

Safety Data Sheet

1. IDENTIFICATION

Product Identifier: Trichloroacetic Acid Solution, 30% w/v

Product Code(s): CF1036

Synonyms: TCA Solution; Trichloroacetate Solution; Trichloromethanecarboxylic Acid Solution

Recommended Use: For manufacturing, industrial, and laboratory use only. Use as a test reagent.

Uses Advised Against: Not for food, drug, or household use.

Supplier: Rocky Mountain Reagents, Inc.
4621 Technology Drive, Golden, CO 80403
Phone: (303) 762-0800 Fax: (303) 762-1240

Emergency Phone Number: (800) 255-3924 (CHEM-TEL)

2. HAZARDS IDENTIFICATION

Hazard Classifications: Skin Corrosion/Irritation: Category 1A
Eye Damage/Irritation: Category 1
Carcinogenicity: Category 2

Signal Word: DANGER

Hazard Statements: Causes severe skin burns and serious eye damage.
Suspected of causing cancer.

Pictograms:



Precautionary Statements:

Prevention: Do not breathe dusts or mists.
Wash thoroughly after handling.
Wear protective gloves, protective clothing, eye protection, and face protection.
Obtain special instructions before use.
Do not handle until all safety precautions have been read and understood.

Response: Immediately call a poison center or doctor.
If swallowed: Rinse mouth. Do NOT induce vomiting.
If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water.
Wash contaminated clothing before reuse.
If inhaled: Remove person to fresh air and keep comfortable for breathing.
If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Storage: Store locked up.

Disposal: Dispose of contents and container in accordance with local, regional, national, and international regulations.

Hazards Not Otherwise Classified: May cause mutagenic effects based on animal data.
May cause reproductive effects based on animal data.

Toxicity Statement: Not applicable.

3. COMPOSITION AND INFORMATION ON INGREDIENTS

Component	Common Name / Synonyms	CAS#	Chemical Formula	% by Weight
Water	Water	7732-18-5	H ₂ O	70.0 – 75.0
Trichloroacetic Acid	Trichloromethanecarboxylic Acid	76-03-9	C ₂ HCl ₃ O ₂	25.0 – 30.0

Trade Secret Statement: Not applicable.

4. FIRST AID MEASURES

First Aid Procedures:

Inhalation: Move to fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. WARNING! It may be hazardous to the person providing aid to give mouth-to-mouth resuscitation when the inhaled or ingested material is toxic, infectious, or corrosive. Do not use mouth-to-mouth resuscitation if victim ingested or inhaled the substance; induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Get medical attention immediately.

Ingestion: Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, keep head low so that vomit does not enter lungs. Never give anything by mouth to an unconscious person. Get medical attention immediately.

Skin Contact: Remove contaminated clothing and shoes. Wash skin with plenty of water for at least 15 minutes. Wash clothing before reuse. Get medical attention immediately.

Eye Contact: Check for and remove contact lenses if present and easy to do. Immediately flush eyes with gentle but large stream of water for at least 15 minutes, lifting lower and upper eyelids occasionally. Get medical attention immediately.

General Advice: Poison information centers in each state can provide additional assistance for scheduled poisons. Ensure that medical personnel and those providing first aid are aware of the material(s) involved and take precautions to protect themselves.

Symptoms and Effects: Inhalation may cause burns, respiratory inflammation, coughing, wheezing, and shortness of breath. Ingestion may cause burns, abdominal pain, swelling, nausea, vomiting, and diarrhea. Skin contact may cause blistering, burns, and skin discoloration. Eye contact may cause severe eye damage.

**Immediate Medical Care/
Special Treatment:**

Immediate medical attention is required. Call a poison center or doctor immediately. Treat symptomatically.

5. FIREFIGHTING MEASURES

Suitable Extinguishing Media: Water spray, dry powder, alcohol resistant foam, carbon dioxide.

Unsuitable Extinguishing Media: Do not use a solid (straight) water stream, as it may scatter and spread fire.

Hazardous Combustion Products: Carbon oxides, hydrogen chloride, phosgene.

