

1. General Statements

The 1,2,4-Trichlorobenzene : Ortho Dichlorobenzene mixture is a combustible, yellowish-brown liquid with an aromatic odor, primarily used as an industrial solvent with enhanced chemical and thermal properties. Acute or chronic health hazards result from the substance. The substance is hazardous to the aquatic environment.

2. Chemical identification.

Name : 1,2,4 Trichlorobenzene : Ortho Dichlorobenzene mixture
CAS number(s) : 120-82-1 (1,2,4-TCB) + 95-50-1 (ODCB)
EC number : -
Molecular formula : C₆H₃Cl₃ + C₆H₄Cl₂

3. Uses and Benefits

It is used in combining these two chemicals resulting in a solvent mixture with enhanced properties such as improved solubility range, thermal stability, and adjustable volatility. Also, it is used as a solvent or carrier in various chemical reactions and industrial processes.

4. Physical / chemical properties

Property	Value
Physical state :	Liquid
Colour :	Brown
Odour :	Pleasant odour Aromatic odour
pH :	6 – 7
Melting point :	NDA.
Boiling point :	170 – 215 °C
Flash point :	NDA.
Density :	1.43 g/cm ³
Solubility in Water:	NDA

5. Health Effects

Effect Assessment	Result
Acute toxicity (Oral / inhalation / dermal)	Harmful if swallowed
Irritation / corrosion Skin / eye/ respiratory tract	Causes skin irritation, Causes serious eye irritation, May cause respiratory irritation

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Respiratory or skin sensitisation	May cause an allergic skin reaction
Toxicity after repeated exposure Oral / inhalation / dermal	NA
Genotoxicity / Mutagenicity	NA
Carcinogenicity	NA
Toxicity for reproduction	NA

6. Environmental Effects

Effect Assessment	Result
Aquatic toxicity	No
Fate and behavior	Result
Persistence and degradability	Not rapidly degradable
Bioaccumulative potential	1,2,4 Trichlorobenzene : Potential for bioaccumulation ($500 \leq \text{BCF} \leq 5000$). Ortho Dichlorobenzene : Low potential for bioaccumulation ($\text{BCF} < 500$).

7. Exposure

Human health

1,2,4-Trichlorobenzene and Ortho-Dichlorobenzene can be harmful if swallowed, posing serious health risks. Contact with the skin may cause irritation and redness, while exposure to the eyes can result in significant irritation, discomfort, and possible damage. Inhalation of vapors may lead to respiratory irritation, causing coughing, difficulty breathing, or throat discomfort. Additionally, some individuals may develop an allergic skin reaction after contact, characterized by redness, itching, or rash. The exposure must be kept as minimum as possible by the use of appropriate risk management measures suitable collective and personal protective equipment, good industrial hygiene practices and risk communication through appropriate training of workers. Careless handling or accidental spillage of the chemical could result in exposure to potentially hazardous levels of chemicals. Industrial workers should ensure that they follow the advice found in the extended safety data sheet (SDS).

Environment:

Care should be taken to avoid releases of these products to sewage, drainage systems and water bodies. Spillage shall be quickly collected in the event of an accidental release. More information about release measures and accidental release measures are available in the extended safety data sheet.

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8. Risk Management Recommendations

Human health measures.

Organizational	A basic standard of occupational hygiene is recommended. Ensure operatives are well informed of the hazards and trained to minimise exposures. Ensure regular inspection and maintenance of equipment and machines. Handle and store according to the indications of the Safety Data Sheet.	
Protection	Eye protection:	Safety glasses
	Skin and body protection:	Wear suitable protective clothing
	Respiratory protection:	In case of insufficient ventilation, wear suitable respiratory equipment.
Engineering controls	Ensure good ventilation of the work station..	
Environment protective measures		
Avoid release to the environment		

9. First-aid measures

First-aid measures after inhalation : Remove the person to fresh air and keep them comfortable for breathing. Call a poison center or a doctor if you feel unwell.

First-aid measures after skin contact : Wash skin with plenty of water. Take off contaminated clothing. If skin irritation or rash occurs: Get medical advice/attention.

First-aid measures after eye contact : Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.

