon;
- Verify pupillary and extraocular muscle functions;
- Document the visual acuity of patients with ocular exposure or complaints. Documentation should include right eye and left eye individually, then vision with both eyes;
- Before administering, or prescribing, cycloplegic drops, steroid drops, or vasoconstrictive agents, consider consulting an ophthalmologist.

Treatment for sodium hydroxide solution fumes, or mist inhalation:

- Pulmonary oedema may arise. Symptoms may be delayed for several hours. Affected persons should not be left unattended for this period;
- If the larynx is involved, local oedema may produce respiratory distress, stridor and a hoarse voice. Treat symptomatically.

Treatment for sodium hydroxide solution burns to the skin:

- Skin lesions require copious saline irrigation;
- Treat alkali burns as thermal burns with non-adherent gauze and wrapping;
- Deep second-degree burns may benefit from topical silver sulfadiazine.

Treatment for sodium hydroxide solution ingestion:

- Severe burns from alkali ingestion may lead to the life threatening complications of oesophageal perforation and mediastinitis. These are associated with chest pain, dyspnoea, fever, subcutaneous emphysema of the chest or neck and a pleural rub. Symptoms and signs associated with significant alkali-induced tissue injury include pain in the mouth and throat, drooling, pain on swallowing, vomiting, abdominal pain and haematemesis. Extensive tissue injury may be associated with fever, tachycardia, hypotension and tachypnoea;

MATERIAL SAFETY DATA SHEET

Sodium Hydroxide (50% Solution)

- Initial management is primarily supportive. Particular attention should be directed towards securing the airway, fluid resuscitation and provision of analgesia;
- DO rinse any visible material from the mouth with water or saline;
- DO NOT induce vomiting as re-exposure of the mucosa to the alkali is harmful;
- DO NOT attempt to neutralise the ingested alkali since exothermic reaction may extend the corrosive injury;
- Consider passing a naso-gastric tube;
- A chest X-ray, upright abdominal film is recommended – this may show widening of the mediastinum, pleural effusions, pneumomediastinum and/or pneumothorax. Perforation of the stomach or small intestine is associated with clinical features of chemical peritonitis, fever, abdominal tenderness, guarding and rebound, and ileus. Septic shock and multi-organ failure complicate perforation;
- DO NOT give oral fluids as these may interfere with endoscopic evaluation;
- DO NOT give oral activated charcoal as it may interfere with endoscopic evaluation;
- Inspection of the oropharynx may reveal areas of mucosal burn, which appear as white or grey patches with erythematous borders. The absence of visible burns to the lips, mouth or throat does not necessarily imply an absence of significant burns to the oesophagus;
- Tracheoesophageal fistulae may result from perforation of the anterior oesophageal wall. The fistula may extend to involve the aorta and, in this case, is fatal;
- Symptomatic patients may need the following investigations:
 - Arterial blood gas analysis;
 - Coagulation profile;
 - Complete blood count;
 - Contrast oesophagography or thoracic CT (to detect oesophageal perforation);
 - ECG;
 - Electrolytes;
 - Glucose;
 - Liver and renal function;
 - Radiological studies;
 - Chest X-ray, upright abdominal film;
 - Type and cross-match;
 - Upper gastrointestinal endoscopy should be performed as soon as practicable and within 24 hours of ingestion. This investigation is essential to assess the severity of mucosal damage and plan treatment. Upper gastrointestinal endoscopy should also be considered for asymptomatic patients who have ingested a strong alkali and children, where the history may be unreliable;
 - Early oesophagogastropscopy, by direct visualisation of the lesion with fibre optic endoscopes, is the most effective investigation for the classification of alkali burns and in planning management and follow-up.
- Ongoing supportive care includes maintenance of adequate analgesia, fluid, electrolyte and pH balance, nutritional support, and monitoring for the development of complications. Subsequent management and prognosis is largely dictated by findings at upper gastrointestinal tract endoscopy. These may be graded as follows:
 - Grade I: simple inflammation;
 - Grade II: Few ulcerations and focal necrosis limited to part of the oesophagus;
 - Grade III: Multiple ulcerations, extensive necrosis involving the entire oesophagus, massive haemorrhage.Grade I and II lesions should heal completely with supportive care alone and can be adequately managed on a general medical ward. Patients with Grade I lesions will usually tolerate oral fluids but those with Grade II may require a period of total parenteral nutrition or a feeding jejunostomy.



