Company Details:

Waterwell Projects (PTY) LTD

Reg No. 2001/018862/07

Waterwell Projects (PTY) LTD
Unit 4 Megazone Park
Hertford Junction R512
Lanseria 1748

Tel: 011 300 9917/8 or 073 077 0973
Fax: 086 605 9360

Poison Centre: **+27 21 689 5227**

MATERIAL SAFETY DATA SHEET

1. IDENTIFICATION OF THE SUBSTANCE AND OF THE COMPANY

a) Identification of the substance or preparation :

1.1 Commercial name : **Waterwell Chlorine Feeder Floater(packed 1.6kg)**

1.2 Chemical name : Trichloroisocyanuric acid

1.3. Synonyms: (TCCA) 1.3.5-trichlore-1.3.5-traizine-2.4.6 (1H,3H,5H)-trione, Trichlore-1,3,5-traizinetrione.

1.4. Chemical formula : $C_3N_3O_3Cl_3$

1.4. CAS No : 87-90-1

1.5. EEC No : 201-782-8

1.6. UN No: 2468

b) Information of Distributor :

Waterwell Projects (PTY) LTD
Unit 4 Megazone Park
Hertford Junction R512
Lanseria 1748
Tel: 011 300 9917/8 or 073 077 0973
Fax: 086 605 9360

Alternate suppliers:

Crossmill Chemicals CC **or:**
P O Box 1272
Lonehill 2062
34 Renico Cresent Lea Glen,
Roodepoort, Gauteng 2195
Tel: 011 472 4986
Fax: 011 472 0730

2. COMPOSITION / INFORMATION ON INGREDIENTS

Dangerous ingredient	% w/w	Hazard classification	Risk phrases
Trichloroisocyanuric acid	min. 99%	O-Xn	R-8-22-3136/37

3. DESCRIPTION OF HAZARDS

Hazards to human beings : Harmful by inhalation, ingestion, contact with skin and eyes

Hazards for the environment : Toxic for fishes and algae. It may give off chlorine in contact with other products.

4. FIRST AID MEASURES

Hazards	Symptoms and effects	Actions to be taken
4.1 Contact with the skin :	Redness, strong burning sensation, with eventual ulceration.	Remove contaminated clothes. Flush skin with plenty of water. If irritation persists, call a doctor.
4.2 Contact with the eyes :	Pain and tears. Impaired vision.	Flush with plenty of water. Call a doctor.
4.3 Ingestion	Abdominal pain, nausea, general weakness.	If patient is conscious drink milk, white of egg or water. Call a doctor. Do not provoke vomiting
4.4 Inhalation	Sore throat, cough, nausea.	Take patient to fresh air, rest and if necessary call a doctor.

5. FIRE-FIGHTING MEASURES

5.1 Suitable extinguishing media :
Water CO_2

5.2 Extinguishing media not to be used :
Powder based on ammonium salt and halogenous extinguishing media.

5.3 Special hazards resulting from exposure to the combustion products, or produced gloves :
Extinguish with big quantities of water (small quantities may aggravate the situation). Product is not flammable, but may decompose at high temperatures, thus emitting toxic gases. If the fire only affects part of the drums, isolate them from the rest by taking them if possible to a well ventilated area and letting them consume. For small fires CO_2 extinguishers can be used.

5.4 Special protective equipment for firefighters:
Self-contained breathing equipment to protect the respiratory tracts, as well as clothes and gloves suitable for skin protection.

6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions :
See Section No 8

6.2 Environmental precautions :
Prevent product from reaching the sewage system or superficial water. If product reaches a natural water-course, warn the civil protection authorities.

6.3 Cleaning up method :
Sweep and fully collect the spilled product. If there is some non-polluted product left separate it from the rest and collect it into the original drum or another clean container with inner plastic bag; this product can normally be used.

Dirty product must be collected from the ground into the original drum or another clean container with inner plastic bag and must be destroyed.
Product contaminated with water or other chemical products must not be transported. It must be immediately diluted with plenty of water and destroyed.

7. HANDLING AND STORAGE

7.1 Handling :
Do not produce dust. Handle far from other chemicals. Do not smoke. See Section 8.

7.2 Storage :
Keep product in suitable closed containers (metallic or wooden containers must not be used), in a fresh, dry and ventilated place, far from any ignition source and other chemical products. If product is stored with other products, it should be placed in a separate compartment near the exit door, which should be free from obstacles, in order to take product away quickly if necessary.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1 Control Parameters ACGIH :

	EXPOSURE LEVELS	
Ingredient	**TVL TWA**	**TLV STEL**
Trichloroisocyanuric acid	1.5 mg /m = 0.5 ppm For chlorine gas	3 mg/m = 1 ppm for Chlorine gas

8.2 Monitoring procedures :
Drager, etc.

8.3 Recommended personal protection :

8.3.1 Breathing protection :
Full mask equipped with suitable filter (combined for dust and halogens).

8.3.2 Hand protection :
Gloves, i.e. of polyethylene.

8.3.3 Eye protection :
Goggles or shield.

8.3.4 Skin protection :
Suitable working clothes fully protecting the body.

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Aspect : White pills 200g
9.2 Odour : Slight chlorine odour
9.3 pH: 2.7 – 3.3(1% solution)
9.4 Boiling point / boiling range : N.A.
9.5 Melting point / melting range : 225°C with decomposition
9.6 Flash point : Over 250°C (ASTM-D-92)
9.7 Flammability : Non flammable
9.8 Autoflammability N.A.
9.9 Explosive properties : It can only explode by reaction with other chemical products (acids, alkalis, nitrogen compounds, fats oils, etc.)
9.10 Comburent properties : Although it is not combustible by itself, it favours

combustion.

