



## MATERIAL SAFETY DATA SHEET

**PRODUCT NAME DESTAIN**

### 1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

**Supplier Name** ECOWASH SYSTEMS  
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**Synonym(s)** ECOWASH DESTAIN  
**Use(s)** DEGREASER • DESTAINER • STERILISING AGENT  
**MSDS Date** 25 July 2007

### 2. HAZARDS IDENTIFICATION

**CLASSIFIED AS HAZARDOUS ACCORDING TO NOHSC CRITERIA**

**RISK PHRASES**

R20/22 Harmful by inhalation and if swallowed.  
 R31 Contact with acids liberates toxic gas.  
 R35 Causes severe burns.  
 R36/38 Irritating to eyes and skin.

**SAFETY PHRASES**

S26 In case of contact with eyes, rinse immediately with plenty of water and contact a doctor or Poisons Information Centre.  
 S28 After contact with skin, wash immediately with plenty of water.  
 S36/37/39 Wear suitable protective clothing, gloves and eye/face protection.  
 S45 In case of accident or if you feel unwell, contact a doctor or Poisons Information Centre immediately (show the label where possible).

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

<b>UN No.</b>	1719	<b>DG Class</b>	8	<b>Subsidiary Risk(s)</b>	None Allocated
<b>Pkg Group</b>	II	<b>Hazchem Code</b>	2R	<b>EPG</b>	8A1

### 3. COMPOSITION / INFORMATION ON INGREDIENTS

Ingredient	Formula	CAS No.	Content
POTASSIUM HYDROXIDE	K-O-H	1310-58-3	10-30%
SODIUM HYPOCHLORITE	Cl-O.Na	7681-52-9	10-30%
SODIUM METASILICATE ANHYDROUS	Na2-Si-O3	6834-92-0	<10%
CHLORINE - AVAILABLE	Cl2	7782-50-5	2%
INERT INGREDIENTS	Not Available	Not Available	<10%
WATER	H2O	7732-18-5	remainder

#### 4. FIRST AID MEASURES

<b>Eye</b>	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.
<b>Inhalation</b>	Leave area of exposure immediately. If assisting a victim avoid becoming a casualty, wear an Air-line respirator where an inhalation risk exists. Remove victim from exposure area & keep warm. If victim is not breathing apply artificial respiration & seek urgent medical attention.
<b>Skin</b>	Remove contaminated clothing and gently flush affected areas with water. Continue to flush with water until skin no longer feels soapy. Seek medical attention. Launder clothing before reuse.
<b>Ingestion</b>	For advice, contact a Poison Information Centre on 13 11 26 (Australia Wide) or a doctor. If swallowed, do not induce vomiting.
<b>Advice to Doctor</b>	<b>CORROSIVE POISONING TREATMENT:</b> Immediate treatment preferably in a hospital is mandatory. In treating corrosive poisoning, <b>DO NOT INDUCE VOMITING; DO NOT ATTEMPT GASTRIC LAVAGE; and DO NOT ATTEMPT TO NEUTRALISE THE CORROSIVE SUBSTANCE.</b> Vomiting will increase the severity of damage to the oesophagus as the corrosive substance will again come in contact with it. Attempting gastric lavage may result in perforating either the oesophagus or stomach.

Immediately dilute the corrosive substance by having the patient drink milk or water. If the trachea has been damaged tracheostomy may be required. For oesophageal burns begin broad-spectrum antibiotics and corticosteroid therapy. Intravenous fluids will be required if oesophageal or gastric damage prevents ingestion of liquids. Long-range therapy will be directed toward preventing or treating oesophageal scars and strictures.

**First Aid Facilities** Eye wash and hand wash basin is essential. Safety shower is recommended.

#### 5. FIRE FIGHTING MEASURES

<b>Flammability</b>	Non flammable. May evolve toxic gases when heated to decomposition. Contact with some metals (eg: aluminium), may liberate potentially flammable - explosive hydrogen gas. May also evolve potassium carbonate, sodium carbonate, chlorine and water vapour when heated to decomposition.
<b>Fire and Explosion</b>	Non flammable. May evolve flammable hydrogen gas in contact with some metals. If product is present in a fire, toxic gases may be evolved. Evacuate area & contact emergency services. Remain upwind & notify those downwind of hazard. Wear full protective equipment including Self Contained Breathing Apparatus (SCBA) when combating fire. Use waterfog to cool intact containers and nearby storage areas.
<b>Extinguishing</b>	Non flammable. Prevent contamination of drains or waterways, absorb runoff with sand or similar.
<b>Hazchem Code</b>	2R

#### 6. ACCIDENTAL RELEASE MEASURES

<b>Spillage</b>	If spilt, contact emergency services if appropriate. Wear full-length PVC or rubber gloves, an Air-line respirator (where an inhalation risk exists), coveralls, PVC apron and rubber boots. Ventilate and clear area of all unprotected personnel. Absorb spill with sand, vermiculite or similar. Collect and place in sealable containers for treatment and disposal.
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#### 7. STORAGE AND HANDLING

<b>Storage</b>	Store in cool, dry, well ventilated area, removed from oxidising agents, acids, active metals, direct sunlight, heat sources and foodstuffs. Ensure containers are adequately labelled, protected from physical damage and sealed when not in use. Large storage areas should be bunded and have appropriate ventilation systems.
<b>Handling</b>	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