ABN: 81 008 668 371

MATERIAL SAFETY DATA SHEET

Sodium Hydroxide (50% Solution)

Patients with Grade III endoscopic findings require intensive care management, total parenteral nutrition or a feeding jejunostomy until healing is documented, and are likely to develop oesophageal strictures.

Urgent laparotomy (without associated thoracotomy) with surgical resection of necrotic tissue and surgical repair is indicated in the presence of symptoms or signs of gastrointestinal perforation or where full necrosis is found at endoscopy.

There is no clinical evidence that corticosteroids prevent the development of stricture following alkali ingestion.

Prophylactic broad-spectrum antibiotics are not indicated unless there is evidence of gastrointestinal tract perforation or full thickness necrosis.

Long Term Complications

Those patients with Grade III or circumferential Grade II burns are at risk of developing an oesophageal stricture. For this reason, these patients require follow-up evaluations that include endoscopic examination and/or contrast radiography until complete healing or stricture formation is documented. Eighty percent of strictures produce symptoms within two months. Oesophageal stricture formation requires long-term dilation or surgical repair.

Survivors of alkali ingestion are at an increased risk of developing carcinoma of the oesophagus. The average interval between the original injury and diagnosis of carcinoma is greater than 40 years.

Further information about the treatment for exposure to this product can be obtained from the Poisons Information Centre on (08) 13 1126 (Australia only)

Section 5 – Fire Fighting Measures

Product flammability

Sodium hydroxide (50% solution) is not combustible and is not considered a fire risk, but may generate flammable and explosive (when confined) hydrogen gas in contact with aluminium, copper, zinc, magnesium, tin, or their alloys (bronze, brass, galvanised metals).

Suitable extinguishing media

DO NOT use extinguishers containing powdered MAP (mono ammonium phosphate) because of liberation of ammonia gas on contact with sodium hydroxide (50 % solution).

Water fog (or if unavailable, fine water spray), foam, dry agent (CO₂, dry chemical powder). Sodium hydroxide (50% solution) reacts with water to produce heat, steam and/or gases – this reaction may be violent.

Hazard from combustion products

Thermal decomposition may result in hazardous sodium oxide being produced. Hydrogen may form upon contact with light metals (danger of explosion). Hydrogen burns with an almost invisible flame.

Special protective precautions and equipment for fire fighters

Wear full body protective clothing (PVC jackets and pants, PVC gloves and chemical resistant boots) with self-contained breathing apparatus with a full-face piece operated in pressure-demand or positive pressure mode. Prevent spillage from entering drains or waterways. Consider evacuation. Use water fog to control fire. Spilled sodium hydroxide (50% solution) will cause surfaces to be slippery and slimy.

Equipment should be thoroughly decontaminated after use.

After intervention, take shower, remove clothing carefully, clean and check equipment.

Hazchem Code

2R



ABN: 81 008 668 371

MATERIAL SAFETY DATA SHEET

Sodium Hydroxide (50% Solution)

Section 6 – Accidental Release Measures

Emergency procedures

The hazardous nature of sodium hydroxide (50% solution) requires emergency and spill procedures to be effective to avoid both human and environmental exposure. Hazardous conditions may result if material is managed improperly. Make plans in advance to handle possible emergencies, including obtaining stocks of absorbent materials.

Always wear recommended personal protective equipment and respiratory protection. Good ventilation is necessary.

