

Chloro Maxx TCCA 90 Chlorine Tablets

MATERIAL SAFETY DATA SHEET (MSDS)

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product name Chloro Maxx TCCA 90 Chlorine Tablets
Product code -

1.2. Recommended Use Uses advised against

Product Uses Pool Water Treatment, Disinfectant, Sanitization, Algacide
Recommended Use Industrial / Professional use only

1.3. Details of the supplier of the safety data sheet

ZYAX Chem PVT. LTD.
3rd Floor, Kamer Building,
38 Cawasji Patel Street, Fort,
Mumbai - 400001, India.
Contact No: +91 8779240420
info@zyax.in - www.zyax.in

Emergency telephone number

Emergency number : +91 22 2757 3899

SECTION 2: Hazards identification

2.1. Classification of the Substance

Classification as per GHS (REV.8) (2019):

Hazard Class	Category	H-Code / Description
Oxidizing Solids	Category 2	H272 - May intensify fire; oxidizer
Acute Oral Toxicity	Category 4	H302 - Harmful if swallowed
Acute Inhalation Toxicity	Category 4	H335 - Harmful if inhaled / Respiratory irritation
Skin Corrosion/Irritation	Category 2	H315 - Causes skin irritation
Serious Eye Damage/Irritation	Category 2A	H319 - Causes serious eye irritation
STOT Single Exposure	Category 3	H335 - Causes respiratory tract irritation
Acute Aquatic Hazard	Category Acute 1	H410 - Very toxic to aquatic life
Chronic Aquatic Hazard	Category Chronic 1	H410 - Very toxic to aquatic life with long lasting effects

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2.2. Label Elements

Signal Word	DANGER
Hazard Statements	H272 - May intensify fire; oxidizer H302 - Harmful if swallowed H315 - Causes skin irritation H319 - Causes serious eye irritation H335 - May cause respiratory irritation (harmful if inhaled) H410 - Very toxic to aquatic life with long lasting effects
Precautionary Statements	P102 - Keep out of reach of children P210 - Keep away from heat/sparks/open flames/hot surfaces. No smoking P220 - Keep away from clothing and other combustible materials P261 - Avoid breathing dust and gas P264 - Wash hands, eyes, face and any other contacted body part thoroughly after handling P270 - Do not eat, drink or smoke when using this product P271 - Use only outdoors or in a well-ventilated area P280 - Wear protective gloves/protective clothing/eye protection/face protection
Response Statements	IF SWALLOWED: Rinse mouth; if problem persists get medical help (P301+P317+P330) IF ON SKIN: Rinse skin with plenty of water or shower (P302+P352) IF INHALED: Remove person to fresh air and keep comfortable for breathing (P304+P340) IF IN EYES: Rinse cautiously with water for several minutes; remove contact lenses if easy to do; continue rinsing (P305+P351+P338) IF ON CLOTHING: Rinse immediately with plenty of water before removing clothes (P306+P360) If eye irritation persists: Get medical help (P337+P317) Get medical help if you feel unwell (P319) In case of fire: Use appropriate firefighting measures (P370+P378)
Storage Statements	Store in a well-ventilated place; keep container tightly closed (P403+P233) Store locked up (P405) Store separately (P420)
Disposal	Dispose of contents/container in accordance with local/regional/national/international regulations (P501)

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

Property	Details
Chemical Name	Trichloroisocyanuric Acid
Chemical Formula	C3Cl3N3O3
IUPAC Name	1,3,5-Trichloro-1,3,5-triazinane-2,4,6-trione
CAS No.	87-90-1
EC No.	201-782-8
Weight Proportion	100%

SECTION 4: FIRST AID MEASURES

4.1. Description of First Aid Measures

Exposure Route	First Aid Action
Upon Inhalation	Take the victim away from exposure to fresh air. Remove all contaminated clothes. Take rest until fully recovered. If breathing is difficult, seek medical advice immediately.
Upon Skin Contact	Thoroughly wash skin and hair with running water. Remove all contaminated clothes. Seek medical assistance if skin irritation, blisters, redness or swelling occurs. Do not reuse clothes before thoroughly washing.
Upon Eye Contact	Immediately rush to wash the eyes with running fresh water for 15 minutes. Expose entire eye — wash under the eyelids and clean thoroughly with water. Seek medical advice immediately.
Upon Ingestion	Thoroughly clean the mouth with water. Do not induce vomiting upon swallowing. Drink a few glasses of water and consult a doctor immediately.

