

Product Name: Chlorine Tablets

Revision Date: 16th February 2011

1. Identification of the substance/mixture and of the company/ undertaking

1.1 Product identifier

Trade name : Chlorine Tablets, Ficlor Maxi, Mini, Tri Tabs, Figard 90,
Multifunctional Tablets, Trichloroisocyanuric Acid, Dry

Synonym(S) : Trichloroisocyanuric Acid; TCCA; Trichlor;
Trichloro-s-triazinetriene, symclosene

CAS-No. : 0087-90-1
EC-No. : 201-782-8
Index No. : 613-031-00-5

1.2 Relevant identified uses of the substance or mixture and uses advised against

For formulation into end-use products intended for disinfectants, sanitizers, fungicides, bactericides and algaecides for pools, spas, hot tubs, industrial recirculating water cooling towers, air washers and evaporative condensers, sewage treatment, food contact surfaces, laundry and egg sanitizing.

1.3 Details of the supplier of the safety data sheets

Company : SIS Chemicals Ltd , 22 Whitefield Road, New Milton
Hampshire. BH25 6DF
Telephone : 01425 621021
Fax : 01425 618191
Email : sales@sischem.co.uk

1.4 Emergency telephone number

Emergency telephone : Emergency only telephone number (open 24 hours):
Number 01865 407333 (N.C.E.C. Culham)

2. Hazards identification

2.1 Classification in accordance with Regulation (EC) No 1272/2008 (CLP/GHS)

Ox. Sol.2	H272	May intensify fire; oxidizer
Acute Tox. 4.	H302	Harmful if swallowed
Eye irrit. 2	H319	Causes serious eye irritation
STOT SE3	H335	May cause respiratory irritation
Aquatic Acute1 ,	H400	Very toxic to aquatic life
Aquatic Chronic1,	H410	Very toxic to aquatic life with long lasting effects

Additional information EUH031- Contact with acids liberates toxic gas

Classification in accordance with Directive 67/548/EEC

O; R8 Contact with combustible material may cause fire

R31 Contact with acids liberates toxic gas

R36/37 Irritating to eyes and respiratory system

Harmful (Xn), R22 Harmful if swallowed

Dangerous for the environment; N R50 Very toxic to aquatic organisms, may cause long term adverse effects in the aquatic environment.

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Product Name: Chlorine Tablets

Revision Date: 16th February 2011

2.2 Classification system

The classification is according to the latest editions of the EU-lists, and extended by company and literature data.



Signal word

Danger

Hazard statements

H272 - May intensify fire; oxidizer
H302 - Harmful if swallowed
H319 - May cause respiratory irritation
H410 - Very toxic to aquatic life with long lasting effects
EUH031 -Contact with acids liberates toxic gas

Precautionary statements

P210 - Keep away from heat/sparks/open flames/ hot surfaces – No smoking
P280 - Wear protective gloves/protective clothing/eye protection/face protection
P301 + P330 + P331 - IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes.
Remove contact lenses, if present and easy to do. Continue rinsing.
P304 + P340 - IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
P310 – Immediately call a POISON CENTRE or doctor / Physician

Other hazards

None

3. Composition / information on ingredients

3.1 Mixture

General information

Chemical name : Trichloroisocyanuric Acid
CAS-no : 0087-90-1
EINECS Number : 201-782-8
Index Number : 613-031-00-5

EU Classification : Ox. Sol. H272
Acute Tox. 4 H302
Eye Irrit. 2 H319
STOT SE3 H335
Aquatic Acute 1 H400
Aquatic Chronic 1 H410
EUH031 (in accordance with CLP 1272/2008)
O; R8
R31
Xi; R36/37
Xn; R22
N; R50/53 (in accordance with DSD 67/548/EEC)

Product Name: Chlorine Tablets

Revision Date: 16th February 2011

4. **First aid measures**

4.1 **Description of first aid measures**

- Eye contact** Holding the eyelids apart, flush eyes promptly with copious flowing water for at least 20 minutes
Get medical attention immediately.
- Skin contact** Remove contaminated clothing. Wash skin thoroughly with mild soap and plenty of water for at least 15 minutes. Wash clothing before re-use.
Get medical attention immediately.
- Inhalation** In case of dust inhalation or breathing fumes released from heated material, remove person to fresh air. Keep him quiet and warm. Apply artificial respiration if necessary and get medical attention immediately.
- Ingestion** If swallowed, wash mouth thoroughly with plenty of water and give water to drink. Get medical attention immediately.

