



MATERIAL SAFETY DATA SHEET

PRODUCT NAME: 1,2,4-TRICHLOROBENZENE

CAS Number: 120-82-1

1. IDENTIFICATION:

Product Code : 97004

Company Name : ADVENT CHEMBIO PRIVATE LIMITED

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2. HAZARDS IDENTIFICATION:

Hazard classification

Health hazards

Acute toxicity : Category 4

Skin irritation : Category 2

Short-term (acute) aquatic hazard : Category 1

Long-term (chronic) aquatic hazard : Category 1

Labels elements :

Hazard symbol :

Signal word : Danger

Hazard statement : Harmful if swallowed.

: Causes skin irritation.

: Very toxic to aquatic life with long lasting effects.

Precautionary statement

Prevention : Obtain special instructions before use.

Do not breathe dust/ fume/ gas/ mist/ vapors/ spray. Do not handle until all safety precautions have been read and understood.

Wear protective gloves/ protective clothing/ eye protection/ face protection.

Keep away from heat/ sparks/ open flames/ hot surfaces. No smoking.

Keep container tightly closed. Ground/ bond container and receiving equipment.

Use explosion-proof electrical/ ventilating/ lighting/ equipment.

Use only non-sparking tools. Take precautionary measures against static discharge.

Response : IF exposed or concerned: Get medical advice/ attention.

IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/ shower.

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



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	IF INHALED: Remove person to fresh air and keep comfortable for breathing. IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.
Storage	: Store in a dry & well-ventilated place. Keep container tightly closed. Containers which are opened must be carefully resealed and kept upright to prevent leakage.
Disposal	: Dispose of contents/container to an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.
Other hazards which do not result in GHS classification	: Static accumulating flammable liquid can become electrostatically charged even in bonded and grounded equipment. Sparks may ignite liquid and vapor. May cause flash fire or explosion.

3. COMPOSITION/ INFORMATION ON INGREDIENTS:

Ingredient	CAS Number	Percent	Hazardous
1,2,4-Trichlorobenzene	120-82-1	NLT 98.0%	Yes

4. FIRST AID MEASURES:

General information	: Get medical advice/attention if you feel unwell. Show this safety data sheet to the doctor in attendance.
Ingestion	: Call a physician or poison control center immediately. Rinse mouth. Do NOT induce vomiting. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs.
Inhalation	: Move to fresh air. Call a physician or poison control center immediately. If breathing stops, provide artificial respiration. If breathing is difficult, give oxygen. Get medical attention if symptoms persist.
Skin contact	: Immediately flush with plenty of water for at least 15 minutes. If easy to do, remove contact lenses. Get medical attention.
Eye contact	: Immediately flush with plenty of water for at least 15 minutes. If easy to do, remove contact lenses. Get medical attention.
Most important symptoms/effects, acute and delayed	: Toxic if inhaled. Irritating to eyes, respiratory system and skin.
Indication of immediate medical attention and special treatment needed	: Symptoms may be delayed. Treat symptomatically.

5. FIRE FIGHTING MEASURES:

General information	: No data available
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Suitable (and unsuitable) extinguishing media

Suitable extinguishing media	: Foam, dry powder or carbon dioxide.
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Unsuitable extinguishing media	: For this substance/mixture no limitations of extinguishing agents are given.
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Special protective equipment and precautions for firefighters

Special firefighting procedures	: Fight fire from a protected location. Move containers from fire area if you can do so without risk.
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Special protective equipment for fire-fighters : Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA.

6. ACCIDENTAL RELEASE MEASURES:

Personal precautions, protective equipment and emergency procedures : ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Avoid breathing mists or vapors. Keep upwind. Ventilate closed spaces before entering them. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Keep unauthorized personnel away.

Methods and material for containment and cleaning up : Eliminate all ignition sources if safe to do so. Use only non-sparking tools. Take precautionary measures against static discharges. Stop leak if possible without any risk. Absorb spill with vermiculite or other inert material, then place in a container for chemical waste. Clean surface thoroughly to remove residual contamination. Dike far ahead of larger spill for later recovery and disposal.

