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Material Safety Data Sheet

SECTION 1 IDENTIFICATION OF MATERIAL AND SUPPLIER

Product Name SODIUM HYPOCHLORITE SOLUTION

Synonyms Liquid pool chlorine, Liquid Bleach, Labarraque's Solution

Recommended Use Bleaching agent, Disinfectant, Oxidising agent

Supplier AGent Sales & Services Pty Ltd

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SECTION 2 HAZARDS IDENTIFICATION

This material is hazardous according to criteria of NOHSC Australia; **HAZARDOUS SUBSTANCE**
 Classified as a dangerous good by the criteria of the ADG Code; **DANGEROUS GOODS**

Hazard Category

C Corrosive

Risk Phrases

R31 Contact with acids liberates toxic gas

R34 Causes burns

R50 Very toxic to aquatic organisms

Safety Phrases

S1/2 Keep locked up and out of reach of children

S23 Do not breathe vapour

S24/25 Avoid contact with skin and eyes

S36/37/39 Wear suitable protective clothing, gloves & eye/face protection

S38 In case of insufficient ventilation, wear suitable respiratory equipment

S45 In case of accident or if you feel unwell seek medical advice immediately (show the label where possible)

S50 Do not mix with incompatible materials

Poisons Schedule: S5 Caution

SECTION 3 COMPOSITION AND INFORMATION ON INGREDIENTS

Name of Hazardous Ingredients	CAS Number	Proportion (%)
Sodium Hypochlorite	7681-52-9	12 - 30%
Water	7732-18-5	Balance

SECTION 4 FIRST AID MEASURES

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

Eye	If in eyes, hold eyelids apart and flush the eye continuously with running water for at least 15 minutes. Seek immediate medical assistance
Inhalation	If inhaled, remove from contaminated area – avoid becoming a casualty. To protect rescuer, use a Full-face Type B (Inorganic and acid gas) respirator or an Air-line respirator. Remove contaminated clothing and loosen clothing. Apply artificial respiration if not breathing. Seek immediate medical advice.
Skin	If skin or hair contact occurs, remove contaminated clothing and flush skin and hair with running water for at least 15 minutes. If swelling, redness, blistering, or irritation occurs seek medical assistance.
Ingestion	Immediately rinse mouth with water. If swallowed do not induce vomiting. Give a glass of water. Seek immediate medical assistance.
Advice to Doctor	Treat symptomatically. Can cause corneal burns. Delayed pulmonary oedema may result. Ingestion of hypochlorites releases hypochlorous acid which is irritating to the mucous membranes and skin but has low systemic toxicity. Buffer the acid by administering antacids.

First Aid Facilities Eye wash facilities and safety shower should be available.

SECTION 5 FIRE-FIGHTING MEASURES

Suitable Extinguishing Media: Water fog (or if unavailable, fine water spray), normal foam, dry chemical powder, carbon dioxide

Specific Hazards: Non-combustible. Decomposes on heating, emitting toxic fumes, including those of chlorine.

Precautions for Fire Fighters and Special Protective Equipment: Wear self-contained breathing apparatus and suitable protective clothing if risk of exposure to products of decomposition.

Hazchem Code: 2X

SECTION 6 ACCIDENTAL RELEASE MEASURES

If contamination of sewers or waterways has occurred advise local emergency services. Observe all local and national regulations.

Small Spills: Wear protective equipment to prevent skin and eye contamination. Avoid inhalation of vapours. Wipe up with absorbent (clean rag or paper towels). Rinse absorbent with copious quantities of water. Allow absorbent to dry before disposing with normal household garbage.

Large Spills: Shut off all possible sources of ignition. Clear area of all unprotected personnel. Slippery when spilt. Avoid accidents, clean up immediately. Wear protective equipment to prevent skin and eye contamination and the inhalation of vapours. Work up wind or increase ventilation. Contain - prevent run off into drains and waterways. Use absorbent (soil, sand or other inert material). Collect and seal in properly labelled containers or drums for disposal. If contamination of sewers or waterways has occurred advise local emergency services.