Methods and Materials for containment and clean up

For **ALL** spills, evacuate unprotected personnel upwind and out of danger. Wear appropriate personal protective equipment and breathing apparatus. If safe to do so, prevent further release of sodium hydroxide (50 % solution). Shut off all possible sources of ignition. Stay upwind of any dust or mist released. Restrict access to spill site. If possible contain the surface area of a sodium hydroxide (50 % solution) spill by bunding with sand, earth or vermiculite. Avoid, or minimise, the use of water on spillage. Recover as much material as possible and return to manufacturer. Using a shovel/front end loader as required, recover as much neutralised material as possible into dedicated drums for proper disposal accordance with the requirements of the Department of Environment Protection.

Small Leaks

If possible contain the surface area of a spill by bunding with sand, earth or vermiculite. Neutralise with sodium bicarbonate and recover.

Prevent run-off into drains and waterways.

Large Leaks

If possible contain the surface area of a spill by bunding with sand, earth or vermiculite. Recover as much as practicable for re-use. Hose off with water and neutralise with sodium bicarbonate.

Prevent run-off into drains and waterways.

Dispose of all contained spill residues in accordance with the requirements of the Department of Environment Protection.

For the management of sodium hydroxide (50 % solution) emergencies during transport by road or rail, SAA/SNZ HB76: Dangerous Goods-Initial Response Guide, Guide 37 should be consulted. This Guide should be carried at all times when sodium hydroxide (50 % solution) is being transported.

Clean up personnel will need personal full protection equipment and respiratory protection. Portable safety shower and eyewash facilities may also be needed for clean up personnel. Bags of sodium bicarbonate, absorbent and substantial amounts of water will be required for large spill. A front-end loader may be required to scoop up neutralised residue.

Section 7 – Handling and Storage

Precautions for safe handling

Regulated dangerous goods as Class 8 Corrosive. Proper protective clothing must be worn that covers the body including the face. A safety shower and eyewash should be available. Do not breathe vapour or mist. Avoid contact with skin, eyes and clothing.

Do not smoke anywhere near the storage and handling of sodium hydroxide (50 % solution) or associated handling equipment.

Do not touch damaged containers or spilled material unless wearing appropriate personal protective equipment.

Change and wash clothing, and personal protective equipment if contaminated, or before storing and/or re-using. Wash hands and face thoroughly after handling and before work breaks, eating, drinking, smoking and using toilet facilities.

Sodium hydroxide (50 % solution) gives off large amounts of heat when added to water. When diluting, always add sodium hydroxide (50 % solution) to water with constant agitation. NEVER add water to the sodium hydroxide (50 % solution) – localised hot spot may occur causing vigorous boiling or spattering which may result in violent eruption and mist given off.



ABN: 81 008 668 371

MATERIAL SAFETY DATA SHEET

Sodium Hydroxide (50% Solution)

Conditions for safe storage, including any incompatibilities

Ensure sodium hydroxide (50 % solution) in bulk is stored and handled in accordance with Australian Standard AS 3780 *The storage and handling of corrosive substances* and Dangerous Goods Safety Act 2004 (*Dangerous Goods Safety (Storage and Handling of Non-Explosives) Regulations 2007*). Ensure adequate ventilation to keep airborne concentration below exposure standard. Where necessary, use local exhaust ventilation in conjunction with P2 canister respirator, or as appropriate, self contained breathing apparatus. Keep workplaces and stores well ventilated.

Store away from acids, organic halogens, nitromethane and ammonium compounds. May form toxic ammonia in contact with ammonium compounds and urea. Incompatible with copper, zinc, magnesium, tin, or their alloys (i.e., bronze, brass, galvanised metals, etc.) and aluminium.

Section 8 – Exposure Controls/Personal Protection

National exposure standards

ES-TWA	ES-STEL	ES-Peak
2 mg/m ³ as sodium hydroxide	Peak Limitation	Peak Limitation

Biological limit values

No data available.

Engineering controls

Handle sodium hydroxide (50 % solution) within closed systems whenever possible. Provide adequate ventilation at all times.

