

Zychem Technologies Pty. Ltd.

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MATERIAL SAFETY DATA SHEET

1. IDENTIFICATION AND SUPPLIER

Product Name: Zydox[®] 4%
Other Name: Aqueous Stabilised Chlorine Dioxide
Use: Disinfectant, Oxidant, Sanitiser, Biocide, Fungicide, Food Processing Aid
Supplier: Zychem Technologies Pty Ltd, 5/14 Kohl Street, Upper Coomera,
Queensland, Australia 4209 Phone 61 7 55805948
Emergency Number: 07 55805948

2. HAZARDS IDENTIFICATION

Hazard Classification: Classified as hazardous according to criteria of NOHSC Australia.
Not classified as dangerous according to criteria of ADG.
Xn – irritant
Risk Phrase(s): R8 Contact with combustible material may cause fire.
R 22 Harmful if swallowed. R 32 Contact with acids liberates very toxic gas.
Safety Phrase(s): S2: Keep out of reach of children. S 14 Keep away from acids. S17: Keep away from combustible material. S25: Avoid contact with eyes.

3. COMPOSITION/INFORMATION OF INGREDIENTS

Mixture:

<u>Chemical identity of ingredients</u>	<u>Proportion of ingredients</u>	<u>CAS Number(s) for ingredients</u>
Stabilised Chlorine Dioxide liquid	4%	10049-04-4

Balance of formulation consists of other ingredients determined not to be hazardous.

4. FIRST AID MEASURES

Ingested: DO NOT INDUCE VOMITING. Promptly drink a large quantity of water. Seek medical advice.
Eye: Flush with plenty of water for at least 15 minutes. See a doctor.
Skin: Wash affected areas with soap and water for at least 15 minutes. If irritation persists, call a doctor. Wash clothing before reuse.
Inhalation: Remove victim to fresh air.
Advice to Doctor: Treat symptomatically.

5. FIRE FIGHTING MEASURES

Suitable Extinguishing Media: Foam, Carbon Dioxide, Dry Chemical Powder, and Water fog.
Hazards from Combustion Products: Combustion will release toxic gasses. (ClO₂)
Special Protective Precautions and Equipment for Fire Fighters: Fire fighters to wear self-contained breathing apparatus if risk of exposure to vapour or products of decomposition (ClO₂) evolved.

Additional Information: Not classed as flammable under ADG Code, however like similar compounds may cause a fire if mixed with combustible organic materials.

Hazchem Code: Not Applicable

6. ACCIDENTAL RELEASE MEASURES

Emergency Procedures: Extinguish any source of flame. Evacuate area, clearing all unnecessary personnel. Contain liquid with soil/sand. Prevent liquid from entering storm water drains, basements or workpits. Wear protective goggles to prevent eye contamination. Absorb spill with soil/sand and recover material into mild steel drums. Label drums correctly.

Methods and Materials for Containment and Clean Up: Refer to State Land Waste Management Authority. Empty containers must be decontaminated. Normally suitable for disposal at approved land waste site.

7. HANDLING AND STORAGE

Precautions for Safe Handling: Wear protective goggles and rubber gloves to prevent eye and skin contamination.

Precautions for Activation: Always predilute with water as described in directions, and keep the actual concentration of the activated chlorine dioxide below its maximum solubility limit. This will ensure no gas evolution to atmosphere. When activating with the activator always follow directions. The activator is incompatible with the Chlorine Dioxide solution, causing decomposition and release of gaseous chlorine dioxide.

Conditions for Safe Storage: Store away from Activator – the Chlorine Dioxide is incompatible with it. Do not store with Dangerous Goods Class 4.3, Class 5, Class 6 or Class 8. Keep containers tightly sealed when not in use. Store in a well-ventilated place and out of direct sunlight. Check area regularly for spills.

Incompatibilities: Not to be loaded with dangerous when wet substances (Class 4.3), oxidising agents (Class 5), cyanides (Class 6), all acids (Class 8).

8. EXPOSURE CONTROL/PERSONAL PROTECTION

National Exposure Standards: NOHSC has not assigned any standards for this product (stabilized Chlorine Dioxide liquid). NOHSC has assigned exposure standards for the gas generated from this product after activation with acids.

Biological Limit Values:

<i>Substance</i>	<i>TWA (ppm)</i>	<i>TWA mg/L</i>	<i>STEL (ppm)</i>	<i>STEL mg/L</i>
Chlorine Dioxide	0.1	0.28	0.3	0.83

Engineering Controls: Ensure adequate ventilation keeping levels below exposure standards. When activating – always predilute in water as per instructions.

