

Safety Data Sheet

Revision Date: 24.02.2025

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## Caustic Soda

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### Classification of Product:

Classified as **HAZARDOUS** according to criteria of the Globally Harmonised System of Classification and Labelling of Chemicals 3rd Revised Edition.

Classified as **DANGEROUS GOODS** by the criteria of the Australian Dangerous Goods Code (ADG Code) for Transport by Road and Rail; Dangerous Goods.

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### 1. IDENTIFICATION: PRODUCT IDENTIFIER AND CHEMICAL IDENTITY

- a. Product name: Caustic Soda
  - b. Other means of identification: NA
  - c. Recommended use of the chemical  
Strong base with many uses. Drain Cleaner, heavily soiled surface.
  - d. Manufacturer details:  
Dalcon Hygiene  
36 Victoria St Smithfield  
NSW 2164  
Australia  
PH: (02) 9604 1155  
FAX: (02) 9604 9055  
Email: admin@dalconhygiene.com.au
  - e. Poisons information centre: 13 11 26 (Australia)
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### 2. HAZARD(S) IDENTIFICATION

- a. Classification of the chemical:  
Classified as **HAZARDOUS** according to criteria of the Globally Harmonised System of Classification and Labelling of Chemicals 3rd Revised Edition.

Skin corrosion/irritation – category 1A

Corrosive to metals – Category 1

b. Signal word: **DANGER**

c. Pictogram(s):



d. Hazard statement(s):

H290: May be corrosive to metals

H314: Causes severe skin burns and eye damage

e. Precautionary Statement(s)

P101: If medical advice is needed, have product container or label at hand.

P102: Keep out of reach of children.

P103: Read label before use.

**Prevention:**

P264: Wash hands thoroughly after handling.

P280: Wear protective gloves/protective clothing/eye protection/face protection.

P261 Avoid breathing vapours/fumes.

**Response:**

P301+330+331: IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

P303+361+353: IF ON SKIN (or hair): Take off immediately all contaminated clothing.

Rinse skin with running water/ shower.

P310: Immediately call a POISON CENTER or doctor.

P304+340: IF INHALED: Remove person to fresh air and keep comfortable for breathing.

P305+351+338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do – continue rinsing.

**Disposal:**

P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

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3. COMPOSITION AND INFORMATION ON INGREDIENTS

Components	CAS number	Proportion	Hazard Codes
Sodium Hydroxide	1310-73-2	100%	H290, H314

#### 4. FIRST-AID MEASURES

For advice, contact a Poisons Information Centre (e.g. phone Australia 131 126; New Zealand 0800 764 766) or a doctor

##### **Inhalation:**

Avoid inhaling vapours/fumes. If inhaled, seek urgent medical help. Remove victim from exposure to fresh air. Provide emergency airway support. Give 100% humidified supplemental oxygen with artificial respiration. If needed transport to emergency medical facility without delay

##### **Skin Contact:**

Avoid contact with skin. If contact occurs, remove contaminated clothing. Immediately flush the contaminated skin thoroughly with water for at least 15 minutes. Seek urgent medical attention.

##### **Eye Contact:**

Immediately flush eyes with copious amounts of water for at least 30 minutes while holding eyelids open. Take care not to rinse contaminated water into the non-affected eye. Washing must be started within 10 seconds of contact and continued for 30 minutes to prevent permanent injury. Seek immediate medical attention.

##### **Ingestion:**

Rinse mouth with water. If swallowed, do not induce vomiting. Give a glass of water and seek immediate medical attention.

**Medical Conditions Aggravated by Exposure:** Persons with lung diseases may be at an increased risk due to the toxic effects of this chemical on these organs.

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#### 5. FIRE-FIGHTING MEASURES

##### **HAZCHEM: 2W**

Product is not combustible.

##### **a. Suitable extinguishing equipment:**

In case of fire, use appropriate extinguishing media most suitable for surrounding fire conditions. Use carbon dioxide or suitable dry chemical extinguisher. Do NOT use water

##### **b. Specific hazards arising from the chemical**

Direct contact with water can produce a violent exothermic reaction.

Reacts with aluminium, tin, zinc and their alloys, copper, lead, etc. giving off hydrogen.