Personal protective equipment

Whenever the risk of exposure exists, such as opening sodium hydroxide (50 % solution) storage tank valves, non-routine operations and emergency circumstances, the following personal protection measure are recommended:

Respiratory protection

Canister respirator P2 type if sodium hydroxide (50 % solution) mists are a problem. Supplied air, or positive pressure, self contained breathing apparatus recommended where aerosols are experienced.

Hand protection

PVC or butyl rubber gauntlet-type gloves.

Eye protection

Chemical splash goggles (gas tight type preferred) and full face shield.

Skin protection

PVC overalls or jacket and pants and butyl rubber Wellington boots.

Section 9 – Physical and Chemical Properties

Appearance (colour, physical form, shape)

Colourless or grey syrupy liquid.

Odour

Odourless.

pH

Greater than 14.

Vapour pressure

0.2 kPa at 20 °C

Vapour density

No data available.

Boiling point/range

142 to 148 °C at 101.3 kPa.

Freezing/melting point

Crystallises at 12 °C at 101.3 kPa.



ABN: 81 008 668 371

MATERIAL SAFETY DATA SHEET

Sodium Hydroxide (50% Solution)

Solubility

Solubility in all proportions in water; sparingly soluble in some organic solvents.

Specific gravity or density

Specific Gravity: 1.53 at 25 °C.

Flash point and method of detecting flash point

Not applicable.

Upper and lower flammable (explosive) limits in air

Not applicable.

Ignition temperature

Not applicable.

Viscosity

79 mPa.s at 20 °C.

Section 10 – Stability and Reactivity

Chemical stability

Stable at ambient conditions of use and storage.

Conditions to avoid

Avoid moisture – reaction with water produces heat. Product absorbs carbon dioxide from the air.

Incompatible materials

Incompatible with amphoteric metals (such as aluminium, tin and zinc), copper, magnesium, or their alloys (i.e., bronze, brass, galvanised metals, etc.) – reaction produces very flammable and explosive (when confined) hydrogen gas.

Hazardous decomposition products

Does not decompose, does not polymerise.

Hazardous reactions

Sodium hydroxide (50 % solution) reacts readily with various reducing sugars (i.e., fructose, galactose, maltose, dry whey solids) to produce toxic and flammable CO gas. Avoid contact with acids, wool, leather, hydroquinone, phosphorus, explosives, nitrocarbons, glycols, halogenated organics (such as trichloroethylene) and organic acid esters.

Section 11 – Toxicological Information

HEALTH EFFECTS

When handled in accordance with the guidelines in this material safety data sheet, sodium hydroxide (50 % solution) should not present any health effects. If this product is mishandled, the following symptoms may develop:

Acute:

Sodium hydroxide (50 % solution) will cause severe caustic burns in contact with eyes and skin.

Inhalation:

Inhalation of mist above sodium hydroxide (50 % solution) may result in burns and irritation to the nose and upper respiratory tract, resulting in lesions of the nasal septum, pulmonary oedema, pneumonitis and emphysema. Symptoms may include coughing and sore throat. Inhalation of mists at elevated temperatures will increase these symptoms. Prolonged exposure may be harmful.

Skin:

Contact with sodium hydroxide (50 % solution) may result in severe chemical burns. Residue from crystallised cold solution, on prolonged contact may cause some irritation, including redness and itching.



ABN: 81 008 668 371

MATERIAL SAFETY DATA SHEET

Sodium Hydroxide (50% Solution)

Eye:

Contact with sodium hydroxide (50 % solution), or residue from crystallised cold solution, will cause pain and severe chemical burn to the eye, leading to permanent eye damage or blindness.

Swallowed:

Sodium hydroxide (50 % solution) will cause severe caustic burns to the mouth, oesophagus and stomach, accompanied by severe burning sensation. Severe scarring of tissue and death may result. Symptoms include bleeding, vomiting, abdominal pain, diarrhoea and fall in blood pressure. Damage may appear days after exposure. Swallowing large amounts may cause death. LD₅₀ (Oral, rat) = 200 mg/kg [Calculated from LD₅₀ (Oral, rat) = 100 mg/kg for anhydrous sodium hydroxide].

