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 caustic alkali.
Read the label before opening or using.

Supplier: **Hunters Products (TAS) Pty. Ltd.,**
A.C.N. 004 601 263

HEAD OFFICE	**HOBART OFFICE**	**BURNIE OFFICE**
60 Gleadow Street,	105 Albert Road,	22 Pearl Street,
INVERMAY TAS 7248	MOONAH TAS 7009	WIVENHOE TAS 7320
Tel: 03 6331 4755	Tel: 03 6228 7955	Tel: 03 6431 9627
Fax: 03 6334 1065	Fax: 03 6228 7988	Fax: 03 6432 2083

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: 1/2	Keep locked up and out of the reach of children.
	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; Soda lye; Sodium hydrate; White caustic

CAS Number: 1310-73-2

Section 4: First Aid Measures

For advice, contact a Poisons Information Centre (Phone 131126) or a doctor.

Swallowed: If 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. Seek medical advice.

First Aid facilities:

Mandatory: Eye wash. Hand wash basin

Recommended: Emergency shower if handling industrial quantities.

Advice to Doctor:

Product is sodium hydroxide. Corrosive to living tissues. May cause severe burns. Causes severe eye damage. If swallowed, may cause holes in the stomach and intestines. Gastric lavage may not be appropriate. Contact Poisons Information Centre.

Aggravated medical conditions:

No specific data found.

Section 5: Fire Fighting Measures

HAZCHEM Code: 2 X

Evacuate: No.

Extinguishant: Water fog or fine water spray.

Risk of violent reaction or explosion: No.

Products of combustion: Sodium oxide fume.

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

Section 6: Accidental Release Measures

Emergency Procedures:
Contain.

For large spills:
Contain spillages with sand or earth. Transfer both liquid and solids to suitable container(s). Treat residues as for small spills.

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 and transfer to suitable closed container. Wash site of spillage thoroughly with water and detergent.

Section 7: Handling and Storage

Precautions for safe handling:
Avoid contact with skin and eyes.
Avoid breathing dusts.
Keep away from acids, organic materials including wood and paper 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. Keep container tightly closed and out of direct sunlight. Keep away from acids and acid salts, active metals (such as aluminium, tin, zinc), ammonium compounds, flammable liquids, organic nitro compounds, organic halides, metal salts, oxidising agents, wood and paper. Protect from physical damage. Clean up all spills promptly; avoid secondary accidents.

Incompatibles:
Acids and acidic materials, active metals, glass, organic halides, organic nitro-compounds, ammonium salts, flammable liquids, metal salts, oxidisers.

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.

Engineering Controls:

Avoid using aluminium, tin, zinc or galvanised iron, glass, wood or paper products as materials of construction.
Ensure adequate ventilation (same as outdoors) when using.
If handling industrial quantities, or if dust/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:

Avoid contact with skin and eyes. Avoid breathing dusts 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:

Positive pressure air hood
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, flakes or prills.
Odour:	Odourless.
pH:	(0.5 % in water): 13 - 14 Extremely alkaline.
Vapour Pressure:	No data.
Vapour Density:	Not applicable.
Boiling Point:	1,390 °C
Melting Point:	324 °C
Volatiles:	Nil.
Volatile Organic Compounds (VOC):	None.
Evaporation Rate:	Not applicable.
Solubilities:	Very soluble in water, with evolution of heat. Soluble in ethanol, glycerol, methanol.
Specific Gravity/Density:	2.1 (Water = 1)
Flash Point:	None.
Flammable Limits:	None.

Dust Explosion: Will not happen.
Auto-ignition Temperature: No data.

Other Information:
Highly alkaline, will react violently with acids. Hygroscopic, will absorb moisture from the air. Will absorb carbon dioxide from the air, forming a coating of sodium carbonate. Will get hot when dissolved in water and may boil. Always add this material to water, never add water to this material. May boil explosively if added to hot water. Contact with active metals (such as aluminium, tin, zinc) may generate hydrogen, a flammable gas. Contact with ammonium compounds may generate ammonia, a toxic gas. May form shock-sensitive products with organic nitro compounds. May react vigorously, violently, catch fire or cause explosions with a wide variety of chemicals. Will attack wood and paper products, and glass on prolonged contact. May react with sugars to generate carbon monoxide, a toxic, odourless gas.

Section 10: Stability and Reactivity

Chemical Stability: Stable under suitable conditions.

Conditions to Avoid: Incompatible materials, exposure to moisture or air.

Incompatible Materials: Oxidising agents, acids, acidic materials, ammonium compounds, nitro compounds, organic halides, active metals, wood, paper, glass.

Hazardous Decomposition Products: Sodium oxide fume.

Hazardous Reactions: Will react violently with acids.
May boil explosively if added to hot water.
May form shock-sensitive products with organic nitro compounds.
May react violently with organic halides.
Contact with sugars may generate carbon monoxide.

Section 11: Toxicological Information

Health Effects:
No data available for the mixture. Information presented relates to individual ingredients.

Acute: **Swallowed:** 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 and death. May cause perforation of the stomach and intestines, and the sites of subsequent

scarring have been associated with the later development of stomach cancer. Internal damage may not be apparent until days after exposure, but may still prove fatal.

Skin: Causes severe, deep burns.
Exposure to dusts or mists may cause small burns, redness and a rash.

Eyes: Corrosive to eyes.
Contact with the eyes rapidly causes severe damage to the tissues.
May cause redness, pain, blurred vision.
May cause severe, deep burns and permanent impairment to, or total loss of, sight.

Inhaled: Inhalation of dusts or concentrated mists may cause damage to the upper respiratory tract and lungs.
Symptoms may range from a mild irritation of the mucous membranes, cough, a burning sensation, laboured breathing, sneezing, sore throat, a runny nose, to severe pneumonitis (irritation and inflammation of lung tissues). Inhalation may also cause pulmonary oedema (fluid build-up in the lungs), with the potential to become a medical emergency. Onset of symptoms may be delayed for several hours.

Chronic: Repeated, slight skin exposure may lead to dermatitis.

LD_{50}: Sodium hydroxide — No data found.

LDLo: Sodium hydroxide — 1.57 mg/kg oral, human - anorexia, body temperature increase, primary irritation (after topical exposure), death.
500 mg/kg oral, rabbit.

LCLo: Sodium hydroxide — 25 pph skin, rabbit.

Section 12: Ecological Information

Ecotoxicity: Toxic to aquatic organisms.

Persistence and degradability: No data.

Mobility: Readily transported by water.

Environmental Fate: No data.

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.
Do not use aluminium, tin, zinc or galvanised iron containers.

Special precautions for landfill or incineration:
Unsuitable for incineration.

Section 14: Transport Information

UN Number:	UN 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 dangerous goods of classes, 1, 4.3, 5.1, 5.2, 7, 8 (acids), foodstuff and foodstuff empties.
HAZCHEM Code:	2 X
Material for export:	Regulated. Refer to **IMO/IMDG** and **IATA/ICAO**.

Section 15: Regulatory Information

Poisons (SUSDP): Schedule 6
Sodium hydroxide > 5 %

Dangerous Goods: Yes. UN 1823 8/II 2 X.

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: June 2007
Complete review and re-write of all sections.

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).
NPT - National Toxicology Program (USA).
RTECS - Registry of Toxic Effects of Chemical Substances.

Literature references:

Other 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.