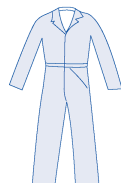
Exposure Standards	Ingredient	Reference	TWA		STEL	
			ppm	mg/m3	ppm	mg/m3
	CHLORINE - AVAILABLE	NOHSC (AUS)	1	3	--	--
	Potassium hydroxide	NOHSC (AUS)	--	2	--	--
	SODIUM HYPOCHLORITE	NOHSC (AUS)	1	3	--	--

**Biological Limit Values** No biological limit allocated.

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**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, a PVC apron, rubber boots, rubber or PVC gloves, coveralls and a faceshield. At high vapour levels, wear an Air-line respirator.



## 9. PHYSICAL AND CHEMICAL PROPERTIES

<b>Appearance</b>	CLEAR COLOURLESS LIQUID	<b>Solubility (water)</b>	NOT AVAILABLE
<b>Odour</b>	FAINT CHLORINE ODOUR	<b>Specific Gravity</b>	NOT AVAILABLE
<b>pH</b>	14 (Approximately)	<b>% Volatiles</b>	52 % (Approximately)
<b>Vapour Pressure</b>	23 hPa @ 20°C	<b>Flammability</b>	NON FLAMMABLE
<b>Vapour Density</b>	NOT AVAILABLE	<b>Flash Point</b>	NOT RELEVANT
<b>Boiling Point</b>	> 100°C	<b>Upper Explosion Limit</b>	NOT RELEVANT
<b>Melting Point</b>	NOT AVAILABLE	<b>Lower Explosion Limit</b>	NOT RELEVANT
<b>Evaporation Rate</b>	NOT AVAILABLE	<b>Autoignition Temperature</b>	NOT AVAILABLE

## 10. STABILITY AND REACTIVITY

**Material to Avoid** Incompatible with oxidising agents (eg. peroxides), acids (eg. sulphuric acid), active metals (eg. aluminium, potassium, magnesium), and heat and ignition sources. Will react vigorously or violently with acids, generating chlorine. Will absorb carbon dioxide from the air, forming potassium carbonate, which may precipitate out. Contact with ammonium compounds may generate ammonia.

**Decomposition** May evolve toxic gases when heated to decomposition. May also evolve potassium carbonate, sodium carbonate, chlorine and water vapour when heated to decomposition.

## 11. TOXICOLOGICAL INFORMATION

**Health Hazard Summary** Use safe work practices to avoid eye or skin contact and spray mist generation or inhalation. This product has the potential to cause severe skin and eye burns with possible permanent tissue damage. If diluted, the risk of adverse health effects is greatly reduced. Repeated exposure to low levels of chlorine can lead to "chloracne" and erosion of the teeth.

**Eye** Contact may result in pain, lacrimation, redness, conjunctivitis, corneal burns and ulceration with possible permanent damage.

**Inhalation** Over exposure may result in irritation, coughing and bronchitis. At high level exposure may result in ulceration, lung tissue damage, chemical pneumonitis and pulmonary oedema. Symptoms may be delayed following exposure. Low volatility reduces inhalation hazard unless sprayed/heated.

**Skin** Contact may result in rash, dermatitis, blistering and severe burns. Effects (eg. burning sensation) may be delayed.

**Ingestion** Ingestion may result in burns to the mouth and throat, nausea, vomiting and abdominal pain. Large doses may result in ulceration, unconsciousness, convulsions and death.

**Toxicity Data**  
POTASSIUM HYDROXIDE (1310-58-3)  
LD50 (Ingestion): 273 mg/kg (rat)  
SODIUM HYPOCHLORITE (7681-52-9)  
LD50 (Ingestion): 5800 mg/kg (mouse)  
SODIUM METASILICATE ANHYDROUS (6834-92-0)  
LD50 (Ingestion): 770 mg/kg (mouse)  
CHLORINE - AVAILABLE (7782-50-5)  
LC50 (Inhalation): 137 ppm/1 hour (mouse)

## 12. ECOLOGICAL INFORMATION

**Environment** WATER: If released to waterways, alkaline products may change the pH of the waterway. Fish will die if the pH reaches 10-11 (goldfish 10.9, bluegill 10.5). SOIL: May leach to groundwater with toxic effects on aquatic life as above. ATMOSPHERE: Not expected to reside in the atmosphere. Drops or particles released to atmosphere should be removed by gravity and/or be rained out.

## 13. DISPOSAL CONSIDERATIONS

**Waste Disposal** Neutralise with dilute acid (eg. 3 mol/L hydrochloric acid) or similar. For small amounts absorb with sand or similar 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** CAUSTIC ALKALI LIQUID, N.O.S.

**UN No.** 1719

**DG Class** 8

**Subsidiary Risk(s)** None Allocated

**Pkg Group** II

**Hazchem Code** 2R

**EPG** 8A1

## 15. REGULATORY INFORMATION

**Poison Schedule** Classified as a Schedule 6 (S6) 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 AVERAGE (TWA) or WES (WORKPLACE EXPOSURE STANDARD) (NZ): 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/m<sup>3</sup> - 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

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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**