Specific Hazards: Excessive thermal conditions may cause decomposition and yield corrosive and/or toxic fumes.

**Special Protective Equipment/
Precautions for Firefighters:** As in any fire, wear MSHA/NIOSH approved (or equivalent), self-contained, positive-pressure or pressure-demand breathing apparatus and full protective gear. In the event of fire and/or explosion, do not breathe fumes.

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions and Protective Equipment: Ventilate area of leak or spill. Isolate hazard area and keep unnecessary and unprotected personnel away from the area of the leak or spill. Keep upwind. Keep out of low areas. Wear appropriate personal protective equipment (see Section 8). Avoid contact with eyes, skin, and clothing.

Emergency Procedures: In case of chemical emergency, or if unsure how to address an accidental release, consult a professional (see Section 1).

Methods for Containment: Stop the flow of material, if this is without risk. Prevent entry into waterways, sewer, basements, or confined areas. Dike the spilled material, where this is possible. Product should not be released to the environment. Contain and recover liquid when possible.

Methods for Cleanup: Absorb spill with an inert material (e.g. vermiculite, dry sand, earth, cloth, or fleece) and place in a non-combustible container for reclamation or disposal. Do not flush to sewer. Clean contaminated surface thoroughly. Residues from spills can be diluted with water. Never return spills in original containers for reuse. Clean up in accordance with all applicable regulations.

7. HANDLING AND STORAGE

Handling: Wear personal protective equipment (see Section 8). Use only in well-ventilated areas. Provide sufficient air exchange and/or exhaust in work areas. Avoid contact with skin, eyes, and clothing. Do not breathe vapors or spray mist. Do not ingest. When using, do not eat, drink, or smoke. Keep away from incompatible materials (see Section 10). Handle in accordance with good industrial hygiene and safety practice. Wash thoroughly after handling. Containers of this material may be hazardous when empty, as they retain product residues. Observe all warnings and precautions listed for this product.

Storage: Store in a cool, dry, ventilated area. Store in a segregated and approved area away from incompatible materials (see Section 10). Store in original container. Keep containers tightly closed and upright. Keep away from food, drink, and animal foodstuffs. Keep out of the reach of children. Comply with all national, state, and local codes pertaining to the storage, handling, dispensing, and disposal of this product.

8. EXPOSURE CONTROLS AND PERSONAL PROTECTION

Exposure Limits: Water: No information found.

Trichloroacetic Acid: ACGIH (TLV): 1 ppm
NIOSH (REL): 1 ppm

Engineering Controls: Ensure adequate ventilation. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.

Personal Protective Measures:

Eye/Face Protection: Wear safety glasses with side shields or safety goggles. Wear a face shield. Maintain approved eye wash station and accessible rinse facilities in work area.

Skin Protection: Wear appropriate chemical resistant clothing (with long sleeves) and appropriate chemical resistant gloves.

Respiratory Protection: An air-purifying, NIOSH-approved respirator with appropriate cartridge or canister may be permissible under certain circumstances where airborne concentrations are expected to exceed exposure limits. Use a positive-pressure, air-supplied respirator if there is any potential for an uncontrolled release, if exposure levels are unknown, or if any other circumstances exist where air-purifying respirators may not provide adequate protection.

Specific Requirements for Personal Protective Equipment: Ensure that glove material is compatible with this product. This information is available from glove manufacturers.

9. PHYSICAL AND CHEMICAL PROPERTIES

Unless otherwise indicated, all properties are given at 25 °C and standard pressure.

Appearance: Colorless, transparent liquid.

Odor: Pungent, vinegar.

Odor Threshold: No information found.

Formula Weight: 163.38 as trichloroacetic acid

pH: 1.0 (81.7 g/L aqueous)

Melting/Freezing Point: No information found.

Boiling Point/Range: < 195.5 °C

Decomposition Temperature: No information found.

Flash Point: Not applicable.

Auto-ignition Temperature: Not applicable.

Flammability: Not flammable.

Flammability/Explosive Limits: Not applicable.

Solubility: Miscible with water.

Vapor Pressure: No information found.

Vapor Density: No information found.

