



TCI AMERICA

SAFETY DATA SHEET

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Revision number: 1
Revision date: 07/06/2018

1. IDENTIFICATION

Product name: Benzotrichloride
Product code: T0399
Product use: For laboratory research purposes.
Restrictions on use: Not for drug or household use.

Company:
TCI America
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Portland, OR 97203 U.S.A.
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Emergency telephone number:
Chemical Emergencies:
TCI America (8:00am - 5:00pm) PST
+1-503-286-7624
Transportation Emergencies:
Chemtrec 24-Hour
+1-800-424-9300 (U.S.A.)
+1-703-527-3887 (International)
Responsible department:
TCI America
Environmental Health Safety and Security
+1- 503-286-7624

2. HAZARD(S) IDENTIFICATION

OSHA Haz Com: CFR 1910.1200:
WHMIS 2015:

Acute Toxicity - Oral [Category 4]
Acute Toxicity - Inhalation [Category 1]
Skin Corrosion/Irritation [Category 2]
Eye Damage/Irritation [Category 2A]
Germ Cell Mutagenicity [Category 2]
Carcinogenicity [Category 1B]
Toxic to Reproduction [Category 2]
Specific Target Organ Toxicity (Single Exposure) [Category 3]
Specific Target Organ Toxicity (Repeated Exposure) [Category 1]
Aquatic Hazard (Acute) [Category 3]

Signal word: Danger!

Hazard Statement(s):
Harmful if swallowed
Fatal if inhaled
Causes skin irritation
Causes serious eye irritation
Suspected of causing genetic defects
May cause cancer
Suspected of damaging fertility or the unborn child
Harmful to aquatic life
May cause respiratory irritation. May cause drowsiness or dizziness.
Causes damage to organs through prolonged or repeated exposure: Liver Blood Thyroid Gland Kidney

Pictogram(s) or Symbol(s):



Precautionary Statement(s):
[Prevention]

Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not breathe mist, vapors or spray. Use only outdoors or in a well-ventilated area. Avoid release to the environment. Do not eat, drink or smoke when using this product. Wash hands and face thoroughly after handling. Wear respiratory protection. Wear protective gloves, protective clothing, face protection.

[Response]

If swallowed: Call a poison center or doctor if you feel unwell. Rinse mouth. If on skin: Wash with plenty of soap and water. If skin irritation occurs: Get medical advice or attention. Take off contaminated clothing and wash it before reuse. If inhaled: Remove person to fresh air and keep comfortable for breathing. Immediately call a poison center or doctor. If in eyes: 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 or attention. If exposed or concerned: Get medical advice or attention.

**[Storage]
[Disposal]**

Store in a well-ventilated place. Keep container tightly closed. Store locked up.
Dispose of contents and container in accordance with local, regional, national regulations (e.g. US: 40 CFR Part 261, EU:91/156/EEC, JP: Waste Disposal and Cleaning Act, etc.).

**Hazards not otherwise classified:
[HNOC]**

May be harmful if swallowed and enters airways. May be harmful if in contact with skin.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance/mixture:	Substance
Components:	Benzotrichloride
Percent:	>99.0%(GC)
CAS RN:	98-07-7
Molecular Weight:	195.47
Chemical Formula:	C ₇ H ₅ Cl ₃
Synonyms:	α,α,α-Trichlorotoluene , (Trichloromethyl)benzene

4. FIRST-AID MEASURES**Description of first aid measures**

Inhalation:	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Immediately call a POISON CENTER or doctor/physician.
Skin contact:	Remove/Take off immediately all contaminated clothing. Gently wash with plenty of soap and water. Get medical advice/attention.
Eye contact:	Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Get medical advice/attention.
Ingestion:	Get medical advice/attention. Rinse mouth.

Symptoms/effects:

Acute:	Dizziness. Redness. Drowsiness.
Delayed:	May cause heritable genetic damage in humans. May have effects on the respiratory tract. Possibly carcinogenic to humans.

Indication of any immediate medical attention:

Not available.

