

SAFETY DATA SHEET

Creation Date 22-Sep-2009

Revision Date 14-Feb-2020

Revision Number 2

1. Identification

Product Name 4-Chlorobenzotrichloride

Cat No. : B23446

CAS-No 5216-25-1

Synonyms \$1,\$1,\$1,4-Tetrachlorotoluene; PCTC

Recommended Use Laboratory chemicals.

Uses advised against Food, drug, pesticide or biocidal product use.

Details of the supplier of the safety data sheet

Company

Alfa Aesar
Thermo Fisher Scientific Chemicals, Inc.
30 Bond Street
Ward Hill, MA 01835-8099
Tel: 800-343-0660
Fax: 800-322-4757
Email: tech@alfa.com
www.alfa.com

Emergency Telephone Number

During normal business hours (Monday-Friday, 8am-7pm EST), call (800) 343-0660.
After normal business hours, call Carechem 24 at (866) 928-0789.

2. Hazard(s) identification

Classification

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Acute oral toxicity	Category 4
Acute dermal toxicity	Category 4
Skin Corrosion/Irritation	Category 2
Serious Eye Damage/Eye Irritation	Category 2
Carcinogenicity	Category 1B
Reproductive Toxicity	Category 2
Specific target organ toxicity (single exposure)	Category 3
Target Organs - Respiratory system.	
Specific target organ toxicity - (repeated exposure)	Category 1

Label Elements

Signal Word

Danger

Hazard Statements

Causes skin irritation
Causes serious eye irritation
May cause respiratory irritation
May cause cancer
Suspected of damaging fertility
Causes damage to organs through prolonged or repeated exposure
Harmful if swallowed or in contact with skin

**Precautionary Statements****Prevention**

Obtain special instructions before use
Do not handle until all safety precautions have been read and understood
Wear protective gloves/protective clothing/eye protection/face protection
Use only outdoors or in a well-ventilated area
Wash face, hands and any exposed skin thoroughly after handling
Do not eat, drink or smoke when using this product
Do not breathe dust/fume/gas/mist/vapors/spray
Avoid breathing dust/fume/gas/mist/vapors/spray

Response

IF exposed or concerned: Get medical attention/advice

Inhalation

IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing

Skin

IF ON SKIN: Wash with plenty of soap and water
If skin irritation occurs: Get medical advice/attention
Take off contaminated clothing and wash before reuse

Eyes

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/attention

Ingestion

IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell
Rinse mouth

Storage

Store locked up
Store in a well-ventilated place. Keep container tightly closed

Disposal

Dispose of contents/container to an approved waste disposal plant

Hazards not otherwise classified (HNOC)**Other hazards**

Hygroscopic.
WARNING. Cancer - <https://www.p65warnings.ca.gov/>.

3. Composition/Information on Ingredients

Component	CAS-No	Weight %
4-Chlorobenzotrifluoride	5216-25-1	99

4. First-aid measures

Eye Contact	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Get medical attention.
Skin Contact	Wash off immediately with plenty of water for at least 15 minutes. Get medical attention.
Inhalation	Remove to fresh air. If breathing is difficult, give oxygen. Get medical attention.
Ingestion	Do NOT induce vomiting. Get medical attention.
Most important symptoms and effects	No information available.
Notes to Physician	Treat symptomatically

5. Fire-fighting measures

Suitable Extinguishing Media	Water spray. Carbon dioxide (CO ₂). Dry chemical. Chemical foam.
Unsuitable Extinguishing Media	No information available
Flash Point	> 112 °C / > 233.6 °F
Method -	No information available
Autoignition Temperature	505 °C / 941 °F
Explosion Limits	
Upper	No data available
Lower	No data available
Sensitivity to Mechanical Impact	No information available
Sensitivity to Static Discharge	No information available

Specific Hazards Arising from the Chemical

Keep product and empty container away from heat and sources of ignition.

Hazardous Combustion Products

Carbon monoxide (CO). Carbon dioxide (CO₂). Hydrogen chloride gas.

Protective Equipment and Precautions for Firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

NFPA

Health	Flammability	Instability	Physical hazards
3	0	1	N/A

6. Accidental release measures

Personal Precautions	Ensure adequate ventilation. Use personal protective equipment as required. Avoid contact with skin, eyes or clothing.
Environmental Precautions	See Section 12 for additional Ecological Information. Do not flush into surface water or sanitary sewer system.
Methods for Containment and Clean Up	Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Keep in suitable, closed containers for disposal. Wear self-contained breathing apparatus and protective suit. Do not let this chemical enter the environment.

7. Handling and storage

Handling	Ensure adequate ventilation. Wear personal protective equipment/face protection. Avoid contact with skin, eyes or clothing. Avoid breathing dust/fume/gas/mist/vapors/spray. Avoid ingestion and inhalation.
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Storage Keep in a dry, cool and well-ventilated place. Refer product specification and/or product label for specific storage temperature requirement. Keep container tightly closed.

8. Exposure controls / personal protection

Exposure Guidelines This product does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.

Engineering Measures Ensure adequate ventilation, especially in confined areas. Ensure that eyewash stations and safety showers are close to the workstation location.

Personal Protective Equipment

Eye/face Protection Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

Skin and body protection Wear appropriate protective gloves and clothing to prevent skin exposure.

Respiratory Protection Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

Hygiene Measures Handle in accordance with good industrial hygiene and safety practice.