Dangerous Goods Initial Emergency Response Guide (SAA/SNZ HB76:2010): 37

SECTION 7 HANDLING AND STORAGE

This material is classified as a Dangerous Good Class 8 Corrosive by the criteria of the ADG Code and must be stored and handled in accordance with the relevant regulations.

This material is a Scheduled Poison S5 and must be stored, maintained and used in accordance with the relevant regulations.

Storage: Store in a secured, cool, dry, well ventilated area, removed from reducing agents, acids, organic materials, amines, metals, heat or ignition sources and foodstuffs. Ensure containers are adequately labelled, protected from physical damage, sealed when not in use, vented and stored upright. Check regularly for leaks or spills. Large storage areas should have appropriate ventilation systems.

Handling: Before use carefully read the product label. Use of safe work practices are recommended to avoid eye or skin contact and inhalation. Observe good personal hygiene, including washing hands before eating. Prohibit eating, drinking and smoking in contaminated areas.

SECTION 8 EXPOSURE CONTROLS AND PERSONAL PROTECTION

Exposure Standards:

Chemical Name	Reference	TWA		STEL		Carcinogen Category	Notices
		ppm	mg/m ³	ppm	mg/m ³		
Sodium Hypochlorite	ASCC	1	3	-	-	-	-

As published in "Workplace Exposure Standards for Airborne Contaminants, December 2011" by SWA.

Biological Limit: None allocated for this product.

Engineering Controls: Ensure ventilation is adequate and that air concentrations of components are controlled below quoted Exposure Standards. If inhalation risk exists, use with local exhaust ventilation or while wearing suitable mist respirator. Keep containers closed when not in use.

Personal Protective Equipment:

The selection of PPE is dependent on a detailed risk assessment. The risk assessment should consider the work situation, the physical form of the chemical, the handling methods and environmental factors.

Respiratory Protection: If engineering controls are inadequate, wear an approved P1 or P2 particulate filter respirator conforming to AS/NZS1715 and AS/NZS1716.

Hand Protection: Use impervious elbow length PVC or butyl rubber gauntlet-type gloves.

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

Protective Clothing: PVC overalls or jacket and pants and butyl rubber Wellington boots.

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Clear, pale yellow - green liquid

Odour: Chlorine

pH: 12.5 @ 10% solution

Boiling Point: >100°C

Melting Point: -25°C

Evaporation Rate: Not available

Flash Point: Not applicable

Flammability Limits: Not applicable

Specific Gravity: 1.17 – 1.22 @ 20°C

Vapour Density (air=1): Not available

Vapour Pressure: 17.5 mm Hg @ 20°C

% Volatiles: 80% - 95%

Solubility in water: Miscible with water

SECTION 10 STABILITY AND REACTIVITY

Reactivity: Contact with acids liberates toxic gas. Contact with hydrochloric acid evolves chlorine gas.

Chemical Stability: Product is stable under normal conditions of use, storage and temperature. The amount of available chlorine diminishes over time.

Hazardous Reactions: Polymerisation is not expected to occur. Reacts exothermically with acids. Reacts with ammonia, amines and ammonium salts to produce chloramines. Decomposes on heating to produce chlorine gas.

Conditions to Avoid: Avoid heat, sparks, open flames and other ignition sources

Incompatible Materials: Incompatible with acids , metals , metal salts , peroxides , reducing agents , and ethylene diamine tetraacetic acid . Incompatible with ammonia and ammonium compounds such as amines and ammonium salts.

Hazardous Decomposition Products: May evolve toxic gases (chlorine) when heated to decomposition.

SECTION 11 TOXICOLOGICAL INFORMATION

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

HEALTH EFFECTS

Acute:

Ingestion: Corrosive - toxic. Ingestion may result in burns to the mouth and throat, nausea, vomiting, ulceration of the gastrointestinal tract, breathing difficulties, circulatory collapse and coma. LD₅₀ (Ingestion, mouse) = 5,800 mg/kg. TDL_o (Ingestion, woman) =1 g/kg

Eye Contact: Highly corrosive. Contact may result in irritation, lacrimation, pain, redness, conjunctivitis and corneal burns with possible permanent damage..

