



SAFETY DATA SHEET

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifiers

Product name	Trichloroacetic Acid 99%
CAS number	76-03-9
Synonyms	TCA; Trichloroethanoic acid

1.2 Relevant identified uses of the substance or mixture and uses advised against

Identified uses	Laboratory Chemicals
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1.3 Details of the supplier of the safety data sheet

Company	Lab Alley, LLC 12501 Pauls Valley Road Austin, Texas 78737 U.S.A.
Telephone	512-668-9918
Fax	512-886-4008

1.4 Emergency telephone

Emergency Phone #	US & Canada: 1-800-535-5053	INFOTRAC
	International 1-352-323-3500	INFOTRAC

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)

Skin Corrosion	Category 1A
Serious Eye Damage	Category 1
Specific Target Organ Toxicity - single exposure	Category 3
Target Organ(s) - Respiratory system	

Carcinogenicity	Category 2
Short-term (Acute) Aquatic Hazard	Category 1
Long-term (Chronic) Aquatic Hazard	Category 1

2.2 GHS Label elements, including precautionary statements

Pictogram	
Signal Word	Danger
Hazard statements	Causes severe skin burns and eye damage. May cause respiratory irritation. Suspected of causing cancer. Very toxic to aquatic life with long lasting effects.
Precautionary statements	Prevention: Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Use personal protective equipment as required. Do not breathe dust/fume/gas/mist/vapors/spray. Wash face, hands, and any exposed skin thoroughly after handling. Use only outdoors or in a well-ventilated area. Avoid release to the environment. Response: Immediately call a POISON CENTER or doctor/physician. IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. Wash contaminated clothing before reuse. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. IF SWALLOWED: Rinse mouth. DO NOT induce vomiting. Storage: Store locked up. Store in a well-ventilated place. Keep container tightly closed Disposal: Dispose of contents/container to an approved waste disposal plant.

2.3 Hazards not otherwise classified (HNOC) or not covered by GHS

Vesicant.

SECTION 3: Composition/information on ingredients

3.1 Components

Chemical name	Common name and synonyms	CAS number	Concentration
Trichloroacetic Acid	TCA; Trichloroethanoic Acid	76-03-9	>99%

SECTION 4: First aid measures

4.1 Description of first-aid measures

General advice

If inhaled	Remove to fresh air. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Call a physician or poison control center immediately. If not breathing, give artificial respiration.
In case of skin contact	Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Call a physician immediately
In case of eye contact	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Immediate medical attention is required. Keep eye wide open while rinsing.
If swallowed	Do NOT induce vomiting. Immediate medical attention is required. Never give anything by mouth to an unconscious person. Drink plenty of water.

4.2 Most important symptoms and effects, both acute and delayed

Causes burns by all exposure routes. Product is a corrosive material. Use of gastric lavage or emesis is contraindicated. Possible perforation of stomach or esophagus should be investigated. Ingestion causes severe swelling, severe damage to the delicate tissue, and danger of perforation.

4.3 Indication of any immediate medical attention and special treatment needed

Immediate medical attention is required. Show this safety data sheet to the doctor in attendance. Treat symptomatically.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media	Use extinguishing media appropriate for surrounding fire.
Unsuitable extinguishing media	Extinguishing media that have basic properties (such as chemical powder) may react violently with TCA.

5.2 Specific hazards arising from the substance or mixture

The product causes burns of eyes, skin, and mucous membranes. Do not allow run-off from fire-fighting to enter drains or water courses.
Hazardous Combustion Products: Chloroform. Carbon dioxide (CO₂). Phosgene.

5.3 Special protective equipment and precautions for firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear. Thermal decomposition can lead to release of irritating gases and vapors.

5.4 Further information

Flash Point No information available.

Autoignition Temperature No information available.

Explosion limits

Upper No data available.

Lower No data available.

Sensitivity to Mechanical Impact No information available.

Sensitivity to Static Discharge No information available.

NFPA

Health	Flammability	Instability	Physical hazards
3	0	1	N/A

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Use personal protective equipment as required. Evacuate personnel to safe areas. Avoid contact with skin, eyes, or clothing.

6.2 Environmental precautions

Do not flush into surface water or sanitary sewer system. Do not allow material to contaminate ground water system. Prevent product from entering drains. Local authorities should be advised if significant spillages cannot be contained.

6.3 Methods and materials for containment and cleaning up

Cover spill with Sodium Bicarbonate. Mix and scoop up into a large container of water. When the reaction is complete, pour down the drain with excess water. Always comply with local, state, and federal regulations.

6.4 Reference to other sections

See Section 2 for full list of hazard and precaution statements.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Store in corrosive resistant container with a resistant inner liner. As with all chemicals, wash hands thoroughly after handling. Avoid contact with eyes and skin. Protect from freezing and physical damage.

Hygiene measures

Handle in accordance with good industrial hygiene and safety practice.

7.2 Conditions for safe storage, including any incompatibilities

Storage conditions

Keep containers tightly closed in a dry and well-ventilated place. Keep out of the reach of children. Keep containers tightly closed in a cool, well-ventilated place. Keep in properly labeled containers.

Incompatibilities

Strong oxidizing agents. Bases. Metals.

