Section 1. Identification

Product Identity	p-Chlorobenzotrifluoride (PCBTF)
Other means of identification	para-Chlorobenzotrifluoride; 4-Chlorobenzotrifluoride; 1-Chloro-4-(trifluoromethyl)benzene; p-Chloro-α,α,α-trifluorotoluene
CAS No.	98-56-6
EC No.	202-681-1
Formula / Mol. wt.	$C_7H_4ClF_3$ / 180.55 g/mol

Recommended use of the chemical and restrictions on use

Recommended use	Industrial solvent for coatings, inks, adhesives and cleaning formulations (VOC-exempt solvent, see Section 9); chemical intermediate.
Restrictions on use	None identified. Contact the supplier before use in applications not listed above.

Details of the supplier of the safety data sheet

Company Name	Silver Fern Chemical, Inc. 121 W. De La Guerra Street, Suite B Santa Barbara, CA 93101 USA info@silverfernchemical.com Website - www.silverfernchemical.com
24 hour Emergency Telephone No.	**Infotrac: 1-800-535-5053** **Outside USA & Canada +1-352-323-3500**
Customer Service	1-866-282-3384

Section 2. Hazard(s) identification

Classification of the substance or mixture under OSHA's Hazard Communication Standard (29 CFR 1910.1200) revised 2024

Hazard class / category	Hazard statement
Flammable liquid, Category 3	H226 Flammable liquid and vapor.
Skin sensitization, Category 1	H317 May cause an allergic skin reaction.
Carcinogenicity, Category 2	H351 Suspected of causing cancer.
Hazardous to the aquatic environment, acute, Category 2*	H401 Toxic to aquatic life.
Hazardous to the aquatic environment, chronic, Category 2*	H411 Toxic to aquatic life with long lasting effects.

* Environmental hazard classes are not adopted under OSHA HCS and are provided for GHS/transport information only.

Label elements






Warning

H226 Flammable liquid and vapor.
H317 May cause an allergic skin reaction.
H351 Suspected of causing cancer.
H411 Toxic to aquatic life with long lasting effects.

[Prevention]

P201 Obtain special instructions before use.
P202 Do not handle until all safety precautions have been read and understood.
P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P233 Keep container tightly closed.
P240 Ground and bond container and receiving equipment.

P241 Use explosion-proof electrical/ventilating/lighting equipment.
P242 Use non-sparking tools.
P243 Take action to prevent static discharges.
P261 Avoid breathing mist/vapors/spray.
P272 Contaminated work clothing should not be allowed out of the workplace.
P273 Avoid release to the environment.
P280 Wear protective gloves/protective clothing/eye protection/face protection.

[Response]

P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.
P302+P352 IF ON SKIN: Wash with plenty of water and soap.
P308+P313 IF exposed or concerned: Get medical advice/attention.
P333+P313 If skin irritation or rash occurs: Get medical advice/attention.
P362+P364 Take off contaminated clothing and wash it before reuse.
P370+P378 In case of fire: Use media listed in Section 5 to extinguish.
P391 Collect spillage.

[Storage]

P403+P235 Store in a well-ventilated place. Keep cool.
P405 Store locked up.

[Disposal]

P501 Dispose of contents/container in accordance with local, state and federal regulations.

Hazards not otherwise classified (HNOC)

Vapors are approximately 6 times heavier than air and may travel along the ground to a distant ignition source and flash back. Thermal decomposition releases hydrogen fluoride and hydrogen chloride.

Other hazards

This product contains no PBT/vPvB/vPvM chemicals. This product contains no known endocrine disrupting chemicals.

PFAS status: PCBTF contains one fully fluorinated carbon atom (–CF_3 group). It does not meet the US EPA TSCA §8(a)(7) structural definition of PFAS. It does meet the broader "at least one fully fluorinated carbon atom" PFAS definition used by several US states (e.g., Minnesota and Maine) and is similar to the OECD (2021) definition. The Minnesota Department of Agriculture lists p-chlorobenzotrifluoride (98-56-6) as meeting the Minnesota statutory PFAS definition. Users should evaluate state PFAS reporting and restriction requirements (see Section 15).

