



MATERIAL SAFETY DATA SHEET

PRODUCT NAME **COMMERCIAL BLEACH (ECOWASH)**

1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

Supplier Name ECOWASH SYSTEMS
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Synonym(s) ECOWASH COMMERCIAL BLEACH
Use(s) BLEACHING AGENT • DISINFECTANT
MSDS Date 25 July 2007

2. HAZARDS IDENTIFICATION

CLASSIFIED AS HAZARDOUS ACCORDING TO NOHSC CRITERIA

RISK PHRASES

R31 Contact with acids liberates toxic gas.
R36/38 Irritating to eyes and skin.

SAFETY PHRASES

S36/37/39 Wear suitable protective clothing, gloves and eye/face protection.
S50 Do not mix with incompatible materials.

CLASSIFIED AS A DANGEROUS GOOD BY THE CRITERIA OF THE ADG CODE

UN No.	1791	DG Class	8	Subsidiary Risk(s)	None Allocated
Pkg Group	III	Hazchem Code	2X	EPG	8A1

3. COMPOSITION / INFORMATION ON INGREDIENTS

Ingredient	Formula	CAS No.	Content
SODIUM HYPOCHLORITE	Cl-O.Na	7681-52-9	<10%
CHLORINE - AVAILABLE	Cl ₂	7782-50-5	6.25%
WATER	H ₂ O	7732-18-5	remainder

4. FIRST AID MEASURES

Eye Hold eyelids apart and flush continuously with water. Continue until advised to stop by the Poisons Information Centre, a doctor, or for at least 15 minutes. Keep patient calm.

Inhalation Leave area of exposure immediately. If symptoms occur, seek urgent medical attention. If assisting a victim avoid becoming a casualty, wear a Full-face Type B (Inorganic and acid gas) respirator or Air-line respirator (in poorly ventilated areas). If victim is not breathing apply artificial respiration.

Skin Remove contaminated clothing and gently flush affected areas with water. Seek medical attention if irritation develops. Launder clothing before reuse.

Ingestion DO NOT induce vomiting. Immediately wash out mouth with water, and then give water to drink. Seek medical attention.

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Advice to Doctor Treatment is symptomatic. 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 is essential, a hand wash basin and safety shower are recommended.

5. FIRE FIGHTING MEASURES

Flammability Non flammable. May evolve highly toxic gases (chlorine) when heated to decomposition. May also evolve hydrogen chloride when heated to decomposition.

Fire and Explosion Non flammable. Evacuate area and contact emergency services. Toxic gases (chlorine) may be evolved. Remain upwind and notify those downwind of hazard. Wear full protective equipment (see spill above) including Self Contained Breathing Apparatus (SCBA) when combating fire. Use waterfog to cool intact containers and nearby storage areas.

Extinguishing Non flammable. Prevent contamination of drains or waterways, absorb runoff with sand or similar.

Hazchem Code 2X

6. ACCIDENTAL RELEASE MEASURES

Spillage If spilt (bulk), contact emergency services. Wear a faceshield, coveralls, PVC/rubber gloves, apron and boots. Where an inhalation risk exists wear a Type B (Inorganic and acid gas) respirator. Ventilate and clear area of all unprotected personnel. Absorb spill with sand or similar non-combustible material, collect and place in sealable containers for disposal.

7. STORAGE AND HANDLING

Storage Store in cool, dry, well ventilated area, removed from direct sunlight, oxidising agents, acids, reducing agents, organic materials, amines, ammonia, metals, heat sources and foodstuffs. Ensure containers are adequately labelled, protected from physical damage, sealed when not in use, vented & stored upright. Check regularly for 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.

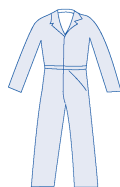
8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure Standards	Ingredient	Reference	TWA		STEL	
			ppm	mg/m3	ppm	mg/m3
	CHLORINE - AVAILABLE	NOHSC (AUS)	1	3	--	--
	SODIUM HYPOCHLORITE	NOHSC (AUS)	1	3	--	--

Biological Limit Values No biological limit allocated.

Engineering Controls Do not inhale vapours. Use in well ventilated areas. In poorly ventilated areas, mechanical extraction ventilation is recommended. Maintain vapour levels below the recommended exposure standard.

PPE Wear splash-proof goggles, rubber or PVC gloves and coveralls. When using large quantities or where heavy contamination is likely, wear a PVC apron and rubber boots. Where an inhalation risk exists, wear a Full-face Type B (Inorganic and Acid gas) respirator.



9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	CLEAR COLOURLESS TO PALE GREEN TO YELLOW LIQUID	Solubility (water)	SOLUBLE
Odour	SLIGHT CHLORINE ODOUR	Specific Gravity	NOT AVAILABLE
pH	13 (Approximately)	% Volatiles	90 % (Approximately)
Vapour Pressure	17.5 mm Hg @ 20°C	Flammability	NON FLAMMABLE
Vapour Density	> 1 (Air = 1)	Flash Point	NOT RELEVANT

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Boiling Point	> 100°C	Upper Explosion Limit	NOT RELEVANT
Melting Point	NOT AVAILABLE	Lower Explosion Limit	NOT RELEVANT
Evaporation Rate	AS FOR WATER	Autoignition Temperature	NOT AVAILABLE

10. STABILITY AND REACTIVITY

Material to Avoid	Incompatible (sometimes violently) with oxidising agents (eg. peroxides), acids (especially hydrochloric - evolving chlorine gas), organic materials, reducing agents, metallic powders, amines, ammonia and heat sources.
Decomposition	May evolve highly toxic gases (chlorine) when heated to decomposition. May also evolve hydrogen chloride when heated to decomposition.

