



Section 1: Identification of the Material and Supplier

Product Name: Sodium hypochlorite

Other Names: Sodium hypochlorite with 12.5 % available chlorine.

Proper shipping name (ADG Code): Hypochlorite solution

Recommended use: As a sanitiser and bleaching agent.
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: 34 Causes burns.
R: 31 Contact with acids liberates toxic gas.

Safety Phrases: S: 1/2 Keep locked up and out of the reach of children.
S: 28 After contact with skin, wash immediately with plenty of water.
S: 45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).
S: 50 Do not mix with other chemicals.

Section 3: Composition/Information on Ingredients

Ingredients:

Sodium hypochlorite	[7681-52-9]	10 - 30 %
Sodium hydroxide	[1310-73-2]	< 5 %
Other ingredients deemed not to be hazardous		10 - 30 %
Water	[7732-18-5]	to 100 %
Available chlorine	[7782-50-5]	up to 12.5 %

Section 4: First Aid Measures

For advice, contact a Poisons Information Centre (Phone 131 126) 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 Center 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 a concentrated solution of sodium hypochlorite containing up to 12.5 % of available chlorine. Corrosive by all routes. Risk of serious eye damage. If swallowed, vomiting should not have been induced. Contact Poisons Information Centre.

Aggravated medical conditions:

Persons with pre-existing respiratory disease may be more at risk from this product.

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: Water vapour, chlorine, hydrogen chloride.
- Protective Equipment: Full protective clothing including breathing apparatus and protective gloves.

Section 6: Accidental Release Measures

Emergency Procedures:

Increase ventilation.
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 absorb on inert absorbent, transfer to suitable container and arrange removal by disposals company. Ventilate area to dispel any residual vapours.

Section 7: Handling and Storage

Precautions for safe handling:

Avoid contact with skin and eyes.
Do not breathe vapours.
Keep away from acids, oxidising agents, other chlorinating compounds, any other chemicals, combustible materials.

Conditions for safe storage:

Store in a cool, well ventilated place, out of reach of children. Large quantities should be stored in a bonded dangerous goods store. Store in original container. Keep container tightly closed and out of direct sunlight. Keep away from acids, oxidising agents, metals, combustible materials, other chlorinating compounds. Protect from physical damage. Clean up all spills and splashes promptly; avoid secondary accidents.

Incompatibles:

Oxidising agents, acids, combustible materials, metals, other chlorinating compounds.

Section 8: Exposure Controls/Personal Protection

National Exposure Standards:

ES-TWA: Chlorine 1 ppm, 3 mg/m³

ES-STEL: None assigned.

ES-PEAK: Chlorine 1 ppm, 3 mg/m³

Notations: None.

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

Biological Limit Values: No data found.

Engineering Controls:

Avoid using metals, wood or wood products as materials of construction.

Ensure adequate ventilation (same as outdoors) when using.

If handling industrial quantities, or if vapour/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 vapours 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: Clear or slightly yellowish-green liquid.
Odour: Characteristic "hypochlorite" odour.
Odour threshold (chlorine): 0.3 ppm
pH: 13 Alkaline.
Vapour Pressure: 17.5 mm Hg @ 20 °C
Vapour Density: Vapours will be heavier than air.
Boiling Point: From 100 °C
Melting Point: -16 °C
Volatiles: 77 % [water]
12.5 % [available chlorine]
Volatile Organic Compounds (VOC): Nil.
Evaporation Rate: No data.
Solubilities: Miscible with water in all proportions.
Specific Gravity/Density: 1.21 - 1.25 g/mL @ 20 °C
Flash Point: None.
Flammable Limits: None.
Dust Explosion: Not applicable.
Auto-ignition Temperature: No data.

Other Information:

Highly alkaline, chlorinating liquid. Will react vigorously or violently with acids, generating chlorine, a toxic gas. May evolve oxygen on prolonged storage, building up pressure inside sealed containers. Attacks many metals. May form explosive compounds with amines, ammonium compounds, methanol, aziridine. Explosive reactions with formic acid, phenylacetonitrile. May react with combustible materials, metal salts, peroxides. May be decomposed by contamination or exposure to sunlight. Slippery when spilled.

Section 10: Stability and Reactivity

Chemical Stability: Stable under normal conditions.

Conditions to Avoid: Incompatible materials, sunlight, heat.

