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# Material Safety Data Sheet

## Trichloroacetic acid MSDS

### Section 1: Chemical Product and Company Identification

**Product Name:** Trichloroacetic acid

**Catalog Codes:** 11864

**CAS#:** 76-03-9

**RTECS:** AJ7875000

**TSCA:** TSCA 8(b) inventory: Trichloroacetic acid

**CI#:** Not applicable.

**Synonym:** Aceto-caustin; Trichloroacetate;  
Trichloroethanoic acid; Trichloromethanecarboxylic acid;  
Acetic acid, trichloro-

**Chemical Name:** Trichloroacetic Acid

**Chemical Formula:** CCl<sub>3</sub>COOH

#### Contact Information:

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### Section 2: Composition and Information on Ingredients

#### Composition:

Name	CAS #	% by Weight
Trichloroacetic acid	76-03-9	100

**Toxicological Data on Ingredients:** Trichloroacetic acid LD50: Not available. LC50: Not available.

### Section 3: Hazards Identification

#### Potential Acute Health Effects:

Very hazardous in case of skin contact (irritant), of eye contact (irritant), of ingestion, of inhalation. Hazardous in case of skin contact (corrosive), of eye contact (corrosive). Slightly hazardous in case of skin contact (permeator). The amount of tissue damage depends on length of contact. Eye contact can result in corneal damage or blindness. Skin contact can produce inflammation and blistering. Inhalation of dust will produce irritation to gastro-intestinal or respiratory tract, characterized by burning, sneezing and coughing. Severe over-exposure can produce lung damage, choking, unconsciousness or death. Inflammation of the eye is characterized by redness, watering, and itching. Skin inflammation is characterized by itching, scaling, reddening, or, occasionally, blistering.

#### Potential Chronic Health Effects:

Slightly hazardous in case of skin contact (irritant, sensitizer). CARCINOGENIC EFFECTS: Classified A3 (Proven for animal.) by ACGIH. 3 (Not classifiable for human.) by IARC. MUTAGENIC EFFECTS: Mutagenic for bacteria and/or yeast. TERATOGENIC EFFECTS: Not available. DEVELOPMENTAL TOXICITY: Not available. The substance may be toxic to

lungs. Repeated or prolonged exposure to the substance can produce target organs damage. Repeated exposure of the eyes to a low level of dust can produce eye irritation. Repeated skin exposure can produce local skin destruction, or dermatitis. Repeated inhalation of dust can produce varying degree of respiratory irritation or lung damage.

#### Section 4: First Aid Measures

**Eye Contact:**

Check for and remove any contact lenses. In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Cold water may be used. Get medical attention immediately.

**Skin Contact:**

In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Cover the irritated skin with an emollient. Cold water may be used. Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention immediately.

**Serious Skin Contact:**

Wash with a disinfectant soap and cover the contaminated skin with an anti-bacterial cream. Seek medical attention.

**Inhalation:**

If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention immediately.

**Serious Inhalation:**

Evacuate the victim to a safe area as soon as possible. Loosen tight clothing such as a collar, tie, belt or waistband. If breathing is difficult, administer oxygen. If the victim is not breathing, perform mouth-to-mouth resuscitation. **WARNING:** It may be hazardous to the person providing aid to give mouth-to-mouth resuscitation when the inhaled material is toxic, infectious or corrosive. Seek immediate medical attention.

**Ingestion:**

Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. If large quantities of this material are swallowed, call a physician immediately. Loosen tight clothing such as a collar, tie, belt or waistband.

**Serious Ingestion:** Not available.

#### Section 5: Fire and Explosion Data

**Flammability of the Product:** Non-flammable.

**Auto-Ignition Temperature:** Not applicable.

**Flash Points:** Not applicable.

**Flammable Limits:** Not applicable.

**Products of Combustion:** Not available.

**Fire Hazards in Presence of Various Substances:** Not applicable.

**Explosion Hazards in Presence of Various Substances:**

Risks of explosion of the product in presence of mechanical impact: Not available. Risks of explosion of the product in presence of static discharge: Not available.