Do NOT allow firefighting water to reach waterways, drains or sewers. Store firefighting water for treatment

- c. **Special protective equipment and precautions for fire fighters:**  
On burning may emit toxic fumes. Fire fighters to wear self-contained breathing apparatus and suitable protective clothing if risk of exposure to vapour or products of combustion.
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6. ACCIDENTAL RELEASE MEASURES

**Personal precautions, protective equipment and emergency procedures:**

Slippery when spilt, avoid accidents and clean up immediately.

Clear the area of personnel.

Avoid breathing in the fumes. Wear protective eye goggles and gloves.

Increase ventilation

Isolate the danger area. Use clean, non-sparking tools and equipment. Shut off all possible sources of ignition.

**Environmental precautions:**

Keep away from drains and surface and ground water

**Methods and materials for containment and cleaning up:**

Containment: store in a bunded area

Stop leak if possible and safe to do so.

Clean up procedures: Wear protective eye goggles, breathing respirator, protective clothing, safety shoes, and gloves.

Mechanically collect as much of the spill as possible. Absorb with sand, earth or clay.

Dispose of as outlined in section 13.

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7. HANDLING AND STORAGE, INCLUDING HOW THE CHEMICAL MAY BE SAFELY USED

a. **Precautions for safe handling**

Do not allow skin or eye contact.

Do not breath in vapour, mists and aerosols. Use in a well-ventilated area.

Keep out of reach of children.

Ensure an eye bath and safety shower are available and ready for use

Avoid eating, drinking or, smoking when using this chemical.

Avoid prolonged or repeated exposure.

Wash hands after use.

Remove contaminated clothing and protective equipment after using chemicals and before entering eating areas.

Product can react violently with water and acids. Caustic solution generates heat when further diluted with water. Concentrations greater than 40%, the heat generated can raise temperatures above the boiling point resulting in sporadic, violent eruptions or spattering.

When used in its various applications, the product must be prevented from coming into

uncontrolled direct contact with other products such as acids and metals. Never neutralise the solid product

**b. Conditions for safe storage, including incompatibilities.**

Store in cool place and out of direct sunlight.

Store in a bunded area.

Store away from foodstuffs.

Store away from aluminium, tin, zinc and alloys (bronzes), chrome and lead. Protect from damp and kept apart from acids, halogenated hydrocarbons, nitroparaffins, etc.

Store away from incompatible materials described in Section 10.

Keep containers closed when not in use - check regularly for leaks. Protect against physical damage.

A water supply or source must be provided in the place of storage. Emergency showers and eye-washes must be available.

Prevent the product from becoming damp or aerated. Hygroscopic product. Becomes carbonated in contact with the air or moisture.

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**8. EXPOSURE CONTROLS AND PERSONAL PROTECTION**

**a. Control Parameters:**

VLA-EC: 2 mg/m<sup>3</sup> (INSHT).

TLV-STEL: 2 mg/m<sup>3</sup> (ACGIH).

WEL-Limit value - Short term: 2 mg/m<sup>3</sup> (UK)

**Human exposure:**

**Workers:**

DNEL (local effects): 1 mg/m<sup>3</sup> (inhalation; long-term toxicity)

**General population:**

DNEL (local effects): 1 mg/m<sup>3</sup> (inhalation; long-term toxicity)

OSHA PEL 8 hour TWA 2mg/m<sup>3</sup>

ACGIH TLV - Ceiling 2mg/m<sup>3</sup>

**b. Engineering controls:**

Ensure adequate ventilation. An exhaust/ducting system is recommended to keep workplace concentrations below exposure limits.

Keep containers closed when not in use

An eyewash fountain should be within the immediate work area for emergency use.

