MATERIAL SAFETY DATA SHEET

Triclosan

1. Identification of the substance/Preparation & Company/Undertaking

Product Identifier:

Field	Details
Substance name	Triclosan
Chemical Name	2,4,4'-Trichloro-2'-hydroxy diphenylether 5-Chloro - 2-(2,4-dichlorophenoxy) phenol
Chemical family	Chlorophenol

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

Recommended/Identified use: Antimicrobial agent. For manufacturing products only.

Details of Manufacturer/supplier of the safety data sheet:

Cosmo Chemistry India Pvt. Ltd.

Office No. 713, 7th Floor, Millennium Business Hub, Sarthana Jakatnaka,

Varachha Main Road, Surat, Gujarat – 395006, India

Telephone No: +91 7984584838

E-mail: info@cosmochemistryindia.com

2. Hazard Identification

Classification in accordance with UN GHS/EU Regulation EC 1272/2008

Hazard Class and Category Code(s): Eye Irrit. 2; Skin Irrit. 2; Aquatic Acute 1; Aquatic Chronic 1

Hazard statement(s):

H315: Causes skin irritation

H319: Causes serious eye irritation

H400: Very toxic to aquatic life

H410: Very toxic to aquatic life with long lasting effects.

Precautionary statement(s):

P273: Avoid release to the environment

P280: Wear protective gloves/eye protection/face protection.

P302+P352: IF ON SKIN: Wash with plenty of soap and water.

P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P501: Dispose of contents/container to an approved waste disposal plant

Pictogram:

Harmful, Environmentally toxic

Signal word:

'Warning'

3. Composition

Name	CAS Number	EC Number	GHS Hazard class & categ, code	Percent (w/w) approx.
Triclosan	3380-34-5	222-182-2	Eye Irrit. 2; Skin Irrit. 2; Aquatic Acute 1; Aquatic Chronic 1	≤ 100%

4. First Aid Measures

Description of first aid measures

Route	Measure
General	If exposed or concerned: Get medical advice/attention.
Inhalation	Remove to fresh air. If breathing has ceased give artificial respiration. Obtain immediate medical attention.
Skin contact	Remove contaminated clothing and wash affected area with soap and water immediately. If irritation or redness occurs obtain immediate medical attention.
Eye contact	Remove contact lenses, if worn and rinse open eye for several minutes with running water. Obtain medical attention immediately.
Ingestion	Never give anything by mouth if patient is unconscious. Do not induce vomiting. Rinse mouth with water and obtain immediate medical attention.

Most important symptoms and effects, both acute and delayed

Known symptoms and effects are described in Section 2 / Section 11.

Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

5. Fire Fighting Measures

Item	Details
Suitable extinguishing media	Dry chemical powder, appropriated foam, water spray or carbon dioxide
Special hazards arising from the substance or mixture	May be liberating toxic fume of carbon monoxide, carbon dioxide and hydrogen chloride (HCl) on thermal decomposition, in case of fire. The product is very toxic to aquatic organisms. Sufficient measures must be taken to retain fire-control water and should not be allowed to enter drains or watercourses. Dispose of contaminated water and soil according to local regulations.

Advice for firefighters	Wear self-contained breathing apparatus and full protective clothing to prevent contact with skin and eyes.
Protective equipment	A self-contained breathing apparatus and suitable protective clothing should be worn by fire fighters.

6. Accidental Release Measures

Item	Details
Personal precautions	Mark out contaminated area with signs and prevent access to unauthorized personnel. Prevent inhalation or contact with skin or eyes by wearing suitable protective equipment (see Section 8). Eliminate all sources of ignition.
Environmental precautions	Be careful to ensure product doesn't enter drains or surface waters (see Section 12 - ecological information).
Disposal	Disposal of waste in accordance with all applicable federal, state and local laws.
Methods and material for containment and cleaning up	Take up mechanically or sweep up carefully and transfer to a suitable container for recovery or waste disposal (see Section 13 disposal consideration). Avoid generation of dust. Ventilate the area and wash spill site after material pick-up is complete.

7. Handling and Storage

Item	Details
Precautions for safe handling	This substance should only be handled by trained personnel wearing suitable protective equipment (see Section 8). Avoid inhalation, skin, and eye contact. Prevent prolonged or repeated exposure to skin. Provide good ventilation and keep ignition sources away.
Conditions for safe storage, including any incompatibilities	To be stored in properly sealed and labeled containers in a clean and dry place with adequate ventilation. Sensitive to heat above temperature of 40°C. Keep away from chlorinating and oxidizing substances. Keep away from direct sunlight and heat.

8. Exposure Controls and Personal Protection

Item	Details
Exposure limit	No data available
Exposure controls	Use process enclosure, local exhaust ventilations or other controls to minimize airborne levels of the product. The exposure to the product must be reduced to the lowest level. Wear suitable respirator, safety goggles, suitable gloves & aprons. For extra safety use within fume chambers. Wash thoroughly after handling. Avoid exposure into eyes, on

	skin & clothing. Avoid prolonged or repeated exposure. Be particular about using the safety showers & eye bath.
Occupational exposure controls	Wear recommended personal protective equipment as detailed below.
Personal protection	Chemical resistant gloves & safety glasses is must
Respiratory protection	Seek professional advice prior to respirator selection. Atmospheric level should be maintained below the exposure limit. If airborne concentrations are high, use mask or respirator.
Hand protection	Wear chemical protective gloves
Eye protection	Wear safety glasses
Skin protection	Wear chemically protective clothing
Work practices	Eye wash facilities and a safety shower should be easily accessible. Before breaks and at the end of work, thoroughly wash hands with soap and water. Wash contaminated clothing before use. Clean footwear before use.
Environmental exposure controls	All necessary precautions must be taken to avoid release into the environment. Refer to local, state or national legislations for environment and pollution control.