**Fire Fighting Media and Instructions:** Not applicable.

**Special Remarks on Fire Hazards:** Non combustible.

**Special Remarks on Explosion Hazards:** Not available.

#### Section 6: Accidental Release Measures

**Small Spill:**

Use appropriate tools to put the spilled solid in a convenient waste disposal container. If necessary: Neutralize the residue with a dilute solution of sodium carbonate.

**Large Spill:**

Corrosive solid. Stop leak if without risk. Do not get water inside container. Do not touch spilled material. Use water spray to reduce vapors. Prevent entry into sewers, basements or confined areas; dike if needed. Call for assistance on disposal. Neutralize the residue with a dilute solution of sodium carbonate. Be careful that the product is not present at a concentration level above TLV. Check TLV on the MSDS and with local authorities.

## Section 7: Handling and Storage

**Precautions:**

Keep locked up.. Keep container dry. Do not breathe dust. Never add water to this product. In case of insufficient ventilation, wear suitable respiratory equipment. If ingested, seek medical advice immediately and show the container or the label. Avoid contact with skin and eyes. Keep away from incompatibles such as oxidizing agents, metals. May corrode metallic surfaces. Store in a metallic or coated fiberboard drum using a strong polyethylene inner package.

**Storage:** Keep container tightly closed. Keep container in a cool, well-ventilated area.

## Section 8: Exposure Controls/Personal Protection

**Engineering Controls:**

Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below recommended exposure limits. If user operations generate dust, fume or mist, use ventilation to keep exposure to airborne contaminants below the exposure limit.

**Personal Protection:**

Splash goggles. Synthetic apron. Vapor and dust respirator. Be sure to use an approved/certified respirator or equivalent. Gloves.

**Personal Protection in Case of a Large Spill:**

Splash goggles. Full suit. Vapor and dust respirator. Boots. Gloves. A self contained breathing apparatus should be used to avoid inhalation of the product. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product.

**Exposure Limits:**

TWA: 1 (ppm) from ACGIH (TLV) [United States] TWA: 1 from NIOSH [United States] TWA: 7 (mg/m<sup>3</sup>) from NIOSH [United States] TWA: 7 (mg/m<sup>3</sup>) from OSHA (PEL) [United States] TWA: 1 (ppm) from OSHA (PEL) [United States] TWA: 1 (ppm) [Canada] TWA: 6.7 (mg/m<sup>3</sup>) [Canada] TWA: 1 (ppm) [United Kingdom (UK)] TWA: 1 (ppm) [France] TWA: 5 (mg/m<sup>3</sup>) [United Kingdom (UK)] TWA: 5 (mg/m<sup>3</sup>) [France]3 Consult local authorities for acceptable exposure limits.

## Section 9: Physical and Chemical Properties

**Physical state and appearance:** Solid. (Crystals solid. Deliquescent crystals solid.)

**Odor:** Characteristic. Pungent.

**Taste:** Not available.

**Molecular Weight:** 163.39 g/mole

**Color:** White.

**pH (1% soln/water):** Acidic.

**Boiling Point:** 195.5°C (383.9°F)

**Melting Point:** 57.5°C (135.5°F)

**Critical Temperature:** Not available.

**Specific Gravity:** Density: 1.6126 @ 64 deg. C(Water = 1)

**Vapor Pressure:** Not applicable.

**Vapor Density:** Not available.

**Volatility:** Not available.

**Odor Threshold:** Not available.

**Water/Oil Dist. Coeff.:** The product is more soluble in oil; log(oil/water) = 1.3

**Ionicity (in Water):** Not available.

**Dispersion Properties:** See solubility in water, diethyl ether, acetone.

**Solubility:**

Easily soluble in cold water, hot water, diethyl ether, acetone. Solubility in water @ 25 deg. C: 1000 g/100 ml water. Solubility in water @ 25 deg. C: 1306 g/100 g water. Solubility in methanol @ 25 deg. C: 2143 g/ 100 g water. Solubility in ethyl ether @ 25 deg. C: 617 g/100 g water. Solubility in acetone @ 25 deg. C: 850 g/100 g water. Solubility in benzene @ 25 deg. C: 201 g/100 g water. Solubility in o-Xylene @ 25 deg. C: 201 g/100 100 water. It is soluble in ethanol.