**c. Individual Protection measures:**

**RESPIRATOR:** In the case of sodium hydroxide powder emissions, use mask with dust filter (P2 or P3) (AS1715/1716).

**EYES:** Use safety goggles, splash proof and / or appropriate full face shield (AS1336/1337).

**HANDS:** Gloves for chemical hazards (AS2161).

**CLOTHING:** Suit or plastic apron and safety footwear providing protection against acids/alkalis (AS3765/2210)

9. PHYSICAL AND CHEMICAL PROPERTIES

- a. Physical state: Solid - Powder
- b. Colour: White
- c. Odour: None
- d. pH: 14
- e. Melting point/freezing point: 318 °C
- f. Initial boiling point: 1,388 °C
- g. Flash point: NA
- h. Flammability: NA
- i. Upper/lower flammability or explosive limits: NA
- j. Vapour pressure: <2.4 kPa (at 20 °C)
- k. Relative density: 2.13 g/cm<sup>3</sup>
- l. Solubility in water:
  - 418 g/L (0 °C)
  - 1110 g/L (20 °C)
  - 3370 g/L (100 °C)
- m. Additional Characteristics: Flammability (solid, gas): Inorganic oxides in which the inorganic element is in its highest possible oxidation state are incapable of further reaction with oxygen and can thus be designated as non-flammable. Self-heating: The preliminary results exclude self-heating of the substance up to 400 °C
- n. Fast or Intensely Burning Characteristics: Highly exothermic reaction with strong acids. Reacts dangerously with acetic acid, allyl chloride, chlorine trifluoride, chloroform, methylic alcohol, chloronitrotoluene, chlorosulphonic acid, glyoxal, cyanohydrin, hydrochloric acid, hydrofluoric acid, hydroquinone, nitric acid, sulphuric acid and oleum, nitropropane, phosphorous, propiolactone, phosphorous pentoxide, tetrachlorobenzene, tetrahydrofuran, etc. Caustic soda forms salts with nitromethane and nitroparaffins that explode on impact.
- o. Non-Flammables That Could Contribute Unusual Hazards to a Fire: Heat is generated when mixed with water. Spattering and boiling can occur. Caustic soda solution reacts readily with various reducing sugars (i.e.: fructose, galactose, maltose, dry whey solids) to produce carbon monoxide.
- p. Properties That May Initiate or Contribute to Fire Intensity: Caustic soda forms salts with nitromethane and nitroparaffins that explode on impact.
- q. Reactions That Release Gases or Vapours: Reacts with aluminium, tin, zinc and their alloys, copper, lead, etc. giving off hydrogen.

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10. STABILITY AND REACTIVITY

- a. General information: corrosive solid.
- b. Chemical stability: Product is stable under normal conditions of use, storage and temperature.

- c. Conditions to avoid: Do not expose to the elements for excessive periods, to prevent degradation of the container. Avoid contact with foodstuffs. Only mix with water. Avoid extreme heat.
- d. Incompatible materials: Highly exothermal reaction with strong acids. Aluminium, tin, zinc and their alloys, copper, lead, etc. Acetic acid, allyl chloride, chlorine trifluoride, chloroform, methylic alcohol, chloronitrotoluene, chlorosulphonic acid, glyoxal, cyanohydrin, hydrochloric acid, hydrofluoric acid, hydroquinone, nitric acid, sulphuric acid and oleum, nitropropane, phosphorous, propiolactone, phosphorous pentoxide, tetrachlorobenzene, tetrahydrofuran, nitromethane and nitroparaffins. Caustic soda forms salts with nitromethane and nitroparaffins that explode on impact. Caustic soda solution reacts readily with various reducing sugars (i.e.: fructose, galactose, maltose, dry whey solids) to produce carbon monoxide.
- e. Hazardous decomposition products: Reacts with aluminium, tin, zinc and their alloys, copper, lead, etc. giving off hydrogen. When the product decomposes, toxic sodium oxide gases are given off

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## 11. TOXICOLOGICAL INFORMATION

No adverse health effects expected if the product is handled in accordance with this Safety Data Sheet and the product label. Symptoms or effects that may arise if the product is mishandled and overexposure occurs are:

### **Animal Toxicity:**

Oral LDLO Rabbit: 500 mg/kg

Skin, Rabbit, Adult, 500 mg/24h Severe irritation

Eye, Rabbit, Adult 50mg/24h Severe irritation

Intra peritoneal, Mouse, LD50 40mg/kg

### **Ingestion:**

Swallowing can result in severe burns. Burns to the mouth, oesophagus, can cause intestinal perforation

### **Skin irritation:**

Contact with skin causes severe burns. Intense burning and ulcers penetrating the skin

### **Serious eye damage/irritation:**

Eye contact causes severe burns. Can cause ulceration of the conjunctiva and cornea.