4.2. Most Important Symptoms / Effects

Exposure Route	Symptoms
Inhalation	Irritation in nose, coughing, runny nose, headache, breathing difficulties and sore throat
Skin Contact	Irritation, redness on contacted area. May cause dermatitis, blisters or swelling upon prolonged exposure
Eye Contact	Causes serious irritation, redness, burning sensation, pain, infection
Ingestion	Respiratory tract irritation, sore throat, nausea, vomiting. May cause ulcers, inflammation and burning in oesophagus or stomach

4.3. Immediate Medical Attention

Treat as per the visible symptoms.

SECTION 5: Firefighting measures

5.1. Suitable Extinguishing Media

Spray large quantities of water, foam or dry powder for extinguishing fire.

5.2. Specific Hazards Arising from the Chemical

The product has very low fire hazards since self-decomposition starts at 225°C. Presence of the product may intensify fire and increase the burning rates of other materials. The product emits toxic fumes of chlorine gas. Upon decomposition, the product emits white fumes.

5.3. Special Protective Actions for Fire-Fighters

- Keep safe/unharmed containers cool by spraying water on them
- Take intact containers away from the fire in open air
- Upon rise in temperature, the product starts to decompose and may cause explosion
- Avoid spraying water directly on exposed or damaged containers

SECTION 6: Accidental release measures

6.1. Personal Precautions and Emergency Procedures

On accidental spills, keep unprotected people away from the spill. Equip protective equipment as per Section 8. Do not let the product touch eyes, skin or clothes. Avoid breathing powdery dust/chlorine. Ensure adequate ventilation around the spill; do not smoke and keep the product away from any ignition source. For large accidental spills, contact emergency services promptly.

6.2. Environmental Precautions

Prevent the spill from getting into waterways, sewers and drains. Do not let water touch the spill. The material is very toxic to aquatic life and causes long lasting effects.

6.3. Methods and Materials for Containment and Cleaning Up

Dry spills:

Use brush, plastic broom or plastic shovel to collect the spill in a separate HDPE container. Use non-sparking tools for cleaning. Avoid using metal containers. Avoid mixing the spill with any other chemical; use soil as an absorbent to reduce the chemical effect.

Wet spills:

Collect the spill carefully with protective equipment in separate open top HDPE containers and wait for the spill to neutralize for further disposal. The spill can also be neutralized by adding it into a very large volume of water in a fibre tank.

- Wear protective suits equipped with oxygen supply to avoid exposure to harmful decomposed gases

SECTION 7: Handling and Storage

7.1. Precautions for Safe Handling

- Wear all necessary personal protective equipment
- Cover eyes, skin and mouth/nose to minimize exposure
- Handle the product using dry plastic tools
- Do not add water into the product — add product to large quantities of water only
- Do not mix with any other chemicals
- Eating, drinking and smoking are prohibited in the storage area
- Thoroughly wash hands, eyes and contacted surfaces after use

7.2. Conditions for Safe Storage

- Store in a cool, dry, well-ventilated place
- Avoid direct sunlight
- Keep out of reach of children
- Avoid storage around flammable chemicals and away from electrical equipment that can cause sparks
- Store only in original containers
 - Keep the container tightly closed to minimize the release of substance to the environment
- Re-tie the liner bag inside the container after each use

SECTION 8: Exposure Controls / Personal Protection

8.1. Control Parameters

Regulatory exposure limits: Unavailable for TCCA. The liberation of chlorine from TCCA has the following exposure parameters: NIOSH REL: C 0.5 ppm (1.45 mg/m³) [15-minute] (Chlorine | NIOSH | CDC, 2018)

8.2. Engineering Controls

Keep the storage area well-ventilated and open. Use local exhaust ventilation when high humidity or high temperature. Ensure that eye-washer and safety shower are available.

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8.3. Personal Protective Equipment (PPE)

PPE Type	First Aid Action
Eye/Face Protection	Chemical glasses that do not allow air to pass. Keep safety eye-washer/safety shower for emergency usage
Skin Protection	Full body protective clothing to minimize skin contact. Wear impervious gloves. Wear protective boots. Re-use everything after thoroughly washing
Respiratory Protection	Wear a N95 mask to cover the mouth and nose to avoid dust particles entering the respiratory tract. During emergency where fumes are produced, use acid gas cartridges with N95 filters
Thermal Hazard	Wear fire protective suit covering the whole body. Fire protective glasses and acid gas cartridges with N95 filters to protect from toxic fume exposure. Wear protective boots
Protection Type	PVC, Butyl or Natural rubber or Nitrile

SECTION 9: Physical and Chemical Properties

Property	Value
Physical State / Appearance	Tablets
Colour	White
Odour	Chlorine
Melting Point	225°C
Boiling Point	Not available
Flammability	Not available
Decomposition Temperature	225°C
pH (1% Aq. solution)	3
Solubility	12 g/L in water
Density	2.19 ± 0.1 g/cm ³
Vapour Pressure	Not available
Auto-Ignition Temperature	Not available
Flash Point	Not available
Kinematic Viscosity	Not available

SECTION 10: Stability and Reactivity

10.1. Reactivity

Contact with acids liberates toxic gas. Contact with organic matter may cause fire.

