Material Safety Data Sheet
alpha, alpha, alpha-Trichlorotoluene, 98%

ACC# 42717

Section 1 - Chemical Product and Company Identification

MSDS Name: alpha, alpha, alpha-Trichlorotoluene, 98%
Catalog Numbers: AC164530000, AC164530010, AC164530050
Synonyms: Benzotrichloride; Benzenyl chloride; Phenylchloroform; (Trichloromethyl)benzene.
Company Identification:

Acros Organics N.V.
One Reagent Lane
Fair Lawn, NJ 07410

For information in North America, call: 800-ACROS-01
For emergencies in the US, call CHEMTREC: 800-424-9300

Section 2 - Composition, Information on Ingredients

CAS#	Chemical Name	Percent	EINECS/ELINCS
98-07-7	alpha, alpha, alpha-Trichlorotoluene	98	202-634-5

Section 3 - Hazards Identification

EMERGENCY OVERVIEW

Appearance: oily, colorless to light yellow liquid.
Danger! Causes eye and skin burns. Causes digestive and respiratory tract burns. Harmful if inhaled. Material hydrolyzes in contact with moisture/water releasing toxic and corrosive fumes of hydrogen chloride and aqueous hydrochloric acid. May be harmful if swallowed or absorbed through the skin. Cancer suspect agent.
Target Organs: Respiratory system, gastrointestinal system, eyes, skin.

Potential Health Effects

Eye: Lachrymator (substance which increases the flow of tears). Causes severe eye irritation and possible burns.
Skin: May cause severe skin irritation. May be harmful if absorbed through the skin. In mouse skin-painting experiments, benzotrichloride produced skin, lung, and thymic tumors. (Doc of TLV)
Ingestion: Causes gastrointestinal tract burns. May be harmful if swallowed. May cause central nervous system depression.
Inhalation: Harmful if inhaled. May cause severe irritation of the respiratory tract with sore throat, coughing, shortness of breath and delayed lung edema. Causes chemical burns to the respiratory tract. Exposure produces central nervous system depression.
Chronic: May cause cancer in humans. Inhalation exposures at 1.6 ppm benzotrichloride for 30 minutes/day for 12 months produced bronchitis, bronchial pneumonia, and tumors at multiple sites in mice (Doc of TLV). Skin irritation and liver and testicular effects were reported in rabbits exposed dermally to benzotrichloride for 3 weeks. Inhalation of 100 mg/m3 for 1 month resulted in blood effects and decreased renal function in rats (Velsicol).

Section 4 - First Aid Measures

Eyes: In case of contact, immediately flush eyes with plenty of water for a t least 15 minutes. Get medical aid immediately.
Skin: In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Get medical aid immediately. Wash clothing before reuse.
Ingestion: If swallowed, do NOT induce vomiting. Get medical aid immediately. If victim is fully conscious, give a cupful of water. Never give anything by mouth to an unconscious person.
Inhalation: If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical aid.
Notes to Physician: Treat symptomatically and supportively.

Section 5 - Fire Fighting Measures

General Information: As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. Use water spray to keep fire-exposed containers cool. Approach fire from upwind to avoid hazardous vapors and toxic decomposition products. Use of water will produce irritating and toxic vapors of hydrogen chloride. Hydrochloric acid solutions react with most metals, forming flammable hydrogen gas.
Extinguishing Media: Do NOT get water inside containers. Use dry powder or carbon dioxide.
Flash Point: 97 deg C (206.60 deg F)
Autoignition Temperature: 211 deg C (411.80 deg F)
Explosion Limits, Lower:2.10 vol %
Upper: 6.50 vol %
NFPA Rating: (estimated) Health: 3; Flammability: 1; Instability: 0

Section 6 - Accidental Release Measures

General Information: Use proper personal protective equipment as indicated in Section 8.
Spills/Leaks: Absorb spill with inert material (e.g. vermiculite, sand or earth), then place in suitable container. Clean up spills immediately, observing precautions in the Protective Equipment section. Provide ventilation. Do not get water inside containers. Evacuate unnecessary personnel. Approach spill from upwind.

Section 7 - Handling and Storage

Handling: Wash thoroughly after handling. Remove contaminated clothing and wash before reuse. Do not get in eyes, on skin, or on clothing. Keep container tightly closed. Use with adequate ventilation. Do not allow contact with water. Keep from contact with moist air and steam. Do not breathe vapor or mist.
Storage: Store in a tightly closed container. Store in a cool, dry, well-ventilated area away from incompatible substances. Keep away from acids. Store protected from moisture. Store protected from light.

Section 8 - Exposure Controls, Personal Protection

Engineering Controls: Use process enclosure, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits. Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower.
Exposure Limits

Chemical Name	ACGIH	NIOSH	OSHA - Final PELs
alpha, alpha, alpha-Trichlorotoluene	Skin - potential significant contribution to overall exposure by the cutaneous r oute; 0.1 ppm Ceiling	none listed	none listed

OSHA Vacated PELs: alpha, alpha, alpha-Trichlorotoluene: No OSHA Vacated PELs are listed for this chemical.
Personal Protective Equipment
Eyes: Wear chemical splash goggles.
Skin: Wear appropriate gloves to prevent skin exposure.
Clothing: Wear appropriate clothing to prevent skin exposure.
Respirators: 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.