Section 3. Composition/information on ingredients

Substance. This product contains the following substance that presents a hazard within the meaning of OSHA's Hazard Communication Standard (29 CFR 1910.1200) revised 2024.

Chemical name / identifiers	Weight %	GHS Classification
p-Chloro-α,α,α-trifluorotoluene CAS No.: 98-56-6 EC No.: 202-681-1 Synonyms: PCBTF; 4-chlorobenzotrifluoride; 1-chloro-4-(trifluoromethyl)benzene	≥ 99	Flam. Liq. 3; H226 Skin Sens. 1; H317 Carc. 2; H351 Aquatic Acute 2; H401 Aquatic Chronic 2; H411

No trade secret claim is made for this substance. The full texts of the H-statements are shown in Section 16.

Section 4. First aid measures

Description of first aid measures

General — In all cases of doubt, or when symptoms persist, seek medical attention. Never give anything by mouth to an unconscious person. Show this SDS to the attending physician.

Inhalation — Remove to fresh air; keep at rest in a position comfortable for breathing. If breathing is irregular or stopped, give artificial respiration. If unconscious, place in the recovery position and obtain immediate medical attention.

Eyes — Rinse with plenty of clean water for at least 15 minutes, holding the eyelids apart. Remove contact lenses if present and easy to do. Seek medical attention.

Skin — Remove contaminated clothing. Wash skin thoroughly with soap and water. If skin irritation or rash occurs, get medical advice. Wash clothing before reuse.

Ingestion — Do NOT induce vomiting. Rinse mouth with water. If vomiting occurs spontaneously, keep head low to reduce the risk of material entering the lungs. Get medical attention immediately.

Most important symptoms and effects, both acute and delayed

Skin	May cause an allergic skin reaction (rash, redness, itching) after repeated contact.
Chronic	Suspected of causing cancer. In NTP inhalation studies (2018), PCBTF caused liver tumors in male and female mice and Harderian gland tumors in female mice. Risk depends on duration and level of exposure.
Other	No other specific human symptom data available.

Indication of immediate medical attention and special treatment

Treat symptomatically.

Section 5. Fire-fighting measures

Extinguishing media

Suitable: alcohol-resistant foam, carbon dioxide (CO_2), dry chemical powder, water spray or fog.
Unsuitable: Do not use a solid water jet; it may spread the burning liquid.

Special hazards arising from the substance or mixture

Flammable liquid and vapor. Vapors are heavier than air (vapor density 6.2), may accumulate in low or confined areas, and may travel to a source of ignition and flash back. Vapors may form explosive mixtures with air. Containers may rupture if exposed to heat.
Hazardous combustion products: carbon oxides, hydrogen chloride (HCl), hydrogen fluoride (HF) and possibly other organic fluorine compounds.

Advice for fire-fighters

Wear positive-pressure self-contained breathing apparatus (SCBA) with a full face piece and full protective clothing. Because combustion produces hydrogen fluoride, avoid skin contact with fire run-off and decontaminate equipment after use. Use water spray to cool fire-exposed containers. Persons without respiratory protection should leave the area. Wear SCBA during clean-up immediately after a fire. Prevent fire-fighting water from entering drains or waterways.

ERG Guide No. **130**

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

Eliminate all ignition sources. Use non-sparking tools and explosion-proof equipment. Ventilate the area. Wear appropriate personal protective equipment (see Section 8). Avoid breathing vapors and avoid skin contact.

Environmental precautions

Do not allow spills to enter drains, sewers or waterways. Notify authorities if the product enters waterways.