NOTE: Never give an unconscious person anything to drink

4.2 **Most important symptoms and effects, both acute and delayed**

- **Ocular** Severe irritation and/or burns can occur following eye exposure. Contact may cause impairment of vision and corneal damage.
- **Dermal** Dermal exposure can cause severe irritation and/or burns characterized by redness, swelling and scab formation.
Repeated skin exposure may cause tissue destruction due to the corrosive nature of the product.
- **Inhalation** Irritating to the nose, mouth, throat and lungs.
It may also cause burns to the respiratory tract with the production of lung edema that can result in shortness of breath, wheezing, choking, chest pain, and impairment of lung function .
Inhalation of high concentration can result in permanent lung damage from the corrosive action to the lung.
- **Ingestion** Irritation and/or burns can occur to the entire gastrointestinal tract, including the stomach and intestines, characterized by nausea, vomiting, diarrhea, abdominal pain, bleeding and/or tissue ulceration.

4.3 **Indication of immediate medical attention and special treatment needed.**

Corrosive. In case of ingestion DO NOT induce vomiting. No specific antidote. Treat symptomatically and supportively.

Medical conditions aggravated by exposure

Asthma, respiratory and cardiovascular disease .

Product Name: Chlorine Tablets

Revision Date: 16th February 2011

5. **Fire- fighting measures**

Extinguishing agents

Water

Special hazards arising from the substance or mixture

When heated to decomposition, may release poisonous and corrosive fumes of nitrogen trichloride, chlorine, nitrous oxides, cyanates, carbon monoxide and carbon dioxide.

Advice for fire-fighters

Cool containers with water spray. Fire fighters should wear full protective clothing and self-contained breathing apparatus (SCBA) in positive pressure mode.

On small fires, use water spray or fog.

On large fires, use heavy deluge or fog stream. Flooding amounts of water may be required before extinguishment can be accomplished.

6. **Accidental release measures**

6.1 **Personal precautions, protective equipment and emergency procedures**

For small spills in a well-ventilated area, wear a NIOSH approved half-face or full face tight fitting respirator or a loose fitting powered air purifying respirator equipped with chlorine cartridges. Chemical goggles should be worn when using a half-face respirator. In addition to respiratory protection, wear coveralls, chemical resistant gloves, chemical resistant footwear, and chemical resistant headgear for overhead exposure.

For clean up of large spills in confined area, wear full-face respirator with chlorine cartridges or a positive pressure supplied air respirator. Additionally, body protection should be impervious clothing covering entire body to prevent personal contact with material.

If this material becomes damp/wet or contaminated in a container, the formation of nitrogen trichloride gas may occur and an explosive condition may exist.

6.2 **Environment precautions**

Prevent entry into sewers and watercourses.

6.3 **Methods and material for containment and cleaning up**

Hazardous concentrations in air may be found in local spill area and immediately downwind.

If spill material is still dry, do not put water directly on this product as a gas evolution may occur.

- **Soil** Do not contaminate spill material with any organic materials, ammonia, ammonium salts or urea. Clean up all spill material with clean, dry dedicated equipment and place in a clean dry container.
- **Water** This material is heavier than and soluble in water. Stop flow of material into water as soon as possible. Begin monitoring for available chlorine and pH immediately.
- **In air** Vapours may be suppressed by the use of water fog.

Product Name: Chlorine Tablets

Revision Date: 16th February 2011

7. Handling and storage

7.1 Precautions for safe handling

Avoid bodily contact
Upon contact with skin or eyes, wash off with water

7.2 Conditions for safe storage,
Including any incompatibilities

Store in a dry, cool, well-ventilated area Product has an indefinite shelf-life limitation.
Do not store at temperature above 60°C / 140°F
Available chlorine loss can be as little as 0.1% per year at ambient temperatures

7.3 Specific end use(s)

Provided in sections 7.1, 7.2

8. Exposure controls / personal protection

8.1 Control parameters

Components	Trichloroisocyanuric acid 0087-90-1
Weight %	98-100
ACHIH-TLV Data	Not determined
UK (WEL) – TWA	Not determined
Netherlands national MAC data	Not determined

8.2 Exposure controls

Ventilation requirements

Use local exhaust ventilation to minimize dust and chlorine levels where industrial use occurs.
Otherwise, ensure good general ventilation

Personal protective equipment:

- Respiratory protection

When dusty conditions are encountered, wear a NIOSH/OSHA full-face respirator with chlorine cartridges for protection against gas and dust/mist pre-filter

- hand protection

Neoprene gloves

- Eye protection

Use chemical safety glasses to avoid eye contact
Where industrial use occurs, chemical goggles may be required.