9.11	**Vapour pressure :**	N.A.
9.12	**Bulk Density :**	Approx. 1,000 kg/m
9.13	**Solubility in water at 25□C :**	12 g/litre
9.14	**Fat solubility :**	N.D.
9.15	**Partition coefficient : n-octanol / water :**	N.D.

10. STABILITY AND REACTIVITY

10.1 Stability :
Product is stable in normal storage conditions. Product loses less than 1% chlorine after one year at 40□C.

10.2 Conditions to avoid :
Humidity and temperatures over 50□C.

10.3 Materials to avoid :
Product attacks metal in general. It reacts with water (in small quantities which may moisten product, but great quantities of water are necessary to extinguish a fire), oxidant and reducing agents, acids, alkalis, nitrogen products, ammonium salts, urea, amines, quaternary ammonium derivatives, oils, fats, peroxides, catoinic tensioactives, etc.

10.4 Hazardous decomposition products :
In combination with the above mentioned products, it decomposes and gives off a great quantity of heat, chlorine, nitrogen trichloride, etc. with subsequent danger of explosion if nitrogen trichloride level is high enough.

11. TOXICOLOGICAL INFORMATION

11.1	**Acute LD50 oral rat :**	406 mg / kg
11.2	**LDL oral human :**	3,570 mg / kg
11.3	**Acute LD50 dermal rabbit :**	20 g / kg
11.4	**Sensitization :**	N.D.
11.5	**Carcinogenicity :**	N.D.
11.6	**Mutagenicity :**	N.D.
11.7	**Reproductive toxicity :**	N.D.

12. ECOLOGICAL INFORMATION

12.1 General information on substance behaviour in the environment :
Toxic for fish and algae. Do not pour directly into rivers lakes, etc. Product hydrolises in diluted aqueous solution giving off hypochlorus and cyanuric acids. The first one is transformed into chloride with time and the action of the sunrays. The second one is biodegradable and practically non toxic. Therefore, the diluted solution can be directly poured to the sewer system, depending on the applicable local regulations, provided the chlorine content is of 0 ppm.

12.2	**Mobility :**	N.D.
12.3	**Persistance and degradability :**	N.D.
12.4	**Bioaccumulation potential :**	N.D.
12.5	**Aquatic toxicity :**	N.D.

12.6 **COT theoretical :** 0.15 g C / g

13. DISPOSAL CONSIDERATIONS

13.1 Disposal of material :

Proceed as follows : add 2.5 kg of sodium carbonate to 20 litres of water, stir and dissolve. Slowly (in about 0.5 hours) add 1 kg of product. Let stand for at least 10 hours. Slowly add (in about 0.5 hours) while stirring 0.5 kg of sodium sulphite. Then check if there is some free-chlorine left. If necessary add more sodium sulphite until chlorine value is 0. Neutralise if necessary.
The above operations should be carried out in the open air wearing suitable equipment (i.e. full mask with halogen filter and goggles), as chlorine gas may be feed off. The container and stirring rod should be of corrosion-resistant materials (i.e. plastic, etc.)

13.2 Disposal of packaging :

Used packagings can be disposed of at an authorised dump.

13.3 Disposal of waste :

The waste obtained as mentioned in paragraph 13.1 diluted in a great quantity of water can be poured to the sewer, according to the local regulations, as it only contains a mixture of salts and cyanuric acid which is biodegradable.
Another disposal method for dry product is by incineration mixing product with solvents. The incinerator should be provided with a washing system for chlorine combustion gases.
Disposal of product should be carried out according to local or national regulations on industrial waste disposal.

14. TRANSPORT INFORMATION

14.1	**Labelling for transportation:**	Oxidising agent 5.1
14.2	**Substance for identification:**	50-2468
14.3	**ADR / RID;**	5.1, 26 b
14.4	**IMDG:**	5.1 / II UN 2468
14.5	**ICAO / IATA**	5.1 UN 2468

15. REGULATORY INFORMATION

15.1	**EEC No:**	201-782-8
15.2	**Hazard Symbol:**	O : Oxidising Xn : Harmful

15.3 R and S phrases :

R 8 Contact with combustible materials may cause fire.
R22 Harmful if swallowed.
R31 Contact with acids liberates toxic gas.
R36/37 Irritating to eyes and respiratory system.
S 2 Keep out of reach of children.
S 8 Keep container dry.
S 26 In case of contact with eyes rinse immediately with plenty of water and seek medical advice.
S 41 In case of fire and / or explosion do not breathe fumes.

S 46 If swallowed, seek medical advice immediately and show this container or label.

WARNING ; DO NOT USE TOGETHER WITH OTHER PRODUCTS. MAY RELEASE DANGEROUS GASES CHLORINE).

16. ANY OTHER RELEVANT INFORMATION ;

N.A. = non applicable N..D. = non defined

The information herein is given in good faith and to the best of our knowledge at the current date. The accomplishment of the instructions herein does not exempt the user from following the legal and administrative regulations relative to product, environmental safety and hygiene, which are user's own responsibility. In case of mixture with other substances, ensure that other risks are not generated.

Date of Revision: ***21 August 2014 (general revision)***