Notification Procedures : Prevent entry into waterways, sewer, basements or confined areas. Inform authorities if large amounts are involved.

Environmental precautions : Do not contaminate water sources or sewer. Prevent further leakage or spillage if safe to do so. Avoid discharge into drains, water courses or onto the ground.

7. HANDLING AND STORAGE:

Precautions for safe handling : Do not handle until all safety precautions have been read and understood. DO NOT handle, store or open near an open flame, sources of heat or sources of ignition. Protect material from direct sunlight. Take precautionary measures against static discharges. Ground/bond container and receiving equipment. Use explosion-proof electrical/ventilating/lighting/equipment. Use only non-sparking tools. Wear protective gloves/protective clothing/eye protection/ face protection. Avoid contact with eyes, skin, and clothing. Do not breathe mist or vapor. Use only with adequate ventilation. Wash hands thoroughly after handling.

Conditions for safe storage, including any incompatibilities : Keep container tightly closed in a dry and well-ventilated place. Keep away from heat and sources of ignition.

8. EXPOSURE CONTROLS PERSONAL PROTECTION:**Control parameters****Appropriate engineering**

controls : No data available

Individual protection measures, such as personal protective equipment

General information : Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. An eye wash and safety shower must be available in the immediate work area. Use explosion-proof ventilation equipment.

Eye/face protection : Wear safety glasses with side shields (or goggles).

Hand protection : Chemical resistant gloves.



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Other	:	Wear suitable protective clothing.
Respiratory protection	:	In case of inadequate ventilation use suitable respirator. Chemical respirator with organic vapor cartridge.
Hygiene measures	:	Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Provide eyewash station and safety shower. Avoid contact with eyes, skin, and clothing.

9. PHYSICAL AND CHEMICAL PROPERTIES:

Appearance	:	Clear colourless to slight yellow liquid.
Odor	:	No data available
Solubility	:	No data available
Formula	:	$C_6H_3Cl_3$
Molecular Weight	:	181.45 g/mol
Specific Gravity	:	1.450 g/cm ³ (20 °C)
pH	:	ca. 4.1 (20 °C)
% Volatiles by volume @ 21C (70F)	:	No data available
Boiling Point	:	213.5 °C (1.013 hPa)
Melting Point	:	17 °C
Flash Point	:	113.0 °C
Vapor Density (Air=1)	:	No data available
Vapor Pressure (mm Hg)	:	1.3 hPa (40.0 °C) 0.26 hPa (20 °C)
Evaporation Rate (BuAc=1)	:	No data available

10. STABILITY AND REACTIVITY:

Reactivity	:	Forms explosive mixtures with air on intense heating. A range from approx. 15 Kelvin below the flash point is to be rated as critical.
Chemical stability	:	Material is stable under ambient conditions..
Possibility of hazardous reactions	:	Hazardous reactions : Exothermic reaction with: Oxidizing agents Alkali metals Alkaline earth metals Risk of explosion with: fire-promoting substances.
Conditions to avoid	:	Strong Heating.
Incompatible materials	:	No data available
Hazardous decomposition products	:	In the event of fire: see section 5



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11. TOXICOLOGICAL INFORMATION:**Information on toxicological effects****Acute toxicity (list all possible routes of exposure)**