Section 9 - Physical and Chemical Properties

Physical State: Liquid
Appearance: oily, colorless to light yellow
Odor: penetrating odor
pH: Not available.
Vapor Pressure: 0.23 mm Hg @ 20 deg C
Vapor Density: 6.77 (air=1)
Evaporation Rate: Not available.
Viscosity: Not available.
Boiling Point: 219-223 deg C @ 760 mm Hg
Freezing/Melting Point:0 deg C
Decomposition Temperature: Not available.
Solubility: Reacts.
Specific Gravity/Density:1.3800 g/ml
Molecular Formula:C7H5Cl3
Molecular Weight:195.48

Section 10 - Stability and Reactivity

Chemical Stability: Stable at room temperature in closed containers under normal storage and handling conditions. Material hydrolyzes in contact with moisture/water releasing toxic and corrosive fumes of hydrogen chloride and aqueous hydrochloric acid.
Conditions to Avoid: Light, moisture, excess heat.
Incompatibilities with Other Materials: Water, strong oxidizing agents, strong acids, alkali metals, alkaline earth metals, aluminum, amines.
Hazardous Decomposition Products: Hydrogen chloride, phosgene, carbon monoxide, carbon dioxide, Chlorine gas: from contact with highly acidic material..
Hazardous Polymerization: Will not occur.

Section 11 - Toxicological Information

RTECS#:
CAS# 98-07-7: XT9275000
LD50/LC50:
CAS# 98-07-7:
Inhalation, mouse: LC50 = 8 ppm/2H;
Inhalation, mouse: LC50 = 60 mg/m3/2H;
Inhalation, rat: LC50 = 19 ppm/2H;
Inhalation, rat: LC50 = 150 mg/m3/2H;
Oral, mouse: LD50 = 702 mg/kg;

Oral, rat: LD50 = 1300 mg/kg;
Skin, rabbit: LD50 = 4 gm/kg;

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Inhalation LC50 rat: 8.39 mg/l/1H (Velsicol).
Carcinogenicity:
CAS# 98-07-7:

- **ACGIH:** A2 - Suspected Human Carcinogen
- **California:** carcinogen, initial date 7/1/87
- **NTP:** Suspect carcinogen
- **IARC:** Group 2A carcinogen

Epidemiology: Based on case reports & epidemiological studies, workers engaged in benzoyl chloride production have been at increased risk to contract lung cancer. But, excess cancer cases were likely due to excessive benzotrichloride exposure & poor industrial hygiene.
Teratogenicity: No information available.
Reproductive Effects: No information available.
Mutagenicity: No information available.
Neurotoxicity: No information available.
Other Studies:

Section 12 - Ecological Information

No information available.

Section 13 - Disposal Considerations

Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. US EPA guidelines for the classification determination are listed in 40 CFR Parts 261.3. Additionally, waste generators must consult state and local hazardous waste regulations to ensure complete and accurate classification.
RCRA P-Series: None listed.
RCRA U-Series:
CAS# 98-07-7: waste number U023 (Corrosive waste, Reactive waste, Toxic waste).

Section 14 - Transport Information

	US DOT	Canada TDG
Shipping Name:	BENZOTRICHLORIDE	BENZOTRICHLORIDE
Hazard Class:	8	8
UN Number:	UN2226	UN2226
Packing Group:	II	II

Section 15 - Regulatory Information

US FEDERAL

TSCA
CAS# 98-07-7 is listed on the TSCA inventory.
Health & Safety Reporting List
None of the chemicals are on the Health & Safety Reporting List.
Chemical Test Rules
None of the chemicals in this product are under a Chemical Test Rule.
Section 12b
None of the chemicals are listed under TSCA Section 12b.
TSCA Significant New Use Rule
None of the chemicals in this material have a SNUR under TSCA.
CERCLA Hazardous Substances and corresponding RQs
CAS# 98-07-7: 10 lb final RQ; 4.54 kg final RQ
SARA Section 302 Extremely Hazardous Substances
CAS# 98-07-7: 100 lb TPQ
Section 313
This material contains alpha, alpha, alpha-Trichlorot (CAS# 98-07-7, 98%),which is subject to the reporting requirements of Section 313 of SARA Title III and 40 CFR
Clean Air Act:
CAS# 98-07-7 is listed as a hazardous air pollutant (HAP).
This material does not contain any Class 1 Ozone depletors.
This material does not contain any Class 2 Ozone depletors.
Clean Water Act:
None of the chemicals in this product are listed as Hazardous Substances under the CWA.
None of the chemicals in this product are listed as Priority Pollutants under the CWA.
None of the chemicals in this product are listed as Toxic Pollutants under the CWA.
OSHA:
None of the chemicals in this product are considered highly hazardous by OSHA.
STATE
CAS# 98-07-7 can be found on the following state right to know lists: California, New Jersey, Pennsylvania, Minnesota, Massachusetts.

California Prop 65
The following statement(s) is(are) made in order to comply with the California Safe Drinking Water Act:
WARNING: This product contains alpha, alpha, alpha-Trichlorot, a chemical known to the state of California to cause cancer.
California No Significant Risk Level: None of the chemicals in this product are listed.

European/International Regulations

European Labeling in Accordance with EC Directives
Hazard Symbols:
T
Risk Phrases:
R 22 Harmful if swallowed.
R 23 Toxic by inhalation.
R 37/38 Irritating to respiratory system and skin.
R 41 Risk of serious damage to eyes.
R 45 May cause cancer.

Safety Phrases:
S 45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).
S 53 Avoid exposure - obtain special instructions before use.

WGK (Water Danger/Protection)
CAS# 98-07-7: 3
Canada - DSL/NDSL
CAS# 98-07-7 is listed on Canada's NDSL List.
Canada - WHMIS
This product has a WHMIS classification of E, D2A.
This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all of the information required by those regulations.
Canadian Ingredient Disclosure List
CAS# 98-07-7 is listed on the Canadian Ingredient Disclosure List.

Section 16 - Additional Information

MSDS Creation Date: 12/04/1998
Revision #4 Date: 8/02/2004