Specific Gravity: > 1.0 (Water = 1)

Evaporation Rate: No information found.
Viscosity: No information found.
Partition Coefficient (n-octanol/water): No information found.

10. STABILITY AND REACTIVITY

Reactivity Data: No information found.
Chemical Stability: Stable under normal conditions.
Conditions to Avoid: Heat, incompatible materials.
Incompatible Materials: Strong oxidizers, strong bases, amines.
Hazardous Decomposition Products: Carbon oxides, hydrogen chloride, phosgene.
Possibility of Hazardous Reactions: May react vigorously or violently if exposed to excess thermal conditions or in contact with the incompatible materials listed above. Reactions may yield hazardous decomposition products listed above.
Hazardous Polymerization: Will not occur.

11. TOXICOLOGICAL INFORMATION

Routes of Exposure: Inhalation, ingestion, skin contact, eye contact.
Acute Effects: Corrosive. Causes burns and damage to the eyes, skin, respiratory tract, and gastrointestinal tract.
Chronic Effects: Prolonged or repeated exposure may cause cancer, reproductive effects, teratogenic effects, and mutagenic effects.
Toxicological Data:
Water: Not applicable.
Trichloroacetic Acid: LD₅₀, Oral, Rat: 3320 mg/kg
Corrosive to skin and eyes based on animal data.
Symptoms of Exposure: Irritation, blistering, skin discoloration, burns, swelling, coughing, wheezing, laryngitis, shortness of breath, spasm, abdominal pain, bronchitis, pneumonitis, pulmonary edema, itchiness, nausea, vomiting, diarrhea.
Carcinogenic Effects: This product is suspected of causing cancer.
IARC: Group 2B: Possibly carcinogenic to humans
ACGIH: A3: Confirmed animal carcinogen with unknown relevance to humans
OSHA: Regulated carcinogen

12. ECOLOGICAL INFORMATION

Ecotoxicological Data: Water: Not applicable.

Trichloroacetic Acid:
LC₅₀, Fathead Minnow (*Pimephales promelas*): 2000 mg/L 96 h
EC₅₀, Water Flea (*Daphnia magna*): 1460 mg/L 48 h

Persistence and Degradability: Not readily biodegradable.

Environmental Effects: Toxic to aquatic organisms with long-lasting effects. Avoid release to the environment.

13. DISPOSAL INFORMATION

Disposal Instructions: All wastes must be handled in accordance with local, state, and federal regulations. Minimize exposure to product waste (see Section 8). Do not dispose unused waste down drains or into sewers.

Contaminated Packaging: Because emptied containers retain product residue, follow label warnings even after container is emptied. Residual vapors may explode on ignition; do not cut, drill, grind, or weld on or near product container. Offer rinsed packaging material to local recycling facilities.

Waste Codes: No information found.

14. TRANSPORT INFORMATION

DOT:

UN Number: UN2564

Proper Shipping Name: Trichloroacetic acid solution

Hazard Class: 8

Packing Group: III

ERG Number: 153

Environmental Hazard Regulations: No information found.

Other Transport Precautions: No information found.

15. REGULATORY INFORMATION

U.S. Federal Regulations:

OSHA: This product is considered a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

TSCA Inventory: All components of this product are on the U.S. TSCA Inventory.

U.S. EPCRA (SARA Title III):

Section 302: No information found.

Sections 311/312:

Hazard Category	List (Yes/No)
Section 311 – Hazardous Chemical	Yes
Immediate Hazard	Yes
Delayed Hazard	Yes
Fire Hazard	No
Pressure Hazard	No
Reactivity Hazard	No

Section 313: No information found.

CERCLA Reportable Quantities: No information found.

International Inventories:

Country or Region	Inventory Name	On Inventory (Yes/No)*
Australia	Australian Inventory of Chemical Substances (AICS)	Yes
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	Yes
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	Yes
Korea	Existing Chemicals List (ECL)	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes

*A "Yes" indicates that all listed components of this product comply with the inventory requirements administered by the governing country or region.

16. OTHER INFORMATION

Disclaimer:

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