Notes to physician:

No data available

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media:	Dry chemical, foam, water spray, carbon dioxide.
Unsuitable extinguishing media:	Solid streams of water
Specific hazards arising from the chemical:	Take care as it may decompose upon combustion or in high temperatures to generate poisonous fume.
Hazardous combustion products:	These products include: Carbon oxides Halogenated compounds
Other specific hazards:	WARNING: Highly toxic HCl gas is produced during combustion.
Advice for firefighters:	Wear self-contained breathing apparatus if possible.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures:	Use personal protective equipment. Keep people away from and upwind of spill/leak. Ensure adequate ventilation. Entry to non-involved personnel should be controlled around the leakage area by roping off, etc.
Environmental precautions:	Prevent product from entering drains.
Methods and materials for containment and cleaning up:	Absorb spilled material in a suitable absorbent (e.g. rag, dry sand, earth, saw-dust). In case of large amount of spillage, contain a spill by bunding. Adhered or collected material should be promptly disposed of, in accordance with appropriate laws and regulations.

7. HANDLING AND STORAGE

Precautions for safe handling:	Handling is performed in a well ventilated place. Wear suitable protective equipment. Prevent generation of vapour or mist. Wash hands and face thoroughly after handling. Use a closed system if possible. Use a ventilation, local exhaust if vapour or aerosol will be generated. Avoid all contact!
Conditions for safe storage, including any incompatibilities	
Storage conditions:	Keep container tightly closed. Store in a cool, dark and well-ventilated place. Store under inert gas. Protect from moisture. Store locked up. Store away from incompatible materials such as oxidizing agents. Light-sensitive Moisture-sensitive
Packaging material:	Comply with laws.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure limits:	
ACGIH TLV(CL):	0.1 ppm (skin)
Appropriate engineering controls:	Follow safe industrial engineering/laboratory practices when handling any chemical. Install a closed system or local exhaust. Also install safety shower and eye bath.
Personal protective equipment	
Respiratory protection:	Half or full facepiece respirator, self-contained breathing apparatus(SCBA), supplied air respirator, etc. Use respirators approved under appropriate government standards and follow local and national regulations.
Hand protection:	Impervious gloves.
Eye protection:	Safety goggles. A face-shield, if the situation requires.
Skin and body protection:	Impervious protective clothing. Protective boots, if the situation requires.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state (20°C):	Liquid		
Form:	Clear		
Colour:	Colorless - Very pale yellow		
Odour:	Pungent		
Odor threshold:	No data available		
Odour threshold:	No data available		
Melting point/freezing point:	-5°C (23°F)	pH:	No data available
Boiling point/range:	221°C (430°F)	Vapour pressure:	No data available.
Decomposition temperature:	No data available	Vapour density:	6.77
Relative density:	1.38	Dynamic Viscosity:	No data available
Kinematic viscosity:	No data available		
Log Pow:	No data available	Evaporation rate(Butyl Acetate=1):	No data available
Flash point:	103°C (217°F)	Autoignition temperature:	211°C (412°F)
Flammability(solid, gas):	No data available	Flammability or explosive limits:	
		Lower:	2.1%
		Upper:	6.5%
Solubility(ies):			
[Water]	Insoluble (Decomposes)		
[Other solvents]			
Soluble:	Ether, Alcohols, Benzoic acid, Many organic solvents		

10. STABILITY AND REACTIVITY

Reactivity:	No data available
Chemical stability:	Stable under proper conditions.
Possibility of hazardous reactions:	No special reactivity has been reported.
Incompatible materials:	Oxidizing agents, Bases, Metals
Hazardous decomposition products:	Carbon dioxide, Carbon monoxide, Hydrogen chloride

11. TOXICOLOGICAL INFORMATION**RTECS Number:** XT9275000**Acute Toxicity:**ihl-rat LC50:19 ppm/2H
scu-frg LDLo:2150 mg/kgorl-rat LD50:6000 mg/kg
skn-rbt LD50:4 g/kg**Skin corrosion/irritation:**

No data available

Serious eye damage/irritation:

No data available

Respiratory or skin sensitization:

No data available

Germ cell mutagenicity:dnd-hmn-oth 100 ug/L
mmo-sat 10 ug/plate (+S9)

mmo-sat 500nmol/plate/20M(-S9)

Carcinogenicity:

ihl-mus TCLo:1620ppb/30M/22W-I

orl-mus TDLo:1380 mg/kg/25W-I

IARC: Group 2A (Probably carcinogenic to humans).**NTP:** b (Reasonably anticipated to be carcinogens).**OSHA:** No data available**Reproductive toxicity:**

No data available

Aspiration hazard:

May be harmful if swallowed and enters airways.