Chronic:

Prolonged, or repeated exposure to residue from crystallised cold solution, may cause drying of the skin with cracking and irritation that may lead to dermatitis and necrosis.

Section 12 – Ecological Information

Ecotoxicity

Based on information for anhydrous sodium hydroxide, sodium hydroxide (50 % solution) is slightly toxic to aquatic organisms (fish and plankton) on an acute basis (LC₅₀/ EC₅₀ between 10 and 100 mg/L in most sensitive species. The harmful effect may be due to pH shifts outside of 5 – 10. Does not cause biological oxygen deficit and neutralisation is possible in waste water treatment plants.

Persistence and degradability

Air - Instantaneous degradation.
Water - Considerable solubility and mobility.
Soil/sediments - Considerable solubility and mobility.
Soil/sediments - Groundwater contamination if raining.

Mobility

Abiotic:

- Air – neutralisation (atmospheric CO₂) – degradation product sodium carbonate aerosol;
- Water – instantaneous ionisation with pH increase;
- Water table/Soil – neutralisation by naturally occurring buffers agents to produce salts;

Biotic:

- No data available.

Environmental fate (exposure)

Acute ecotoxicity:

Fish: 96 hr LC₅₀ (Gambusia affinis): 125 mg/L @ pH>10;
Fish: 48 hr LC₅₀ (L. idius): 133 mg/L, for anhydrous sodium hydroxide;
Crustaceans: 48 hr EC₈₀ (Ceriodaphnia): 40 mg/L @ pH>10;
Crustaceans: 24 hr EC₈₀ (Daphnia magna): 76 mg/L, for anhydrous sodium hydroxide;

Bioaccumulative potential

Does not bioaccumulate.

Section 13 – Disposal Considerations

Disposal methods and containers

Due to its inherent properties, hazardous conditions may result if material is managed improperly. Dispose of all contained and contaminated spill residue in accordance with the requirements of the Department of the Environment. Contact CSBP Limited for technical advice on disposal method.

As required under the ADG Code treat empty containers as filled containers.

Special precautions for landfill or incineration

No data available.



ABN: 81 008 668 371

MATERIAL SAFETY DATA SHEET

Sodium Hydroxide (50% Solution)

Section 14 – Transport Information

UN Number

1824

UN Proper shipping name

Sodium hydroxide solution

Class and subsidiary risk

Class 8 Corrosive. No subsidiary risk.

Packing group

II

Special precautions for user

Transport in accordance with the Australian Code for the Transport of Dangerous Goods by Road and Rail (ADG Code).

Hazchem code

2R

Section 15 – Regulatory Information

Australian regulatory information

SUSDP Poison Schedule 6. Licensing is required for this chemical in all States and Territories.
Listed on the Australian Inventory of Chemical Substances (AICS).

Additional national and/or international regulatory information

OSHA: Hazardous by definition of Hazard Communication Standard (29CFR 1910.1200).
This product is subject to the EC directive 82/501/EEC and amendments.

Section 16 – Other Information

Key / legend to abbreviations and acronyms used in the MSDS

NOEC	No Observable Effect Concentration - concentration where no effect can be seen
NOHSC	National Occupational Health and Safety Commission
SUSDP	Standard for the Uniform Scheduling of Drugs and Poisons
EC ₅₀ :	Environmental concentration 50. The concentration of a material, in ppm or ppb, in the environment (usually water) a single dose of which is expected to cause a biological effect on 50% of a group of test animals.
ES-TWA	Exposure Standard – Time weighted average
ES-STEL	Exposure Standard – Short term exposure level
ES-Peak	Exposure Standard – Peak level
FORS	Federal Office of Road and Safety
LC ₅₀ :	Lethal concentration 50, median lethal concentration
LD ₅₀	Lethal dose 50. The single dose of a substance that causes the death of 50% of an animal population from exposure to the substance by any route other than inhalation
% (wt/wt)	Percent amount on a weight per weight basis
% (wt/vol)	Percent amount on a weight per volume basis
PPM	Parts per million
Zone 1 Class 1	An area in which an explosive gas atmosphere can be expected to occur periodically or occasionally during normal operation. (More than 10 hours per year but less than 1000 hours per year)