### **Respiratory or skin sensation:**

inhalation causes severe burns. Irritation of the respiratory system.

12. ECOLOGICAL INFORMATION

- a. Ecotoxicity: Avoid contaminating waterways  
Acute toxicity to fish LC50 (lethal concentration, 50%): All available tests resulted in a range of toxicity values between 35 to 189 mg/l.  
Acute toxicity to crustaceans EC50 (effect concentration, 50%): Species: Ceriodaphnia. 40.4 mg/l (48 h; based on immobility).
  - b. Persistence and degradability: Readily biodegradable
  - c. Bio-accumulative potential: Not expected to bioconcentrate in organisms. In addition, sodium is a naturally-occurring element that is prevalent in the environment and to which organisms are exposed regularly, for which they have some capacity to regulate the concentration in the organism.
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13. DISPOSAL CONSIDERATIONS

Refer to Waste Management Authority. Dispose of containers in accordance with local/regional/national/international regulations. Dispose of material through a licensed waste contractor. Decontamination and destruction of containers should be considered.

Do not allow waste to enter waterways.

Contact a specialist disposal company or the local waste regulator for advice. The product can be neutralised using highly diluted hydrochloric acid, which should be added very slowly by specialised personnel wearing proper protection.

NEVER ATTEMPT TO NEUTRALISE THE SOLID PRODUCT.

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14. TRANSPORT INFORMATION

Classified as **DANGEROUS GOODS** by the criteria of the Australian Dangerous Goods Code (ADG Code) for Transport by Road and Rail; Dangerous Goods.

Proper Shipping Name: SODIUM HYDROXIDE, SOLID

Class: 8 Corrosive Substances

Subsidiary Risk(s): No Data Available

EPG: 37 Toxic And/or Corrosive Substances Non-Combustible

UN Number: 1823

Hazchem: 2W

Pack Group: II

Special Provision: No Data Available

Classified as **DANGEROUS GOODS** by the criteria of the International Maritime Dangerous Goods Code (IMDG Code) for transport by sea; Dangerous Goods.

Proper Shipping Name: SODIUM HYDROXIDE, SOLID  
Class: 8 Corrosive Substances  
Subsidiary Risk(s): No Data Available  
UN Number: 1823  
Hazchem: 2W  
Pack Group: II  
Special Provision: No Data Available  
EMS: FA,SB  
Marine Pollutant: No

Classified as **DANGEROUS GOODS** by the criteria of the International Air Transport Association (IATA) Dangerous Goods Regulations for transport by air; Dangerous Goods.

Proper Shipping Name: SODIUM HYDROXIDE, SOLID  
Class: 8 Corrosive Substances  
Subsidiary Risk(s): No Data Available  
UN Number: 1823  
Hazchem: 2W  
Pack Group: II  
Special Provision: No Data Available

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#### 15. REGULATORY INFORMATION

Classified as **HAZARDOUS** according to criteria of the Globally Harmonised System of Classification and Labelling of Chemicals 3rd Revised Edition.

**Class:**

Skin corrosion/irritation – category 1A

Corrosive to metals – Category 1

**Hazard statement(s):**

H290: May be corrosive to metals

H314: Causes severe skin burns and eye damage

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#### 16. OTHER RELEVANT INFORMATION

This Safety Data Sheet (SDS) has been prepared by Dalcon Hygiene

Reason(s) for Issue:

- Alignment to GHS requirements

This SDS summarises to the best of our knowledge at the date of issue, the chemical health and safety hazards of the material and provides general guidelines on how to safely handle the material. Dalcon Hygiene cannot anticipate or control the conditions under which the product may be used,

stored and transported, therefore, each user must, prior to usage, assess and control the possible risks.

If clarification or further information is required, the user should contact Dalcon Hygiene at the contact details in section 1d.

By using this product, the user agrees that they have read and understood this SDS, and, knowing the risks associated with the product, wish to use the product.