9. Physical and Chemical Properties

Property	**Value**
Appearance	White crystalline powder
Odour	Faintly aromatic
Odour threshold	No data available
pH	No data available
Melting point/freezing point	56 - 58°C
Initial boiling point and boiling range	No data available
Flash point	273°C (Tag closed cup)
Evaporation rate	No data available
Flammability (solid, gas)	No data available
Upper/lower flammability or explosive limits	No data available
Vapor pressure	4 x 10^{-6} mmHg (20°C)
Vapor density	Not available
Relative density	1.55 at 20°C; (water = 1)

Solubility(ies)	Soluble in methanol, alcohol and acetone
Partition coefficient: n-octanol/water	Log Pow = 4.76
Auto-ignition temperature	No data available
Decomposition temperature	No data available
Viscosity	No data available
Explosive properties	No data available
Oxidising properties	No data available
Relative molecular mass	289.5

10. Stability and Reactivity

Item	Details
Reactivity	Avoid contact with chlorinating substances
Stability	Stable at normal conditions and when used as recommended.
Possibility of hazardous reactions	No dangerous reaction known under conditions of normal use and no hazardous polymerization.
Conditions to avoid	Keep away from direct sunlight, heat and sources of ignition. Usual precautions for handling of chemicals should be observed.
Incompatible materials/materials to avoid	Avoid contact with chlorinating and oxidizing substances
Hazardous decomposition products	In the event of fire: see Section 5

11. Toxicological Information

Item	Details
Ingestion	LD50 oral (mouse) 4530 mg/kg
Inhalation	LD50 inhalation (rat) 140 mg/m3. Irritating to mucous membranes and upper respiratory tract
Skin contact	LD50 Dermal (rabbit) 9300 mg/kg. Irritating to skin
Eye contact	Irritant
Health-related end-points: Sensitization / Mutagenicity	Not confirmed to be a sensitizer. Not mutagenic in Ames test

12. Ecological Information

Item	Details
Aquatic Toxicity	LC50 96 h Zebra Fish: 0.5 mg/l; EC50 48h Daphnia: 0.4 mg/l; EC50 72 h Algae: 0.2 mg/l
Other data	IC50 3 hr Bacteria: 20 mg/l
Persistence and degradability	Triclosan is not readily biodegradable. It is not biodegraded in screening level tests due to its antimicrobial properties and the high concentration of test substance in these tests. Partially eliminated by absorption on effluent treatment sludge.
Bioaccumulative potential	No information available
Mobility in soil	Low mobility
Results of PBT and vPvB assessment	This product does not contain any substances classified as PBT or vPvB
Other adverse effects	An environmental hazard cannot be excluded in the event of unprofessional handling or disposal. Very toxic to aquatic organisms if run directly to surface waters. Avoid release to the environment.

13. Disposal Considerations

Item	Details
a) Product	Waste material is classified as hazardous waste and should be disposed of by incineration or collected by a registered waste disposal company, operating within the hazardous wastes regulations.
b) Contaminated packaging	Contaminated, empty containers must be disposed of as chemical waste according to local and federal/national environmental control regulations.

14. Transport Information

Item	Details
UN No. (IMDG, ADR, RID, ICAO/IATA)	3077
Proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (2,4,4'-trichloro-2'-hydroxy-diphenyl ether)
Class	9
Packing Group	III
Environmental hazards	Environmentally hazardous substance

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code.

15. Regulatory Information

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

Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures (as amended).

Commission Regulation (EU) No 2015/830 of 28 May 2015

Global Inventories:

Australia AICS	Canada DSL	China IECSC	Europe EINECS	Japan ENCS
Listed	Listed	Listed	Listed	Listed

Korea ECL	New Zealand NZIOC	Philippines PICCS	Taiwan TCSI	USA TSCA
Listed	Listed	Listed	Listed	Listed

16. Other Information

The information contained in this safety data sheet (SDS) has been compiled from data considered to be accurate. This data is believed to be reliable, however it must be pointed out that values for certain properties are known to vary from source to source. This data is not to be construed as absolutely complete since additional data may be desirable when particular conditions or circumstances exist. It is the responsibility of the user to determine the best precautions necessary for the safe handling and use of this product for his/her applications. This data relates only to the specific material designated and not to be used in combination with any other material. Many federal and state regulations pertain directly or indirectly to the product end use and disposal of containers and unused material. It is the purchaser's responsibility to familiarize themselves with all applicable regulations. Cosmo Chemistry India Pvt. Ltd. makes no warranty of any kind, express or implied, concerning the safe use of this material in your process or in combination with other substances nor assumes any liabilities from the use of its products or information provided herein.

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