



Section 1: Identification of the Material and Supplier

Product Name: Caustic Soda

Other Names: Sodium hydroxide

Proper shipping name (ADG Code): Sodium hydroxide, solid.

Recommended use: As a dairy cleaner.
Use as directed on the product label.

Supplier: DASCO Pty. Ltd.,
ABN: 14 004 581 113
24 - 26 Helen Street, HEIDELBERG HEIGHTS VIC 3081
Tel: (03) 9459 7004 (business hours)
Fax: (03) 9459 9200

Emergency Phone Numbers:
Transport/Fire Emergency: 000 (Emergency services)
Medical Emergency: 131126 (Poisons Information Centre)

Section 2: Hazards Identification

Classified as hazardous according to criteria of Worksafe Australia.

Dangerous goods.

Risk Phrases: R: 35 Causes severe burns.

Safety Phrases: S: 26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
S: 37/39 Wear suitable gloves and eye/face protection.
S: 45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

Section 3: Composition/Information on Ingredients

Chemical Identity: Sodium hydroxide

Common Names, Synonyms: Caustic alkali; Lewis-red devil lye; Soda lye; Sodium hydrate; White caustic

CAS Number: 1310-73-2

Section 4: First Aid Measures

For advice, contact a Poisons Information Centre (Phone 131 126) or a doctor.

Swallowed: Do not induce vomiting.

Skin: If skin or hair contact occurs, remove contaminated clothing and flush skin and hair with running water.

Eyes: 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.

Inhaled: Remove from exposure, rest and keep warm. Unless exposure has been slight, obtain medical attention.

First Aid facilities:

Mandatory: Eye wash. Hand wash basin.

Recommended: Emergency shower if handling industrial quantities.

Advice to Doctor:

Product is sodium hydroxide. Corrosive, causes severe burns. May cause serious damage to eyes. If swallowed may cause holes in stomach and intestines; gastric lavage may be contraindicated. Contact Poisons Information Centre.

Aggravated medical conditions:

Persons with pre-existing skin disorders, eye problems or impaired respiratory function, may be more susceptible to the harmful effects of this material.

Section 5: Fire Fighting Measures

HAZCHEM Code: 2 X

Extinguishant: Water fog or fine water spray.

Risk of violent reaction or explosion: No.

Products of combustion: Sodium oxide, water vapour.

Protective Equipment: Full protective clothing including breathing apparatus and protective gloves.

Section 6: Accidental Release Measures

Emergency Procedures:

Remove any unnecessary personnel to a safe distance.
Contain.

For large spills:

Contain spillage using sand or earth. Transfer both liquids and solids to suitable container. Treat residues as for small spillages.

For small spills:

If local regulations permit, mop up with plenty of water and run to waste, diluting greatly with running water. Otherwise mix with inert absorbent, transfer to suitable container and arrange removal by disposals company.

Section 7: Handling and Storage

Precautions for safe handling:

Prevent contact with skin and eyes.
Wear suitable protective clothing.
Keep dry.
Keep away from acids, aluminium, tin, zinc, galvanised iron, wood and wood products.

Conditions for safe storage:

Store in a cool, dry, well ventilated place, out of reach of children. Large quantities should be stored in a dangerous goods store. Store in original container. Do not store in glass containers. Keep container tightly closed. Keep container dry. Keep away from moisture, acids, active metals, ammonium compounds, flammable liquids, organic halides, nitromethane, nitro compounds, metal salts, wood and wood products. Protect from physical damage. Clean up all spills promptly; avoid secondary accidents.

Incompatibles:

Acids, acid salts, active metals, organic halides, ammonium compounds, nitro compounds, wood and its derivatives.

Section 8: Exposure Controls/Personal Protection

National Exposure Standards:

ES-TWA: Sodium hydroxide 2 mg/m³

ES-STEL: None assigned.

ES-PEAK: Sodium hydroxide 2 mg/m³

Notations: None.

[Peak] indicates a ceiling concentration which should not be exceeded, even momentarily.

Biological Limit Values: No data found.

Engineering Controls:

Do not use aluminium, tin, zinc, galvanised iron, wood or particle board as materials of construction.

Ensure adequate ventilation (same as outdoors) when using.

If handling industrial quantities, or if dust or aerosol risk exists, consider local mechanical exhaust/extraction to keep airborne contamination as low as possible, and at least below the TLV.

Personal Protective Equipment:

Prevent contact with skin and eyes. Do not breathe dust or aerosols. Personal protection to be selected from those recommended below, as appropriate to mode of use, quantity handled and degree of hazard:-

Normal Use:

Eye/face protection
Gloves, rubber or plastic.

Industrial Quantities:

Face shield or safety glasses
Gloves, rubber or plastic
Plastic apron, sleeves and boots
Impervious overalls.

Section 9: Physical and Chemical Properties

Appearance: White pellets, granules or flakes.
Odour: Odourless.
pH (5 % solution): 14 Very alkaline.
Vapour Pressure: Negligable.
Vapour Density: Not applicable.
Boiling Point: 1,390 °C
Melting Point: 324 °C
Volatiles: Nil.
Volatile Organic Compounds (VOC): Nil.
Evaporation Rate: Not applicable.
Solubilities: 109 g/100 mL of water @ 20 °C
Specific Gravity/Density: 2.13 (water = 1)
Flash Point: None.
Flammable Limits: None.
Dust Explosion: No.
Auto-ignition Temperature: No data.