Personal Protection: Avoid unnecessary contact as good work practice. Wash contaminated clothing and protective equipment before storing and re-use. Wash hands before eating, smoking or using the toilet.

Respiratory Protection: It is usually safe to not use respiratory protection. However, there may be circumstances where use of a mask or other device is appropriate (activation). Use judgement. For assistance in selecting suitable equipment consult AS/NZ1715.

Eye Protection: Eye protective measures are normally necessary, and are suggested when using this product. Consult AS1336 and AS/NZ1337

<u>Protective Gloves:</u>	Rubber, PVC or other protective gloves are necessary, and desirable, especially if product is being used frequently or for lengthy periods. Consult AS2161 for guidance.
<u>Clothing:</u>	Clean overalls should be worn, preferably with an apron. Consult AS2919 for clothing guidance.
<u>Safety Footwear:</u>	Wearing safety boots is advisory. Consult AS/NZ 2210 for advice on Occupational Protective Footwear.

9. PHYSICAL AND CHEMICAL PROPERTIES

<u>Appearance & Color:</u>	Clear light straw colored mobile liquid, characteristic chlorine (bleach) odor.
<u>Flammability:</u>	Product is not flammable
<u>Melting Point:</u>	NA
<u>Boiling Point:</u>	105°C
<u>Flash Point:</u>	No data
<u>Vapour Pressure @ 21°C:</u>	26.2mm Hg
<u>Volatiles:</u>	100%
<u>Vapour Density:</u>	No data
<u>Flammability Limits:</u>	Unknown
<u>pH as Received:</u>	10-10.5
<u>Specific Gravity:</u>	1.03
<u>Solubility in Water:</u>	Soluble
<u>Decomposition Temperature:</u>	No data

10. STABILITY AND REACTIVITY

<u>Chemical Stability:</u>	Stable as supplied.
<u>Conditions to Avoid:</u>	Do not mix with oxidising agents (Class 5), or any acids Class 8 or otherwise as this reaction releases chlorine dioxide, a toxic gas.
<u>Incompatible Materials:</u>	Not to be loaded with dangerous when wet substances (Class 4.3), oxidising agents (Class 5), cyanides (Class 6), strong acids (Class 8). Reacts with combustible materials viz. paper, wood, oils, etc when allowed to stay in contact for an extended period.
<u>Hazardous Decomposition Products:</u>	Upon combustion oxides of chlorine (ClO ₂)
<u>Hazardous Reactions:</u>	Oxidising agents (Class 5) and acids.

11. TOXICOLOGICAL INFORMATION

<u>Chlorine Dioxide:</u>	Oral LD50 Mouse: 240mg/Kg. Oral LD50 Rat: 292mg/Kg. Inhaled LClo Rat: 500ppm/15min Irritation Rabbit: Moderate irritant to eyes.
<u>SYMPTOMS OF EXPOSURE</u>	
<u>Swallowed:</u>	Ingestion of large amounts may result in abdominal pain, nausea or vomiting, irritation of the gastrointestinal tract.
<u>Eye:</u>	A moderate irritant, causing pain, redness, and tearing.
<u>Skin:</u>	Mild irritant to the skin. However repeated or prolonged contact may result in irritation or dermatitis in some individuals.
<u>Inhalation:</u>	Vapour (after activation) is toxic.
<u>Acute:</u>	Not known
<u>Delayed:</u>	

12. ECOLOGICAL INFORMATION

<u>Ecotoxicity:</u>	Low.
<u>Persistence and Degradability:</u>	Product is biodegradable

13. DISPOSAL CONSIDERATIONS

Disposal Methods and

Containers:

Refer to State Land Waste Management Authority. Empty containers must be decontaminated. Normally suitable for disposal at approved land waste site.

Special Precautions for Landfill
or Incineration:

14. TRANSPORT INFORMATION

UN Number: Not applicable.

UN Proper Shipping Name: Not applicable.

Class and Subsidiary Risk: Not applicable.

Packing Group: Not applicable.

Special Precautions for User: Not applicable.

Hazchem Code: Not applicable.

15. REGULATORY INFORMATION

Poison Schedule: Unscheduled.

OHS: Considered a hazard.

Environmental: Not considered a hazard.

16. OTHER INFORMATION

Print Date of MSDS: 15 September 2010

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Poisons Information Centre

Herston Rd., Herston, Queensland 4006

Ph: 131126 (All Hours)

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