Methods and material for containment and cleaning up

Contain and absorb spillage with non-combustible absorbent material, e.g., sand, earth or vermiculite. Place in closed, labeled containers for disposal according to Section 13. Wash spill area after material pickup is complete.

Section 7. Handling and storage

Precautions for safe handling

Handle containers carefully to prevent damage and spillage. Ground and bond containers during transfer. Use only with adequate ventilation. Avoid skin and eye contact and breathing vapors. Do not eat, drink or smoke in work areas. See Section 2 [Prevention].

Conditions for safe storage, including any incompatibilities

Store in a cool, dry, well-ventilated flammable liquids storage area in accordance with OSHA 29 CFR 1910.106 and NFPA 30. Store locked up. Keep away from heat, sparks, flames and direct sunlight; the product is sensitive to heat and light. Keep containers tightly closed when not in use, upright, and protected against physical damage. Store away from food and drink.
Incompatible materials: strong oxidizing agents (e.g., permanganates, dichromates), strong bases, sodium dimethyl sulfonate (see Section 10).Carbon steel, natural rubber, EPDM, neoprene.
Empty containers retain product residue and vapors and may be hazardous. Do not cut, drill, weld, braze, solder or grind on or near empty containers.

Section 8. Exposure controls / personal protection

Control parameters

CAS No.	Ingredient	Source	Value
98-56-6	p-Chloro-α,α,α-trifluorotoluene	OSHA PEL	No established limit to our knowledge
		NIOSH REL	No established limit to our knowledge
		ACGIH TLV®	No established limit to our knowledge
		Cal/OSHA PEL	No established limit to our knowledge

Exposure controls

Engineering controls Use local exhaust ventilation and good general ventilation to keep airborne concentrations below the ACGIH TLV. Use explosion-proof ventilation equipment.

Respiratory Where exposure may exceed the ACGIH TLV or ventilation is inadequate, use a NIOSH-approved air-purifying respirator with organic vapor cartridges, or a supplied-air respirator for high or unknown concentrations, within a program meeting OSHA 29 CFR 1910.134.

Eyes / face Chemical splash goggles. Add a face shield where splashing is possible.

Hands	Chemical-resistant gloves, e.g., fluoroelastomer (Viton®) or polyvinyl alcohol (PVA; not for use with water). Confirm breakthrough time with the glove manufacturer.
Skin / body	Impervious clothing and footwear as needed to prevent skin contact (skin sensitizer).
Hygiene	Wash hands before eating, drinking, smoking or using the toilet. Contaminated work clothing should not leave the workplace; launder before reuse.

Section 9. Physical and chemical properties

Physical state	Liquid
Color	Clear, colorless
Odor	Aromatic
Odor threshold	0.1 ppm (0.74 mg/m3)
Melting point / freezing point	-36 °C (-32.8 °F)
Initial boiling point and boiling range	136 – 138 °C (277 – 280 °F)
Flammability (solid, gas)	Not applicable (liquid)
Lower / upper explosive limit	LEL 0.9 % (v/v); UEL 10.5 % (v/v)
Flash point	42 °C (107.6 °F), closed cup. Literature values range up to approx. 47 °C (117 °F).
Auto-ignition temperature	> 500 °C (> 932 °F)
Decomposition temperature	No data available
pH	Not applicable (insoluble in water)
Kinematic viscosity	approx. 0.50 mm^2/s at 38 °C (calculated from dynamic viscosity 0.67 mPa·s)
Solubility in water	approx. 29 mg/L at 23 °C (practically insoluble)
Partition coefficient n-octanol/water (log Kow)	3.74
Vapor pressure	1,017 Pa (7.63 mmHg) at 25 °C
Relative density (water = 1)	1.353
Vapor density (air = 1)	6.2
Evaporation rate	0.9 (n-butyl acetate = 1)
Particle characteristics	Not applicable (liquid)
Molecular weight	180.55 g/mol
VOC status	Exempt from the definition of VOC under US EPA 40 CFR 51.100(s)(1). Regulated VOC content: 0 g/L. Check state and local air district rules.
Oxidizing / explosive properties	Not oxidizing. Not explosive; vapors can form explosive mixtures with air.