Other Information:

Hygroscopic, will absorb moisture from the air.
Will absorb carbon dioxide from the air, forming a layer of sodium carbonate.
Very alkaline, will react violently with acids.
Dissolves in water with generation of much heat, may boil.
Soluble in ethanol, glycerol, methanol.
Insoluble in acetone, diethyl ether.
Contact with ammonium compounds may generate ammonia, a toxic gas.
Contact with active metals such as aluminium, tin, zinc (including galvanised iron) may generate hydrogen, a flammable gas.
Will attack wood and wood products. Will attack glass on prolonged contact.
Corrosive to living tissues.
Slippery when spilled, especially when wet.

Section 10: Stability and Reactivity

Chemical Stability: Stable in closed container.
Absorbs moisture and carbon dioxide when exposed to air.

Conditions to Avoid: Incompatible materials, moisture, contact with metals, glass, wood or wood products.

Incompatible Materials: Acids, acid salts, ammonium compounds, nitro compounds, organic halides, active metals, hot water.

Hazardous Decomposition Products: Sodium oxide may be formed in a fire.

Hazardous Reactions: Reacts violently with acids. Solution in water will generate a great deal of heat and may boil. Will react violently with hot water. Contact with active metals may generate hydrogen, a flammable gas. Contact with ammonium compounds may generate ammonia, a toxic gas. May react violently with organic halides, nitro compounds.

Section 11: Toxicological Information

Health Effects:

Corrosive to all body tissues. Causes severe burns, with frequently deep ulceration and ultimate scarring.

- Acute:**
- Swallowed:** Corrosive, may be fatal. Causes very serious damage to the mucous membranes and any other tissues it comes into contact with. May cause swelling of the larynx and subsequent suffocation. May cause burns in the mouth and throat, nausea, vomiting, abdominal pains and diarrhoea (occasionally bloody), fall in blood pressure, heart failure, coma, death. Damage may not be apparent until days after contact, but can still be fatal. Can cause perforation of the stomach and intestines, and, if not immediately fatal, the sites of subsequent scarring have been associated with stomach cancer formation.
- Skin:** Causes severe, deep burns. Mists, vapours and dusts may cause small burns. Symptoms of contact include redness, pain and serious skin burns.
- Eyes:** Contact with the eyes rapidly causes severe damage to the tissues. Causes redness, pain, blurred vision. Unless treated immediately, may cause severe deep burns, and permanent to, or even total loss of, sight.
- Inhaled:** Inhalation of dust or aerosols may cause damage to the upper respiratory tract, and to the lungs. Effects may range from mild irritation of mucous membranes to severe pneumonitis (inflammation and damage to lung tissues). May cause cough, a burning sensation, laboured breathing, sneezing, sore throat, runny nose. Inhalation of dust or aerosols may cause pulmonary oedema (fluid build-up in the lungs). Onset of symptoms may be delayed.
- Chronic:** Repeated slight skin contact may cause dermatitis and burns.
- LD50:** No data found
- LDLo:** 500 mg/kg oral, rabbit.

Section 12: Ecological Information

Ecotoxicity:	Harmful to living organisms.
Persistence and degradability:	No data.
Mobility:	Readily transported by water.
Environmental Fate:	No data found.
Bioaccumulative potential:	No data.
Other adverse environmental effects:	No data.

Section 13: Disposal Considerations

The generator of any wastes from this product is responsible for its proper classification, transport and disposal.

Consult appropriate local and State regulations.

Disposal methods and containers:

Avoid disposal to natural waters or the environment.

Special precautions for landfill or incineration:

Unsuitable for incineration.

Section 14: Transport Information

UN Number:	1823
UN Proper shipping name:	Sodium hydroxide, solid.
Class and subsidiary risk:	8 Corrosive.
Packaging group:	II
Special precautions for user:	Do not store or transport with acids or dangerous goods classes 1, 4.3, 5.1, 6.2, 7, foodstuff and foodstuff empties. Protect from moisture. Do not use containers of glass, aluminium, tin, zinc or galvanised iron.
HAZCHEM Code:	2 X
Material for export:	Dangerous goods. Refer to IMDG and IATA/ICAO .

Section 15: Regulatory Information

Poisons (SUSDP): Poison, schedule 6: sodium hydroxide > 5 %

Dangerous Goods: Yes. UN 1823 8/II.

Carcinogen:

Australia	IARC	NTP	RTECS
No.	No.	No.	No.

Agricultural and Veterinary Chemicals Act: Not applicable.

Australian Inventory of Chemical Substances (AICS): Listed.

Other National/International Regulations: No data.

Section 16: Other information

Date of MSDS update: September 2009
Complete review and update.

Abbreviations:

NOHSC - National Occupational Health and Safety Commission.
ACGIH - American Conference of Governmental Industrial Hygienists.
MAK - Maximum workplace concentration - Germany,
(*maximale Arbeitsplatzkonzentration*)
IARC - International Agency for Research on Cancer (France).
NTP - National Toxicology Program (USA).
RTECS - Registry of Toxic Effects of Chemical Substances.

Literature references:

Available Sources of Data:

National Code of Practice for the Preparation of Material Safety Data Sheets 2nd Edition [2011(2003)] - NOHSC.
Australian Dangerous Goods Code.
Standard for the Uniform Scheduling of Drugs and Poisons - AHMAC.
Exposure Standards for Atmospheric Contaminants in the Occupational Environment [1003]- NOHSC.
List of Designated Hazardous Substances [10005] - NOHSC.
Merck Index - Merck Inc.
Sax's Dangerous Properties of Industrial Materials - Lewis.
Handbook of Toxic and Hazardous Chemicals and Carcinogens - Sittig.
Handbook of Reactive Chemical Hazards - Bretherick.
Hawley's Condensed Chemical Dictionary - Wiley Interscience.
AUSREG's Chemical Data Package for PCs - AUSREG Consultancy.