Target organ(s):

May cause respiratory irritation.

May cause drowsiness or dizziness.

Causes damage to organs through prolonged or repeated exposure: Liver Blood Thyroid Gland Kidney

12. ECOLOGICAL INFORMATION**Ecotoxicity:****Fish:** No data available**Crustacea:** No data available**Algae:** No data available**Persistence / degradability:**

No data available

Bioaccumulative potential(BCF):

540

Mobility in soil**Log Pow:** 2.92**Soil adsorption (Koc):** 1200**Henry's Law (PaM³/mol):** 26**13. DISPOSAL CONSIDERATIONS****Disposal of product:**

Recycle to process if possible. It is the generator's responsibility to comply with Federal, State and Local rules and regulations. You may be able to dissolve or mix material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber system. This section is intended to provide assistance but does not replace these laws, nor does compliance in accordance with this section ensure regulatory compliance according to the law. US EPA guidelines for Identification and Listing of Hazardous Waste are listed in 40 CFR Parts 261. The product should not be allowed to enter the environment, drains, water ways, or the soil.

Disposal of container:

Dispose of as unused product. Do not re-use empty containers.

Other considerations:

Observe all federal, state and local regulations when disposing of the substance.

14. TRANSPORT INFORMATION**DOT (US)**

UN number: UN2226	Proper Shipping Name: Benzotrichloride	Class or Division: 8 Corrosive material	Packing Group: II
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IATA

UN number: UN2226	Proper Shipping Name: Benzotrichloride	Class or Division: 8 Corrosive material	Packing Group: II
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IMDG

UN number: UN2226	Proper Shipping Name: Benzotrichloride	Class or Division: 8 Corrosive material	Packing Group: II
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EmS number:	F-A, S-B
Reportable Quantity:	10 pounds (4.54 Kilograms)

15. REGULATORY INFORMATION**Toxic Substance Control Act (TSCA 8b.):**

This product is ON the EPA Toxic Substances Control Act (TSCA) inventory.

US Federal Regulations**CERCLA Hazardous substance and Reportable Quantity:**

SARA 313:	Listed
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SARA 302:	Listed
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State Regulations**State Right-to-Know**

Massachusetts	Listed
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New Jersey	Listed
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Pennsylvania	Listed
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California Proposition 65:	Listed
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Other Information**NFPA Rating:**

Health:	3
Flammability:	1
Instability:	0

HMIS Classification:

Health:	3
Flammability:	1
Physical:	0

International Inventories

Canada: NDSL	On NDSL
EC-No:	202-634-5

16. OTHER INFORMATION

Revision date: 07/06/2018

Revision number: 1

TCI chemicals are for research purposes only and are NOT intended for use as drugs, food additives, households, or pesticides. The information herein is believed to be correct, but does not claim to be all inclusive and should be used only as a guide. Neither the above named supplier nor any of its affiliates or subsidiaries assumes any liability whatsoever for the accuracy or completeness of the information contained herein. Final determination of suitability of any material is the sole responsibility of the user. All chemical reagents must be handled with the recognition that their chemical, physiological, toxicological, and hazardous properties have not been fully investigated or determined. All chemical reagents should be handled only by individuals who are familiar with their potential hazards and who have been fully trained in proper safety, laboratory, and chemical handling procedures. Although certain hazards are described herein, we can not guarantee that these are the only hazards which exist. Our SDS are based only on data available at the time of shipping and are subject to change without notice as new information is obtained. Avoid long storage periods since the product is subject to degradation with age and may become more dangerous or hazardous. It is the responsibility of the user to request updated SDS for products that are stored for extended periods. Disposal of unused product must be undertaken by qualified personnel who are knowledgeable in all applicable regulations and follow all pertinent safety precautions including the use of appropriate protective equipment (e.g. protective goggles, protective clothing, breathing equipment, face mask, fume hood). For proper handling and disposal, always comply with federal, state and local regulations.