- Skin and body protection

Body covering clothes and boots

- Hygiene measures

Do not eat, smoke or drink where material is handled, processed or stored. Wash hands carefully before eating or smoking
Safety shower and eye bath should be provided.

Product Name: Chlorine Tablets

Revision Date: 16th February 2011

9. Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance	White granules or tablet-form product
Odour	Sharp, chlorine-like bleach odour
Odour threshold	Not determined
pH	2.7-2.9 (1% solution)
Melting point/range	225-230°C (decomposes)
Boiling point /range	Not applicable (decomposes)
Evaporation rate (ether=1)	Not applicable under standard conditions
Vapour pressure	Not applicable under standard conditions
Vapour density	Not applicable under standard conditions
Flash point	Not applicable
Specific gravity	> 1
Bulk density	Granular – 0.89-1.1 g/cc Tablets – 1.6-1.9 g/cc
Solubility in water	1.2g/100ml at 25°C
Solubility in other solvents	Not available
Auto-ignition temperature	Not applicable
Decomposition temperature	225°C (437°F)
Viscosity	No data available
Explosive properties	Not available
Oxidising properties	Oxidizer
Particle size	Not available

10. Stability and reactivity

10.1	Reactivity	Contact with small amounts of water may result in exothermic reaction with the liberation of toxic fumes
10.2	Chemical stability	Stable under normal conditions
10.3	Possibility of hazardous reactions	Hazardous polymerization will not occur
10.4	Conditions to avoid	Heating above 225°C

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Revision Date: 16th February 2011

10.5 Incompatible materials

Do not package in paper or cardboard
Organic materials, reducing agents, nitrogen containing materials,
other oxidizers, acids, bases, oils, grease, sawdust, dry fire
extinguishers containing monoammonium compounds

11. Toxicological information

11.1 Acute toxicity

- Rat oral LD50	809 mg/kg
- Rabbit dermal LD50	> 2000 mg/kg
Serious eye damage / irritation	Corrosive
Skin corrosion/irritation	Corrosive

Respiratory or skin sensitization	Not a sensitizer
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Mutagenicity	Not mutagenic in five salmonella strains and one E.Coli strain with or without mammalian microsomal activation
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Carcinogenicity	Not classified by IARC, OSHA, EPA Not included in NTP 11 th Report on Carcinogens
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Reproductive toxicity	There are no known or reported effects on reproductive function or fetal development Toxicological investigation indicates it does not affect reproductive function or fetal development.
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Specific Target Organ Toxicity (STOT) – Single exposure	No effects on specific target organs have been identified
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Specific Target Organ Toxicity (STOT) – Repeat exposure	Prolonged exposure may cause damage to the respiratory system Chronic inhalation exposure may cause impairment of lung function and permanent lung damage.
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Aspiration hazard	Not expected to occur
Medical conditions aggravated by exposure	Asthma, respiratory and cardiovascular disease

12. Ecological information

12.1 Toxicity

Aquatic toxicity :

- 96 Hour-LC50, Fish	0.32 mg/l (Rainbow trout)
	0.30 mg/l (bluegill sunfish)
-48 Hour-LC50, Daphnia magna	0.21 mg/l

Avian toxicity:

-Oral LD50, Mallard duck	1600 mg/kg
- Dietary LC50, Mallard duck	> 10,000 ppm
- Dietary LC50, Bobwhite quail	7422 ppm

12.2 Persistence and degradability	No data
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Product Name: Chlorine Tablets

Revision Date: 16th February 2011

12.3	Bioaccumulative potential	No data
12.4	Mobility in soil	No data
12.5	Results of PBT and vPvB assessment	No data
12.6	Other adverse effects	Germany, water endangering classes (WGK) 3

13. Disposal considerations

13.1 Waste treatment methods

Waste disposal

Dispose of in a safe manner in accordance with local/national regulations

14. Transport information

14.1	UN No	2468
14.2	UN Proper Shipping Name	Trichloroisocyanuric Acid Dry
14.3	Hazard Class	5.1 – Oxidising substances
14.4	Packaging group	II
14.5	Environmental hazards	Environmentally Hazardous Substance / Marine Pollutant
14.6	Special precautions for user	None

15. Regulatory information

15.1 Safety, health and environmental regulations /legislation specific for the substance or mixture

EU Reported in EINECS

16. Other information

Date of issue: 16 February 2011

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