ABN: 81 008 668 371

MATERIAL SAFETY DATA SHEET

Sodium Hydroxide (50% Solution)

Literature references

- Occupational Safety and Health Regulations 1996, State Law Publisher, Western Australia.
- National Code of Practice for the Preparation of Material Safety Data Sheets, [NOHSC:2011(2003)], Australian Government Publishing Service, Canberra, April 2003.
- Australian Code for the Transport of Dangerous Goods by Road and Rail, 7th Edition, Australian Government Publishing Service, Canberra, October 2007.
- Chemical Rubber Handbook, D.R. Lide, CRC Press, 65th Edition, Boca Ratón, 1987.
- Perry's Chemical Engineers' Handbook, R.H. Perry & D. Green, 6th Edition, McGraw-Hill, New York, 1984.
- International Critical Tables of Numerical Data, Physics, Chemistry and Technology, National Research Council, 1st Edition, McGraw-Hill, New York, 1928.
- Condensed Chemical Dictionary, G.G Hawley, 8th Edition, Van Nostrand Reinhold, New York, 1950.
- Dangerous Properties of Industrial Chemicals, N.I.Sax & R.J. Lewis (Sr), 7th Edition, Van Nostrand Reinhold, New York, 1984.
- Patty's Industrial Hygiene and Toxicology, F.A. Patty, 3rd Revised Edition, G.D. & F.E. Clayton (Editors), John Wiley & Sons, New York, 1981.
- Matheson Gas Data Book, W.Braker & A.L. Mossman, 6th Edition, Matheson Gas Products, Secaucus, 1980.
- Encyclopaedia of Occupational Health and Safety, International Labour Office, 4th Edition, J.M. Stellman (Editor), Geneva, 1998
- Kirk-Othmer Encyclopaedia of Chemical Technology, 4th Edition, Wiley InterScience, New York, 1997.
- Ullmann's Encyclopaedia of Industrial Chemistry, F. Ullmann, 6th Edition, Wiley Interscience, New York, 2001.
- Standard for the Uniform Scheduling of Drugs and Poisons, National Health and Medical Research Council, Australian Government Publishing Service, Canberra, 1992.
- Poisons Act 1964, State Law Publisher, Western Australia, Reprinted 22 January 1999.
- Adopted National Exposure Standards for Atmospheric Contaminants in the Occupational Environment, [NHSC:1003(1991)].
- Hazardous Materials Handbook for Emergency Responders, Ongaard Training for Life, J. Varela (Editor), Van Nostrand Reinhold, New York, 1996.
- Chemalert www.chemalert.net
- Guidance for the Compilation of Safety Data Sheets for Fertilizer Materials, European Fertilizer Manufacturers Association, online at www.efma.org/Publications/Guidance/Index.asp

Sources for data

Important Notes

1. To the best of our knowledge this document complies with the National Code of Practice for the Preparation of Material Safety Data Sheets 2nd Edition [NOHSC:2011 (2003)].
2. This material safety data sheet summarises our best knowledge of the health and safety hazard information of the product and how to safely handle and use the product in the workplace. Each user should read this material safety data sheet and consider the information in the context of how the product will be handled and used in the workplace, including in conjunction with other products.
3. If clarification or further information is needed to ensure that an appropriate risk assessment can be made, the user should contact the Safety and Emergency Services Department, CSBP Limited on (08) 9411 8777 (Australia), +61 8 9411 8777 (Overseas).
4. Our responsibility for products sold, is subject to our terms and conditions, a copy of which is sent to our customers, and is also available on request.
5. CSBP reserves the right to make change to material safety data sheets without notice.