10.2. Chemical Stability

Stable if stored as per Section 7 of SDS conditions.

10.3. Possibility of Hazardous Reactions

The product may intensify and support combustion. It is a strong oxidizing agent. The product emits toxic fumes of chlorine and oxides of chlorine gas. Upon decomposition, the product emits white fumes.

10.4. Conditions to Avoid

Avoid contact with heat, flame, moisture, incompatible materials and source of spark or ignitions.

10.5. Incompatible Materials

Keep away from acids, water, petroleum products or any combustible material. Keep away from sodium-hypochlorite, calcium-hypochlorite, alkali, reducing agents and nitrogen.

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10.6. Hazardous Decomposition Products

Chlorine, Oxides of Chlorine, Trichlorides.

SECTION 11: Toxicological Information

11.1. Acute Toxicity

Parameter	Value
LD50 Oral	406 mg/kg (Rat)
LD50 Dermal	> 2000 mg/kg (Rabbit)
LC50 Inhalation	0.09 - 0.29 mg/L (Rat) (4h)

11.2. Other Toxicological Effects

Effect	Classification
Oral Toxicity	GHS Category 4 – Harmful if swallowed. Can cause respiratory tract irritation, sore throat, nausea, vomiting. May cause ulcers, inflammation and burning in oesophagus or stomach
Inhalation Toxicity	GHS Category 4 – Harmful if inhaled. Irritation in nose, coughing, runny nose, headache, breathing difficulties and sore throat
Skin Irritation	GHS Category 2 – Causes skin irritation, blisters, redness or swelling
Serious Eye Irritation	GHS Category 2A – Causes eye irritation, burns in eye lids, conjunctivitis, corneal edema, redness, burning sensation, pain, infection
STOT Single Exposure	GHS Category 3 – May cause respiratory irritation; irritant to mucous membranes of the respiratory tract
Carcinogenicity	No data available
Mutagenicity	No data available
Reproductive Toxicity	No data available
Aspiration Hazard	No data available

SECTION 12: Ecological Information

The product is very toxic to aquatic life with long lasting effects. Irregular dosing/spill releases chlorine upon mixing with water and harms aquatic life. The product may deteriorate in high temperatures releasing chlorine. The product is biodegradable by nature and does not persist in the open environment for long times. Chlorine dissipates in the environment and other components react rapidly to complete decomposition. Hydrolysis of the product produces chlorine and cyanuric acid; these are non-bio accumulative.

SECTION 13: Disposal Considerations

13.1. Disposal Methods

Consult the disposal methods of contents and containers with the local waste management authority. Comply with disposal norms in accordance with local/regional/national/international regulations. Discourage disposal of product in sewers, drains or water bodies. Wash and dry the container prior to disposing.

SECTION 14: Transport Information

Transport Regulation	Details
UN Number	UN 2468
UN Proper Shipping Name	Trichloroisocyanuric Acid, Dry
Transportation Hazard Class	5.1
Packing Group	II
Environmental Hazards	Marine Pollutant (YES)
Applicable Regulations	IATA / IMDG / DOT / TDG

SECTION 15: Regulatory Information

Regulation	Status
CAS No.	87-90-1
EINECS No.	201-782-8
UN Number	2468
SARA 311/312	Regulated as Hazardous substance — Physical Hazard (Oxidizer), Health Hazard (Acute Toxin, Skin Corrosion/Irritation, Serious Eye Damage)
OSHA (29 CFR 1910.1200)	Regulated as Hazardous substance
TSCA	Listed
RCRA	Listed
Safe Work Australia	Regulated as Hazardous substance — AICS Listed

SECTION 16: Other Information

Source of Data

United Nations Publications. (2019). Globally Harmonized System of Classification and Labelling of Chemicals (GHS) (Eighth Revised ed.). United Nations.
Chlorine | NIOSH | CDC. (2018). <https://www.cdc.gov/niosh/topics/chlorine/>

Disclaimer

This Material Safety Data Sheet is prepared to the best of our knowledge. All information present in this MSDS is obtained from verified technical sources. Zyx Chem Pvt Ltd cannot control or foresee how the product is used. Everyone accessing the product must be aware of the risks and take the required precautions. Contact Zyx Chem Pvt Ltd for any further information.