Section 10. Stability and reactivity

Reactivity	No dangerous reactions known under normal conditions of use. Hazardous polymerization will not occur.
Chemical stability	Stable under normal conditions. Sensitive to heat and light.
Possibility of hazardous reactions	Vapors may form explosive mixtures with air. Reacts vigorously with strong oxidizing materials such as permanganates and dichromates.
Conditions to avoid	Heat, sparks, open flames, static discharge, direct sunlight, and contact with incompatible materials.
Incompatible materials	Strong oxidizing agents, strong bases, sodium dimethyl sulfonate.
Hazardous decomposition products	Thermal decomposition produces carbon oxides, hydrogen chloride, hydrogen fluoride and possibly other organic fluorine compounds.

Section 11. Toxicological information

Likely routes of exposure

Inhalation, skin contact, eye contact, ingestion.

Acute toxicity

Ingredient	Oral LD50	Dermal LD50	Inhalation vapor LC50 (4 h)
p-Chloro-α,α,α-trifluorotoluene (98-56-6)	13,000 mg/kg (rat)	No data available	33 mg/L (rat)

Carcinogen data

Source	Status
OSHA	Not a specifically regulated carcinogen
NTP Report on Carcinogens	Not listed
NTP Toxicology & Carcinogenesis Study (2018, inhalation)	Caused liver tumors in male and female mice and Harderian gland tumors in female mice
IARC	Group 2B (possibly carcinogenic to humans)
ACGIH	See 2026 TLV documentation for carcinogen notation
California Prop 65	Listed as known to cause cancer (28 June 2019); NSRL 23 µg/day

Hazard class	Category	Result
Acute toxicity (oral)	—	Not classified (LD50 > 5,000 mg/kg)
Acute toxicity (dermal)	—	Not classified (data lacking)
Acute toxicity (inhalation)	—	Not classified (LC50 > 20 mg/L vapor)
Skin corrosion/irritation	—	Not classified
Serious eye damage/irritation	—	Not classified
Respiratory sensitization	—	Not classified
Skin sensitization	1	May cause an allergic skin reaction.
Germ cell mutagenicity	—	Not classified

Hazard class	Category	Result
Carcinogenicity	2	Suspected of causing cancer.
Reproductive toxicity	—	Not classified
STOT – single exposure	—	Not classified
STOT – repeated exposure	—	Not classified
Aspiration hazard	—	Not classified

Section 12. Ecological information

Toxicity

Toxic to aquatic life with long lasting effects.

Ingredient	96 h LC50 fish	48 h EC50 crustacea	ErC50 algae
p-Chloro-α,α,α-trifluorotoluene (98-56-6)	11.5 mg/L (Lepomis macrochirus)	3.68 mg/L (Daphnia magna)	No data available

Persistence and degradability No ready biodegradability data available for the substance.

Bioaccumulative potential log Kow = 3.74, indicating a moderate potential for bioaccumulation. No measured BCF available.

Mobility in soil Low water solubility and moderate log Kow suggest limited mobility; volatilizes from water and moist soil.

PBT / vPvB assessment Not a PBT/vPvB/vPvM substance.

Other adverse effects Contains a fully fluorinated carbon atom; see PFAS note in Sections 2 and 15.

Section 13. Disposal considerations

Dispose of contents and containers in accordance with all applicable federal, state and local regulations. Waste product with a flash point below 60 °C (140 °F) exhibits the RCRA characteristic of ignitability and is expected to be a hazardous waste, EPA waste code **D001** (40 CFR 261.21). The waste generator is responsible for proper waste characterization. Do not discharge to drains or sewers. Empty containers retain residue; handle as described in Section 7.