Inhalation Product	Oral: No data available LD50 Oral - Rat - male and female - 930 mg/kg (OECD Test Guideline 401) Acute toxicity estimate Oral - 930 mg/kg (ATE value derived from LD50/LC50 value) : Inhalation: No data available LD50 Dermal - Rat - 6.139 mg/kg Remarks: Behavioral:Somnolence (general depressed activity). Behavioral:Convulsions or effect on seizure threshold. (RTECS)
Repeated dose toxicity Product	: No data available.
Skin corrosion/irritation Product	Remarks: No data available Skin - Rabbit : Result: Moderate skin irritation Remarks: (RTECS) Remarks: Classified according to Regulation (EU) 1272/2008, Annex VI (Table 3.1/3.2)
Serious eye damage/eye irritation Product	Remarks: No data available Eyes - Rabbit : Result: No eye irritation - 24 h (OECD Test Guideline 405)
Respiratory or skin sensitization Product	Maximisation Test - Guinea pig : Result: negative (OECD Test Guideline 406)
Carcinogenicity Product	: Possible carcinogen.
IARC Monographs on the Evaluation of Carcinogenic Risks to Humans	: No data available
US. National Toxicology Program (NTP) Report on Carcinogens	: No data available
US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)	: No data available.
Germ cell mutagenicity	Test Type: Ames test Test system: S. typhimurium : Metabolic activation: with and without metabolic activation Method: OECD Test Guideline 471 Result: negative
In vitro Product	: No data available.
Reproductive toxicity Product	: No data available.



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Specific target organ
toxicity - single exposure : No data available.
Product
Specific target organ
toxicity - repeated : No data available.
exposure Product
Aspiration hazard Product : No data available.
Other effects : None known.

12. ECOLOGICAL INFORMATION:**Ecotoxicity****Acute hazards to the aquatic environment**

Fish Product : No data available.

Aquatic invertebrates
Product : No data available.

Chronic hazards to the aquatic environment

Fish Product : No data available.

Aquatic invertebrates
Product : EC50 (Daphnia magna (Water flea)): 1,4 mg/l
End point: Immobilization
: Exposure time: 48 h
Method: OECD Test Guideline 202
GLP: yes

Toxicity to Aquatic Plants
Product: ErC50 (Pseudokirchneriella subcapitata (green algae)): 1,4 mg/l
: Exposure time: 96 h
: Test Type: static test
Analytical monitoring: yes
Method: US-EPA

Persistence and degradability

Biodegradation Product : Test Type: aerobic
Concentration: 100 mg/l
: Result: Not readily biodegradable.
Biodegradation: 0 %
Exposure time: 14 d
Method: OECD Test Guideline 301C

BOD/COD ratio Product : No data available.

Bioaccumulative potential

Bioconcentration factor
(BCF) Product : No data available.

Partition coefficient n-
octanol / water (log Kow)
Product : log Pow: 4.05 (25 °C)
: Method: OECD Test Guideline 123
Remarks: Potential bioaccumulation



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Mobility in soil : No data available

Other adverse effects : Discharge into the environment must be avoided.

13. DISPOSAL CONSIDERATION:

Disposal instructions : Discharge, treatment, or disposal may be subject to national, state, or local laws. Disposal recommendations are based on uncontaminated material.

Contaminated packaging : Since emptied containers retain product residue, follow label warnings even after container is emptied.

14. TRANSPORT INFORMATION:

	UN No.	UN proper shipping name	Hazard Class(es)	Packaging group	Marine Pollutant
DOT	UN 2321	1,2,4-Trichlorobenzene	6.1	III	Yes
IMDG	UN 2321	1,2,4-Trichlorobenzene	6.1	III	Yes
IATA	UN 2321	1,2,4-Trichlorobenzene	6.1	III	No

15. REGULATORY INFORMATION:

This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006.

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

No Data Available.

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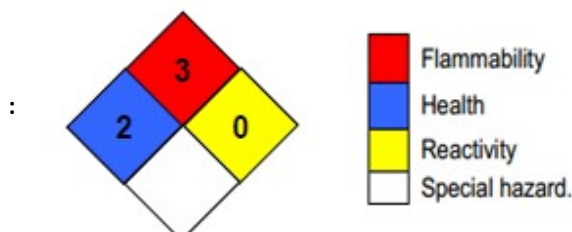
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16. OTHER INFORMATION:

NFPA Hazard ID



Hazard rating: 0 - Minimal; 1 - Slight; 2 - Moderate; 3 - Serious; 4 - Severe

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