

## MATERIAL SAFETY DATA SHEET

Product Code: D0036: File S:\Maestro.doc

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### Section 1 – Statement of Hazardous Nature, Chemical Product and Company Identification

**CLASSIFIED AS HAZARDOUS ACCORDING TO CRITERIA OF NOHSC AND  
CLASSIFIED AS A DANGEROUS GOOD ACCORDING TO THE ADG CODE.**

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Product Name: **MAESTRO**

Other names: Sodium Hypochlorite 125 g/L, Liquid chlorine, Hypoclear

### SECTION 2 - HAZARDS IDENTIFICATION

Appearance: clear yellow liquid.

**Emergency overview:** Harmful if inhaled. Corrosive. Toxic. Oxidizer. Light sensitive. May cause methemoglobinemia. Causes eye and skin burns. Causes digestive and respiratory tract burns.

Target Organs: Blood.

Potential Health Effects

Eye: Causes eye burns. Causes redness and pain.

Skin: Causes skin burns. Causes redness and pain.

Ingestion: Causes gastrointestinal irritation with nausea, vomiting and diarrhoea. Causes gastrointestinal tract burns. Overexposure may cause methemoglobinemia.

Inhalation: Harmful if inhaled. May cause severe irritation of the respiratory tract with sore throat, coughing, shortness of breath and delayed lung oedema. Causes chemical burns to the respiratory tract.

Chronic: May cause methemoglobinemia, which is characterised by chocolate-brown coloured blood, headache, weakness, dizziness, breath shortness, cyanosis, rapid heart rate, unconsciousness and possible death.

### SECTION 3 - COMPOSITION, INFORMATION ON INGREDIENTS

CAS#	Chemical Name	%w/v
7681-52-9	Sodium hypochlorite	12.5 as available chlorine
1310-73-2	Sodium hydroxide	<1
7732-18-5	Water	Balance

### SECTION 4 - FIRST AID MEASURES

Eyes: Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower lids. Get medical aid.

Skin: Get medical aid. Flush skin with plenty of soap and water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse. Destroy contaminated shoes.

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Ingestion: Never give anything by mouth to an unconscious person. Do NOT induce vomiting. Allow the victim to rinse his mouth and then to drink 2-4 cupfuls of water, and seek medical advice.

Inhalation: Remove from exposure to fresh air immediately. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical aid.

Notes to Physician: For methemoglobinemia, administer oxygen alone or with Methylene blue depending on the methemoglobinemia concentration in the blood.

### SECTION 5 - FIRE FIGHTING MEASURES

General Information: As in any fire, wear a self-contained breathing apparatus in pressure-demand, AS1715/1716 approved or equivalent, and full protective gear. Substance is noncombustible. Oxidizer. Greatly increases the burning rate of combustible materials. Containers may explode in the heat of a fire.

Extinguishing Media: Use extinguishing media most appropriate for the surrounding fire. Do NOT get water inside containers. For small fires, use dry chemical, carbon dioxide, or water spray. For large fires, use dry chemical, carbon dioxide, alcohol-resistant foam, or water spray. Cool containers with flooding quantities of water until well after fire is out.

Autoignition Temperature: Not available.

Flash Point: Not available.

NFPA Rating: Not published.

Explosion Limits, Lower: N/A; Upper: N/A

### SECTION 6 - ACCIDENTAL RELEASE MEASURES

General Information: Use proper personal protective equipment as indicated in Section 8.

Spills/Leaks: Absorb spill with inert material, (eg. dry sand or earth), then place into a chemical waste container. Avoid runoff into storm sewers and ditches which lead to waterways. Remove all sources of ignition. Use a spark-proof tool. Do not get water inside containers. Residues should be treated with dilute sodium thiosulphate solution and flushed to the drain with excess water

### SECTION 7 - HANDLING AND STORAGE

Handling: Do not breathe vapour, mist, or gas. Do not get in eyes, on skin, or on clothing. Use only in a chemical fume hood. Discard contaminated shoes.

Storage: Do not store in direct sunlight. Store in a tightly closed container. Store in a dry area. Corrosives area. Refrigerator (approx 4°C). Do not get water inside containers.

