



Material Safety Data Sheet

Section I: Identification & Information

Name: Trichloroacetic Acid Chemical Family: Carboxylic acid, aliphatic

Synonyms: TCA, Trichloroethanoic acid
Formula: $C_2HCl_3O_2$ M.W.: 163.4

DOT Proper Shipping Name: Trichloroacetic Acid
DOT Identification No.: UN1839

CAS No.: 76-03-9

DOT Hazard Class: Corrosive

Section II: Physical Properties

Appearance: colorless, crystalline solid
Vapor Pressure: 1mmHg / 51°C
Vapor density (air=1): 5.6
Stability: Stable
Boiling Point: 196°C

Odor: Sharp, pungent odor
Specific Gravity ($H_2O=1$): 1.63 (61°C)
Volatility: 100%
Solubility in H_2O : 120g in 100g water
Melting point: 54-58°C
Water Reactive: n/a

Section III: Reactivity Hazard Data

Hazardous polymerization will not occur.

Stable material under ordinary conditions of use and storage. Heat will contribute to instability. Toxic gases are generated when heated.

Incompatibilities: Strong bases. Avoid copper, dimethylsulfoxide, and strong oxidizing agents. Protect from moisture.

Hazardous decomposition products: Carbon monoxide, carbon dioxide, and hydrogen chloride gas.

Section IV: Fire and Explosion Hazard Data

Flashpoint: 235°F (113°C)
Flammable Limits: n/a

Autoignition temperature: n/a

General Information: Not to be considered a fire hazard. Not to be considered an explosion hazard.

Extinguishing Media: carbon dioxide, dry chemical powder, or foam

Special Fire Fighting Procedures: Wear full protective clothing and self-contained breathing apparatus.

Unusual Fire and Explosion Hazards: Toxic gases are generated under fire conditions.

Section V: Hazardous Ingredients

Trichloroacetic Acid ca 100%

Occupational Exposure Limits:NIOSH PEL: 8H TWA - 1ppm

Section VI: Toxicity and Health Hazard Data

See Registry of Toxic Effects of Chemical Substances (RTECS).

**Causes severe burns.

Corrosive

Primary routes of entry: Inhalation, skin absorption, ingestion.

- Inhalation: Material is extremely destructive to mucous membranes and upper respiratory tract. Symptoms of exposure may include burning sensation, coughing, wheezing, laryngitis, shortness of breath, headache, nausea and vomiting. Inhalation may be fatal as a result of spasm, inflammation and edema of the larynx and bronchi, chemical pneumonitis and pulmonary edema.
- Ingestion: TOXIC. May cause burns with discoloration and corrosion of the membranes of the mouth, throat, esophagus. May cause pain and inability to speak. May cause epiglottal edema. Nausea, vomiting, diarrhea may occur.
- Eye contact: Extremely destructive to eyes. Exposure may cause pain, photophobia, lacrimation, or burns.
- Skin contact: Extremely destructive to skin. May causes pain, blisters, burns, or discoloration on contact with skin.
- Chronic exposure: Gastrointestinal disturbances.

Target Organ: Central Nervous System

Emergency First Aid:

- Ingestion: Wash out mouth with water provided person is conscious. Dilute with water or milk, if person can swallow. Contact a physician.
- Eye contact: Rinse with copious amounts of water for at least 15 minutes. Assure adequate flushing by separating the eyelids with fingers. Get emergency medical assistance.
 - Skin contact: Flush thoroughly with water for at least 15 minutes. Wash contaminated clothing before reuse. Discard contaminated shoes. Get emergency medical assistance.
- Inhalation: Immediately remove to fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. Keep patient warm and at rest. Get emergency medical assistance.

Section VII: Special Protection

Ventilation: A local exhaust system which captures the contaminant at its source is recommended to prevent dispersion of the contaminant into the workroom area.

Respiratory Protection: Wear appropriate NIOSH-approved respirator.

Skin Protection: Protective rubber gloves and clothing are recommended. The choice of material must be based on chemical resistance and other user requirements.

Eye Protection: Splash-proof goggles or dust-resistant safety goggles. Faceshield recommended.

Emergency eye wash fountains and safety showers should be available in the vicinity of any potential exposure.

Section VIII: Spill and Disposal Procedures

If a spill occurs, evacuate the area. Do NOT touch the material. Wear rubber boots, heavy rubber gloves, and use approved respiration equipment. Cover spill with dry lime or soda ash, pick up and keep in a closed container and hold for disposal. Ventilate area and wash spill site after material pick up is complete. Keep unnecessary people away. Isolate area and deny entry.

Waste Disposal: Dissolve or mix the material for disposal with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and a scrubber. Observe all local, state, and federal laws.

Section IX: Storage

Trichloroacetic acid should be stored in a tightly sealed container, protected from physical damage and stored in a cool, dry, ventilated area away from incompatible substances. Incompatible with strong oxidizing agents and strong bases.

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Key:

ca: Approximately

PEL: Permissible Exposure Level

STEL: Short Term Exposure Level

TLV: Threshold Limit Value

n/a: not available

BuAc: Butyl Acetate

TWA: Time Weighted Average