First-aid measures after ingestion : Rinse mouth. Call a poison center or a doctor if you feel unwell.

10. Fire-fighting measures

Extinguishing media

Suitable extinguishing media: Water spray. Dry powder. Foam. Carbon dioxide.

Unsuitable extinguishing media : Do not use a heavy water stream.

Special hazards arising from the substance or mixture

Hazardous decomposition products in case of fire : Toxic fumes may be released.

Advice for firefighters

Precautionary measures fire : Exposure to fire/heat: keep upwind. Exposure to fire/heat: consider evacuation. Exposure to fire/heat: seal off low-lying areas. Exposure to fire/heat: have neighbourhood close doors and windows.

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Firefighting instructions : Fight fire from safe distance and protected location. Do not enter fire area without proper protective equipment, including respiratory protection.

11. Accidental release measures

Protective equipment : Protective clothing. Gloves.Safety glasses

Environmental precautions : Avoid release to the environment.

For containment : Absorb spilled material with sand or earth. Contain any spills with dikes or absorbents to prevent migration and entry into sewers or streams. Stop leaks without risks if possible.

12. Disposal consideration

Regional legislation (waste) : Disposal must be done according to official regulations.

Waste treatment methods : Dispose of contents/container in accordance with licensed collector's sorting instructions.

Sewage disposal recommendations : Disposal must be done according to official regulations.

13. Handling and storage

Precautions for safe handling : Use only outdoors or in a well-ventilated area. Avoid breathing dust/fume/gas/mist/vapors/spray.Avoid contact with skin and eyes. Wear personal protective equipment.

Hygiene measures : Wash contaminated clothing before reuse. Contaminated work clothing should not be allowed out of the workplace. Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

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14. Classification and Labeling

GHS US labeling

Hazard pictograms (GHS US)



Signal word (GHS US)

Hazard statements (GHS US)

Precautionary statements (GHS US)

- : Warning
- : H302 - Harmful if swallowed
- H315 - Causes skin irritation
- H317 - May cause an allergic skin reaction
- H319 - Causes serious eye irritation
- H335 - May cause respiratory irritation
- : P261 - Avoid breathing dust, fume, gas, mist, spray, vapours.
- P264 - Wash hands, forearms and face thoroughly after handling.
- P270 - Do not eat, drink or smoke when using this product.
- P271 - Use only outdoors or in a well-ventilated area.
- P272 - Contaminated work clothing must not be allowed out of the workplace.
- P280 - Wear protective gloves.
- P301+P312 - If swallowed: Call a POISON CENTER, a doctor if you feel unwell.
- P302+P352 - If on skin: Wash with plenty of water.
- P304+P340 - If inhaled: Remove person to fresh air and keep comfortable for breathing.
- P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- P312 - Call a POISON CENTER, a doctor if you feel unwell.
- P321 - Specific treatment (see supplemental first aid instruction on this label).
- P330 - Rinse mouth.
- P333+P313 - If skin irritation or rash occurs: Get medical advice or attention.
- P337+P313 - If eye irritation persists: Get medical advice or attention.
- P362+P364 - Take off contaminated clothing and wash it before reuse.
- P403+P233 - Store in a well-ventilated place. Keep container tightly closed.
- P405 - Store locked up.
- P501 - Dispose of hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulations.

15. Conclusion

The 1,2,4-Trichlorobenzene : Ortho Dichlorobenzene mixture is a combustible, yellowish-brown liquid with an aromatic odor, primarily used as an industrial solvent with enhanced chemical and thermal properties. While it offers valuable benefits in chemical processes due to its solubility range and stability, it poses notable health risks including skin and eye irritation, respiratory discomfort, and potential allergic reactions upon exposure. The mixture is harmful if swallowed and requires careful handling with proper personal protective equipment and good industrial hygiene practices..The exposure must be kept as minimum as possible by the use of appropriate risk management measures as suitable collective and personal protective equipment, good industrial hygiene practices and risk communication through appropriate training of workers.

16. Contact Information within company

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This GPS safety summary is intended to give general information about the health, safety and environment and not intended to provide in-depth details. To obtain the most accurate and current information, consult the appropriate Safety Data Sheet (SDS) prior to use of the material named herein.