Skin Contact: Severe eye irritant. Corrosive. Contact may result in irritation, redness, pain, rash, dermatitis and possible burns. Prolonged or repeated contact may result in ulceration.

Inhalation: Corrosive - toxic. Over exposure may result in mucous membrane irritation of the respiratory tract, coughing and possible burns. High level exposure may result in ulceration of the respiratory tract, breathing difficulties, chemical pneumonitis and pulmonary oedema (can be delayed up to 48 hours).

Chronic: No information available for this product.

SECTION 12 ECOLOGICAL INFORMATION

Ecotoxicity: Avoid contaminating waterways. Very toxic to aquatic animals.

Persistence/Degradability: Miscible with water. Hypochlorites are non-persistent in the environment.

Bioaccumulative Potential: No accumulation potential as they gradually decompose into a salt and oxygen.

Mobility in Soil: Miscible with water May leach to groundwater with resultant toxicity to aquatic organisms.

Environmental Impact: May release toxic chlorine gas. Hypochlorites are extremely toxic to fish. LC₅₀ (fish) = 0.07 – 5.9 mg/L / 48h

SECTION 13 DISPOSAL CONSIDERATIONS

Ensure waste disposal conforms to relevant local, state and federal authority waste disposal regulations.

Disposal Methods: Add to a large volume of reducing solution (eg thiosulphate, metabisulphite, but not carbon, sulphur or strong reducer) and acidify with 3M sulphuric acid. When reduction is complete, add mixture to water and neutralise. Absorb with sand or similar non-combustible material and dispose of to an approved landfill site. Dispose of all contained and neutralised spill residue in accordance with DEC requirements. Treat empty containers as filled containers as required under the ADG Code.

SECTION 14 TRANSPORTATION INFORMATION

Classified as a Dangerous Goods by the criteria of the ADG Code for transport by road and rail.

UN No: 1791

Class: 8 Corrosive

Packing Group: III

Proper Shipping Name: HYPOCHLORITE SOLUTION
Hazchem Code: 2X
Special Precautions for User: Not to be loaded with explosives (Class 1), dangerous when wet substances (Class 4.3), oxidising agents (Class 5.1), organic peroxides (Class 5.2), radioactive substances (Class 7) or food and food packaging in any quantity, however exemptions may apply. Note that concentrated strong alkalis are incompatible with concentrated strong acids.

Dangerous Goods Initial Emergency Response Guide (SAA/SNZ HB76:2010): 37

SECTION 15 REGULATORY INFORMATION

Poison Schedule Classified as a S5 product using the criteria in the Standard for the Uniform Scheduling of Drugs and Poisons (SUSDP).

AICS All chemicals listed on the Australian Inventory of Chemical Substances.

Dangerous Goods Initial Emergency Response Guide (SAA/SNZ HB76:2010): 37

SECTION 16 OTHER INFORMATION

Key / legend to abbreviations and acronyms used in the MSDS

ADG	Australian Dangerous Goods
ASCC	Australian Safety and Compensation Council
DEC	Department of Environment and Conservation
IATA	International Air Transport Association
IMDG	International Maritime Dangerous Goods
NOHSC	National Occupational Health and Safety Commission
SUSDP	Standard for the Uniform Scheduling of Drugs and Poisons
TWA	Time weighted average
STEL	Short term exposure level
SWA	Safe Work Australia
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
LC ₅₀	Lethal concentration that kills 50% of an animal population within a specified time
TD Lo	The lowest dose of a substance known to have produced signs of toxicity
mg/m ³	Milligrams per cubic metre
mg/kg	Milligrams per kilogram
pH	Relates to hydrogen ion concentration - this value will relate to a scale of 0 - 14, where 0 is highly acidic and 14 is highly alkaline

Literature references

Contact Points

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Disclaimer

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