9. Physical and chemical properties

Physical State	Liquid
Appearance	Clear
Odor	Odorless
Odor Threshold	No information available
pH	No information available
Melting Point/Range	5.8 °C / 42.4 °F
Boiling Point/Range	245 °C / 473 °F @ 760 mmHg
Flash Point	> 112 °C / > 233.6 °F
Evaporation Rate	No information available
Flammability (solid,gas)	Not applicable
Flammability or explosive limits	
Upper	No data available
Lower	No data available
Vapor Pressure	0.04 hPa @ 20 °C
Vapor Density	7.9
Specific Gravity	1.490
Solubility	No information available
Partition coefficient; n-octanol/water	No data available
Autoignition Temperature	505 °C / 941 °F
Decomposition Temperature	> 300°C
Viscosity	No information available
Molecular Formula	C7 H4 Cl4
Molecular Weight	229.92

10. Stability and reactivity

Reactive Hazard None known, based on information available

Stability Moisture sensitive.

Conditions to Avoid	Incompatible products. Exposure to moist air or water.
Incompatible Materials	Strong oxidizing agents
Hazardous Decomposition Products	Carbon monoxide (CO), Carbon dioxide (CO ₂), Hydrogen chloride gas
Hazardous Polymerization	No information available.
Hazardous Reactions	None under normal processing.

11. Toxicological information

Acute Toxicity

Product Information No acute toxicity information is available for this product

Component Information

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
4-Chlorobenzotrichloride	LD50 = 820 mg/kg (Rat)	LD50 > 2 g/kg (Rabbit)	Not listed

Toxicologically Synergistic Products No information available

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Irritation Irritating to eyes, respiratory system and skin

Sensitization No information available

Carcinogenicity Limited evidence of a carcinogenic effect. The table below indicates whether each agency has listed any ingredient as a carcinogen.

Component	CAS-No	IARC	NTP	ACGIH	OSHA	Mexico
4-Chlorobenzotrichloride	5216-25-1	Not listed	Not listed	Not listed	Not listed	Not listed

IARC (International Agency for Research on Cancer)

Group 2A - Probably Carcinogenic to Humans

Mutagenic Effects No information available

Reproductive Effects Experiments have shown reproductive toxicity effects on laboratory animals.

Developmental Effects No information available.

Teratogenicity No information available.

STOT - single exposure Respiratory system

STOT - repeated exposure None known

Aspiration hazard No information available

Symptoms / effects, both acute and delayed No information available

Endocrine Disruptor Information No information available

Other Adverse Effects See actual entry in RTECS for complete information.

12. Ecological information

Ecotoxicity

Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment. Do not empty into drains. Do not flush into surface water or sanitary sewer system.

Component	Freshwater Algae	Freshwater Fish	Microtox	Water Flea
4-Chlorobenzotrichloride	Not listed	LC50: = 26.9 mg/L, 96h	EC50 = 10.8 mg/L 30 min	EC50: = 190 mg/L, 24h

		static (Brachydanio rerio)	EC50 = 6.33 mg/L 5 min EC50 = 7.27 mg/L 15 min	(Daphnia magna)
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Persistence and Degradability Soluble in water Persistence is unlikely based on information available.

Bioaccumulation/ Accumulation No information available.

Mobility Will likely be mobile in the environment due to its water solubility.

13. Disposal considerations

Waste Disposal Methods Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Chemical waste generators must also consult local, regional, and national hazardous waste regulations to ensure complete and accurate classification.

14. Transport information

DOT

UN-No UN3265
Proper Shipping Name CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.
Technical Name (4-CHLOROBENZOTRICHORIDE)
Hazard Class 8
Packing Group III

TDG

UN-No UN3265
Proper Shipping Name Corrosive liquid, acidic, organic, n.o.s.
Hazard Class 8
Packing Group III

IATA

UN-No UN3265
Proper Shipping Name CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.*
Hazard Class 8
Packing Group III

IMDG/IMO

UN-No UN3265
Proper Shipping Name Corrosive liquid, acidic, organic, n.o.s.
Hazard Class 8
Packing Group III

15. Regulatory information

United States of America Inventory

Component	CAS-No	TSCA	TSCA Inventory notification - Active/Inactive	TSCA - EPA Regulatory Flags
4-Chlorobenzotrachloride	5216-25-1	X	ACTIVE	-

Legend:

TSCA - Toxic Substances Control Act, (40 CFR Part 710)

X - Listed

'-' - Not Listed

TSCA 12(b) - Notices of Export Not applicable

International Inventories

Canada (DSL/NDL), Europe (EINECS/ELINCS/NLP), Philippines (PICCS), Japan (ENCS), Australia (AICS), China (IECSC), Korea (ECL).

Component	CAS-No	DSL	NDL	EINECS	PICCS	ENCS	AICS	IECSC	KECL
4-Chlorobenzotrachloride	5216-25-1	-	X	226-009-1	X	X	X	-	-

U.S. Federal Regulations

SARA 313	Not applicable
SARA 311/312 Hazard Categories	See section 2 for more information
CWA (Clean Water Act)	Not applicable
Clean Air Act	Not applicable
OSHA - Occupational Safety and Health Administration	Not applicable
CERCLA	Not applicable
California Proposition 65	This product contains the following Proposition 65 chemicals.

Component	CAS-No	California Prop. 65	Prop 65 NSRL	Category
4-Chlorobenzotrichloride	5216-25-1	Carcinogen	-	Carcinogen

U.S. State Right-to-Know Regulations Not applicable

U.S. Department of Transportation

Reportable Quantity (RQ): N

DOT Marine Pollutant N

DOT Severe Marine Pollutant N

U.S. Department of Homeland Security This product does not contain any DHS chemicals.

Other International Regulations

Mexico - Grade No information available

16. Other information

Prepared By	Health, Safety and Environmental Department Email: tech@alfa.com www.alfa.com
Creation Date	22-Sep-2009
Revision Date	14-Feb-2020
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Revision Summary	SDS authoring systems update, replaces ChemGes SDS No. 5216-25-1.

Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text

End of SDS