Incompatible Materials: Acids, peroxides, combustible materials, metals, metal salts, amines, ammonium compounds, methanol, formic acid, phenylacetonitrile, other chlorinating compounds.

Hazardous Decomposition Products: Chlorine, oxygen, sodium chlorate, hydrogen chloride.

Hazardous Reactions: Contact with acids will generate chlorine. Explosive reactions with formic acid, phenylacetonitrile. May form explosive products with amines, ammonium compounds, methanol, azaridine. May react violently with other types of chlorinating compounds. Contact with combustible materials may cause fire.

Section 11: Toxicological Information

Health Effects:

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

Acute:	Swallowed:	Corrosive and irritating. May cause corrosion of the mucous membranes in the mouth, throat and gastrointestinal tract, a burning sensation, pain, abdominal cramps, oesophageal or gastric perforation, laryngeal oedema (swelling of the larynx). May cause somnolence (general depressed activity), lowering of blood pressure, nausea, vomiting, weakness, delirium, loss of consciousness and coma.
	Skin:	Irritating or corrosive to skin. May cause redness, pain, blisters and/or serious burns.
	Eyes:	Irritating or corrosive to eyes. May cause redness, pain, severe deep burns. Prolonged contact with eyes may lead to permanent injury.
	Inhaled:	Vapours are irritating to the respiratory system. May cause coughing, a burning sensation, difficulty breathing. May cause severe bronchial irritation, swelling and obstruction of the airways, and pulmonary oedema (fluid build-up in lung tissues). Onset of symptoms may be delayed by a few hours. Pulmonary complications (often from aspiration into the lungs) may contribute to the death of a casualty.
Chronic:		Prolonged skin contact may lead to irritation and dermatitic effects. In rare cases, chronic exposure has led to skin sensitisation, although sodium hypochlorite is not a known sensitiser. Chronic exposure to sodium hypochlorite may lead to methaemoglobinaemia, characterised by chocolate-brown coloured blood, headache, dizziness, weakness, shortness of breath, cyanosis, rapid heart rate, unconsciousness and possible death. Repeated, low-level exposure to chlorine gas may lead to chloracne and erosion of the teeth. Hypochlorite salts (including sodium hypochlorite) are classified by IARC as group 3; unclassifiable as to carcinogenicity to humans (inadequate animal data, no human data). (1)
LD50:	Sodium hypochlorite	5,800 mg/kg oral, mouse.
TDL0:	Sodium hypochlorite	1,000 mg/kg oral, woman - general depressed activity, blood pressure lowering, corrosive to skin (after topical exposure).

Section 12: Ecological Information

Ecotoxicity:	Harmful to aquatic organisms.
Persistence and degradability:	Decomposes slowly on exposure to sunlight, and most forms of contamination, generating chlorine.
Mobility:	Readily transported by water.
Environmental Fate:	Readily degraded to chloride.
Bioaccumulative potential:	Not expected to bioaccumulate.
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 drains, natural waters or the environment.
Do not use metal containers.

Special precautions for landfill or incineration:

Unsuitable for incineration.
May not be suitable for landfill sites.

Section 14: Transport Information

UN Number:	UN 1791
UN Proper shipping name:	Hypochlorite solution 12.5 %
Class and subsidiary risk:	8 Corrosive.
Packaging group:	III
Special precautions for user:	Do not store or transport with dangerous goods of classes 1, 4.3, 5.1, 5.2, 7, 8 (acids), foodstuffs 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 5
Chlorinating compound containing < 20 % of available chlorine; and Sodium hydroxide 5 % or less.

Dangerous Goods: Yes. UN 1791 8/III 2 X.

Carcinogen: **Australia** **IARC** **NTP** **RTECS**
No. Yes. (1) No. No.

Agricultural and Veterinary Chemicals Act:

This product is registered with the Australian Pesticides and Veterinary Medicines Authority (APVMA).

Australian Inventory of Chemical Substances (AICS): Listed.

Other National/International Regulations: No data found.

Section 16: Other information

Date of MSDS update: September 2009
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).
NTP - National Toxicology Program (USA).
RTECS - Registry of Toxic Effects of Chemical Substances.

Literature references:

- (1) *IARC Monographs on the Evaluation of Carcinogenic Risks to Humans: Hypochlorite salts.*
v.52, p.159, 1991.

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.