### SECTION 8 - EXPOSURE CONTROLS, PERSONAL PROTECTION

NOHSC Exposure Limits: Chlorine: TWA 1 ppm (3 mg/m<sup>3</sup> peak limitation)

Engineering Controls: Facilities storing or utilising this material should be equipped with an eyewash facility and a safety shower.

Personal Protective Equipment

Eyes: Wear appropriate protective eyeglasses or chemical safety goggles.

Skin: Wear appropriate protective gloves to prevent skin exposure.

Clothing: Wear appropriate protective clothing to minimize contact with skin.

Respirators: Use AS 1715/1716 approved respirators if exposure limits likely to be exceeded.

### SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

Appearance: clear yellow liquid

Odour: Disagreeable, sweetish odour

pH: 13 approximately.

Vapour Pressure: 17.5 mm Hg @ 20°C

Vapour Density: Not available.

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Evaporation Rate: Not available.  
Viscosity: mPa.s 20°C: 2.6 at 1 atm  
Boiling Point: 100-110°C (decomposes).  
Freezing/Melting Point: -16°C  
Decomposition Temperature: Not available.  
Solubility: soluble in water  
Specific Gravity/Density: 1.18  
Molecular Formula: NaClO  
Molecular Weight: 74.44

### SECTION 10 - STABILITY AND REACTIVITY

Chemical Stability: Stable under normal temperatures and pressures.  
Conditions to Avoid: Light, combustible materials, strong acids, temperature above 40°C.  
Incompatibilities with Other Materials: Strong acids, amines, ammonia, ammonium salts, reducing agents, metals, formic acid, methanol, formic acid, and phenylacetone nitrile.  
Hazardous Decomposition Products: Hydrogen chloride, chlorine, irritating and toxic fumes and gases, sodium oxide.  
Hazardous Polymerization: Will not occur.

### SECTION 11 - TOXICOLOGICAL INFORMATION

Sodium Hypochlorite: CAS# 7681-52-9: Oral, mouse: LD50 = 5800 mg/kg.  
Chlorine: CAS# 7782-50-5: Inhalation, mouse: LC50 = 137 ppm/1H; Inhalation, rat: LC50 = 293 ppm/1H.  
Carcinogenicity:  
Sodium hypochlorite - Not listed by ACGIH, IARC, NIOSH, NTP, or OSHA.  
Chlorine - ACGIH: A4 - Not Classifiable as a Human Carcinogen  
Epidemiology: No information available.  
Teratogenicity: No information available.  
Reproductive Effects: No information available.  
Neurotoxicity: No information available.  
Mutagenicity: mmo-sat 1 mg/plate dnr-esc 20<sup>a</sup>g/disc dnd-esc 420<sup>a</sup>mol/L EPA GENETOX PROGRAM 1988, Positive: E coli polA without S9 EPA GENETOX PROGRAM 1988, Positive/dose response: In vitro cytogenetics-nonhuman EPA GENETOX PROGRAM 1988, Inconclusive: Histidine reversion-Ames test EPA TSCA  
Section 8(b) CHEMICAL INVENTORY

### SECTION 12 - ECOLOGICAL INFORMATION

Ecotoxicity: LC50 (48 hr) rainbow trout: 0.07 mg/l [Nikunen, E. Ecotoxicol. Environ. Saf. 1985, 9, 84-91] LC50 (96 hr) fathead minnow: 5.9 mg/l [Curtis, M. W. et al J. Hydrol. 1981, 51, 359]  
Environmental Fate: Not available.  
Physical/Chemical: Not available.  
Other: Not available.

### SECTION 13 - DISPOSAL CONSIDERATIONS

Dispose of in a manner consistent with federal, state, and local regulations.

### SECTION 14 - TRANSPORT INFORMATION

Australian DG Shipping Name: HYPOCHLORITE SOLUTIONS; UN 1791, Class 8; Hazchem 2X; Packing Group: III  
IMO Shipping Name: HYPOCHLORITE SOLUTION; Hazard Class: 8; UN Number: 1791; Packing Group: III