11. TOXICOLOGICAL INFORMATION

Health Hazard Summary	Avoid eye or skin contact and vapour inhalation. Over exposure to chlorine vapour may result in lung tissue damage. Do not mix with other chemicals unless advised and specific instructions provided, as toxic and irritating gases may be evolved. Use safe work practices to avoid over exposure. If diluted, the potential for corrosive effects will be reduced. Repeated exposure to low levels of chlorine can lead to "chloracne" and erosion of the teeth.
Eye	Contact may result in pain, redness, corneal burns and ulceration with possible permanent damage.
Inhalation	Over exposure may result in mucous membrane irritation, coughing, and later a burning sensation of the upper respiratory tract. At high levels; ulceration, breathing difficulties, chemical pneumonitis and pulmonary oedema.
Skin	Contact may result in skin rash, dermatitis, blistering and burns. Prolonged contact may result in severe burns and ulceration.
Ingestion	Ingestion may result in burns to the mouth and throat, with vomiting, ulceration and perforation of the gastrointestinal tract, breathing difficulties, circulatory collapse and coma.
Toxicity Data	SODIUM HYPOCHLORITE (7681-52-9) LD50 (Ingestion): 5800 mg/kg (mouse) CHLORINE - AVAILABLE (7782-50-5) LC50 (Inhalation): 137 ppm/1 hour (mouse)

12. ECOLOGICAL INFORMATION

Environment	ATMOSPHERE: May release toxic chlorine gas. WATER: Hypochlorites are extremely toxic to fish; Exposure to 0.5 % over 96 hours resulted in death of trout. SOIL: May leach to groundwater with resultant toxicity to aquatic organisms. Hypochlorites are non-persistent in the environment and there is no accumulation potential as they gradually decompose into a salt and oxygen.
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13. DISPOSAL CONSIDERATIONS

Waste Disposal	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. Contact the manufacturer for additional information.
Legislation	Dispose of in accordance with relevant local legislation.

14. TRANSPORT INFORMATION

CLASSIFIED AS A DANGEROUS GOOD BY THE CRITERIA OF THE ADG CODE



Shipping Name	HYPOCHLORITE SOLUTION		Subsidiary Risk(s)	None Allocated
UN No.	1791	DG Class	8	
Pkg Group	III	Hazchem Code	2X	EPG 8A1

15. REGULATORY INFORMATION

Poison Schedule	Classified as a Schedule 5 (S5) Poison 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 (AICS).

16. OTHER INFORMATION

Additional Information RESPIRATORS: In general the use of respirators should be limited and engineering controls employed to avoid exposure. If respiratory equipment must be worn ensure correct respirator selection and training is undertaken. Remember that some respirators may be extremely uncomfortable when used for long periods. The use of air powered or air supplied respirators should be considered where prolonged or repeated use is necessary.

EXPOSURE STANDARDS - TIME WEIGHTED AVERAGES: Exposure standards are established on the premise of an 8 hour work period of normal intensity, under normal climatic conditions and where a 16 hour break between shifts exists to enable the body to eliminate absorbed contaminants. In the following circumstances, exposure standards must be reduced: strenuous work conditions; hot, humid climates; high altitude conditions; extended shifts (which increase the exposure period and shorten the period of recuperation).

ABBREVIATIONS:

ADB - Air-Dry Basis.

CAS# - Chemical Abstract Service number - used to uniquely identify chemical compounds.

CNS - Central Nervous System.

IARC - International Agency for Research on Cancer.

M - moles per litre, a unit of concentration.

mg/m³ - Milligrams per cubic metre.

NOS - Not Otherwise Specified.

pH - relates to hydrogen ion concentration using a scale of 0 (high acidic) to 14 (highly alkaline).

ppm - Parts Per Million.

TWA/ES - Time Weighted Average or Exposure Standard.

PERSONAL PROTECTIVE EQUIPMENT GUIDELINES:

The recommendation for protective equipment contained within this Chem Alert report is provided as a guide only. Factors such as method of application, working environment, quantity used, product concentration and the availability of engineering controls should be considered before final selection of personal protective equipment is made.

HEALTH EFFECTS FROM EXPOSURE:

It should be noted that the effects from exposure to this product will depend on several factors including: frequency and duration of use; quantity used; effectiveness of control measures; protective equipment used and method of application. Given that it is impractical to prepare a Chem Alert report which would encompass all possible scenarios, it is anticipated that users will assess the risks and apply control methods where appropriate.

Report Status

This document has been compiled by RMT on behalf of the manufacturer of the product and serves as the manufacturer's Material Safety Data Sheet ('MSDS').

It is based on information concerning the product which has been provided to RMT and Ecowash Systems by the manufacturer or obtained from third party sources and is believed to represent the current state of knowledge as to the appropriate safety and handling precautions for the product at the time of issue. Further clarification regarding any aspect of the product should be obtained directly from the manufacturer.

While RMT and Ecowash Systems has taken all due care to include accurate and up-to-date information in this MSDS, it does not provide any warranty as to accuracy or completeness. As far as lawfully possible, RMT and Ecowash Systems accepts no liability for any loss, injury or damage (including consequential loss) which may be suffered or incurred by any person as a consequence of their reliance on the information contained in this MSDS.

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End of Report