Section 14. Transport information





	DOT (49 CFR)	IMDG	ICAO/IATA
UN number	UN2234	UN2234	UN2234
Proper shipping name	Chlorobenzotrifluorides	CHLOROBENZOTRIFLUORIDES	Chlorobenzotrifluorides
Hazard class	3	3	3
Packing group	III	III	III
Environmental hazard	Marine pollutant marking required when shipped by vessel (49 CFR 171.4)	Marine Pollutant: Yes	Environmentally hazardous substance mark applies

Special precautions for user

ERG Guide 130. For domestic ground transportation in non-bulk packaging, a Class 3 liquid with a flash point at or above 38 °C (100 °F) that does not meet any other hazard class may be reclassified as a Combustible Liquid under 49 CFR 173.120(b)(2), subject to the conditions of 49 CFR 173.150(f). Shipper to confirm applicability.

Section 15. Regulatory information

The regulatory data in this section is not intended to be all-inclusive; only selected regulations are represented.

US Federal

TSCA — p-Chloro-α,α,α-trifluorotoluene (98-56-6) is listed on the TSCA Inventory: ACTIVE. No TSCA §5(e), §5(f), §6, §4 or SNUR flags apply to our knowledge.

EPCRA 311/312 hazard categories — Physical: Flammable (gases, aerosols, liquids or solids).
Health: Carcinogenicity; Respiratory or skin sensitization.

EPCRA 302 / 313 — Not listed.

CERCLA — Not listed; no reportable quantity.

Clean Air Act — Not a Hazardous Air Pollutant (HAP). Exempt from the federal VOC definition (40 CFR 51.100(s)(1)).

RCRA — Waste may be characteristic ignitable hazardous waste, D001 (see Section 13).

TSCA §8(a)(7) PFAS rule — Does not meet the TSCA structural definition of PFAS.

OSHA PSM / EPA RMP — Not listed.

DEA List I / II — Not listed.

DHS CFATS — Not listed.

US State

California Prop 65 — Listed as a chemical known to the State of California to cause cancer (28 June 2019). NSRL: 23 µg/day. Not listed as a developmental or reproductive toxicant.

WARNING: This product can expose you to chemicals including p-chloro-α,α,α-trifluorotoluene, which is known to the State of California to cause cancer. For more information go to www.P65Warnings.ca.gov.

California Air Toxics — OEHHA has adopted a cancer inhalation unit risk factor of 8.6×10^{-6} $(\mu g/m^3)^{-1}$ for the Air Toxics Hot Spots Program.

State PFAS laws	Meets the “at least one fully fluorinated carbon atom” PFAS definition used in Minnesota (Amara’s Law), Maine and other states. Products containing this substance may be subject to state PFAS reporting, labeling or sales restrictions. Evaluate obligations for each state of sale.
State Right-to-Know	New Jersey and Pennsylvania: not listed to our knowledge. Massachusetts Substance List:Toxics Use Reduction Act (TURA) .

Section 16. Other information

Revision Date	21 October, 2026
Supersedes	1 September, 2026

Full text of H-statements referenced in Sections 2 and 3

H226 Flammable liquid and vapor.

H317 May cause an allergic skin reaction.

H351 Suspected of causing cancer.

H401 Toxic to aquatic life.

H411 Toxic to aquatic life with long lasting effects.

DISCLAIMER OF RESPONSIBILITY

The information on this SDS was obtained from sources which we believe are reliable. However, the information is provided without any warranty, express or implied, regarding its correctness. Some information presented and conclusions drawn herein are from sources other than direct test data on the substance itself. The conditions or methods of handling, storage, use and disposal of the product are beyond our control and may be beyond our knowledge. For this and other reasons, we do not assume responsibility and expressly disclaim liability for loss, damage or expense arising out of or in any way connected with the handling, storage, use or disposal of this product. If the product is used as a component in another product, this SDS information may not be applicable.

End of Document