## Section 10: Stability and Reactivity Data

**Stability:** The product is stable.

**Instability Temperature:** Not available.

**Conditions of Instability:** Incompatible materials, moisture

**Incompatibility with various substances:** Reactive with oxidizing agents, metals.

**Corrosivity:**

Highly corrosive in presence of aluminum, of zinc. Non-corrosive in presence of glass.

**Special Remarks on Reactivity:** Incompatible with iron, zinc, aluminum.

**Special Remarks on Corrosivity:** Corrosive to iron, zinc, aluminum

**Polymerization:** Will not occur.

## Section 11: Toxicological Information

**Routes of Entry:** Eye contact. Inhalation. Ingestion.

**Toxicity to Animals:**

LD50: Not available. LC50: Not available.

**Chronic Effects on Humans:**

CARCINOGENIC EFFECTS: Classified A3 (Proven for animal.) by ACGIH. 3 (Not classifiable for human.) by IARC.

MUTAGENIC EFFECTS: Mutagenic for bacteria and/or yeast. May cause damage to the following organs: lungs.

**Other Toxic Effects on Humans:**

Extremely hazardous in case of inhalation (lung corrosive). Very hazardous in case of skin contact (irritant), of ingestion, . Hazardous in case of skin contact (corrosive), of eye contact (corrosive). Slightly hazardous in case of skin contact (permeator).

**Special Remarks on Toxicity to Animals:** Not available.

**Special Remarks on Chronic Effects on Humans:**

May cause adverse reproductive effects and birth defects(teratogenic). May affect genetic material (mutagenic). May cause cancer.

**Special Remarks on other Toxic Effects on Humans:**

## Section 12: Ecological Information

**Ecotoxicity:** Not available.

**BOD5 and COD:** Not available.

**Products of Biodegradation:**

Possibly hazardous short term degradation products are not likely. However, long term degradation products may arise.

**Toxicity of the Products of Biodegradation:** The product itself and its products of degradation are not toxic.

**Special Remarks on the Products of Biodegradation:** Not available.

## Section 13: Disposal Considerations

**Waste Disposal:**

Waste must be disposed of in accordance with federal, state and local environmental control regulations.

## Section 14: Transport Information

**DOT Classification:** Class 8: Corrosive material

**Identification:** : Trichloroacetic acid UNNA: 1839 PG: II

**Special Provisions for Transport:** Not available.

## Section 15: Other Regulatory Information

**Federal and State Regulations:**

Connecticut hazardous material survey.: Trichloroacetic acid Illinois toxic substances disclosure to employee act: Trichloroacetic acid Rhode Island RTK hazardous substances: Trichloroacetic acid Pennsylvania RTK: Trichloroacetic acid Massachusetts RTK: Trichloroacetic acid Massachusetts spill list: Trichloroacetic acid New Jersey: Trichloroacetic acid TSCA 8(b) inventory: Trichloroacetic acid

**Other Regulations:** OSHA: Hazardous by definition of Hazard Communication Standard (29 CFR 1910.1200).

**Other Classifications:**

**WHMIS (Canada):** CLASS E: Corrosive solid.

**DSCL (EEC):**

R35- Causes severe burns. R50/53- Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment. S26- In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. S36/37/39- Wear suitable protective clothing, gloves and eye/face protection. S45- In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible). S60- This material and its container must be disposed of as hazardous waste. S61- Avoid release to the environment. Refer to special instructions/Safety data sheets.

**HMIS (U.S.A.):**

**Health Hazard:** 3

**Fire Hazard:** 0

**Reactivity:** 0

**Personal Protection:** j

**National Fire Protection Association (U.S.A.):**

**Health:** 3

**Flammability:** 0

**Reactivity:** 0

**Specific hazard:**

**Protective Equipment:**

Gloves. Synthetic apron. Vapor and dust respirator. Be sure to use an approved/certified respirator or equivalent. Wear appropriate respirator when ventilation is inadequate. Splash goggles.

**Section 16: Other Information**

**References:** Not available.

**Other Special Considerations:** Not available.

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