SECTION 8: Exposure controls/personal protection

8.1 Occupational exposure limits

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Component	Type	Value	
Trichloroacetic Acid	(Vacated) TWA	1 ppm	7 mg/m3

US. ACGIH Threshold Limit Values

Component	Type	Value
Trichloroacetic Acid	TWA	0.5 ppm

US. NIOSH: Pocket Guide to Chemical Hazards

Component	Type	Value	
Trichloroacetic Acid	TWA	1 ppm	7 mg/m3

Biological occupational exposure limits

No information available.

8.2 Exposure controls

Appropriate engineering controls

No specific controls are needed. Normal room ventilation is adequate.

Personal protective equipment

Eye/face protection

Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166. Tight sealing safety goggles.

Skin protection

Wear appropriate protective gloves and clothing to prevent skin exposure.

Body Protection

Wear appropriate protective gloves and clothing to prevent skin exposure.

Respiratory protection

Normal room ventilation is adequate.

Control of environmental exposure

Prevent product from entering drains.

SECTION 9: Physical and chemical properties**9.1 Information on basic physical and chemical properties**

Physical State	Solid
Appearance	White
Odor	Vinegar
Odor Threshold	No information available
pH	1.2 (0.1M)
Melting Point/Range	52 - 58 °C / 125.6 - 136.4 °F
Boiling Point/Range	196 °C / 384.8 °F @ 760 mmHg
Evaporation Rate	Not applicable
Flammability (solid)	No information available
Flammability or explosive limit	
Upper	No data available
Lower	No data available
Vapor Pressure	1.2 mbar @ 50°C, 0.08 mbar @ 25°C
Vapor Density	Not applicable
Density	No information available
Solubility	Soluble in water
Partition coefficient; n-octanol/water	No data available
Autoignition Temp	No information available
Decomposition Temp	No information available
Viscosity	Not applicable
Molecular Formula	C ₂ H Cl ₃ O ₂
Molecular Weight	163.39 g/mol
VOC Content(%)	No information available
Oxidizing properties	No information available

9.2 Other safety information No information available.**SECTION 10: Stability and reactivity**

10.1 Reactivity

Strong bases can react with metals to release Hydrogen gas.

10.2 Chemical stability

Stable under normal conditions of use and storage.

10.3 Possibility of hazardous reactions

None under normal processing.

10.4 Conditions to avoid

Incompatible products. Excess heat.

10.5 Incompatible materials

Materials Strong oxidizing agents, Bases, Metals.

10.6 Hazardous decomposition products

Chloroform, Carbon dioxide (CO₂), Phosgene, Hydrogen chloride gas.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Product Information, Component Information

Acute toxicity

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
Trichloroacetic Acid	3,320 mg/kg (Rat)	> 2000 mg/kg (rat)	-

Skin corrosion/irritation

Causes severe skin burns.

Serious eye damage/eye irritation

Causes severe eye damage.

Respiratory or skin sensitization

No information available.

Germ cell mutagenicity

No information available.

Carcinogenicity

Component	CAS	IARC	NTP	ACGIH	OSHA	Mexico
Trichloroacetic Acid	76-03-9	Group 2B	Not listed	A3	X	A3

Specific target organ toxicity - single exposure

Respiratory system.

Specific target organ toxicity - repeated exposure

None known.

Reproductive toxicity

No information available.

Chronic effects

Product is a corrosive material. Use of gastric lavage or emesis is contraindicated. Possible perforation of stomach or esophagus should be investigated. Ingestion causes severe swelling, severe damage to the delicate tissue, and danger of perforation.

11.2 Additional Information

The toxicological properties have not been fully investigated.

SECTION 12: Ecological information**12.1 Toxicity**

Very toxic to aquatic life. Avoid release to the environment. Collect spillage. Dispose of contents in accordance with local, state, federal, and international regulations.

Product	Species	Test Results
Trichloroacetic Acid	Freshwater Algae	0.27 mg/L
	Freshwater Fish	>227 mg/L
	Water Flea	110 mg/L

12.2 Persistence and degradability

Soluble in water. Persistence is unlikely based on information available.

12.3 Bio accumulative potential

No information available.

12.4 Mobility in soil

Will likely be mobile in the environment due to its water solubility.

12.5 Results of PBT and vPvB assessment

No information available.

12.6 Endocrine disrupting properties

No information available.

12.7 Other adverse effects

No information available.

SECTION 13: Disposal considerations

13.1 Waste Disposal Methods

Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Chemical waste generators must also consult local, regional, and national hazardous waste regulations to ensure complete and accurate classification.

SECTION 14: Transport information

DOT (US)

UN Number	UN1839
Proper Shipping name	Trichloroacetic Acid Solution
Hazard Class	8
Packaging Group	II

IMDG

UN Number	UN1839
Proper Shipping name	Trichloroacetic Acid Solution
Hazard Class	8
Packaging Group	II

IATA

UN Number	UN1839
Proper Shipping name	Trichloroacetic Acid Solution
Hazard Class	8
Packaging Group	II

SECTION 15: Regulatory information

US federal regulations	This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.
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TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)
Not applicable.

CERCLA Hazardous Substance List (40 CFR 302.4)
Not listed.

SARA 304 Emergency release notification
Not regulated.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)

Not regulated.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

SARA 302 Extremely hazardous substance

Not listed.

SARA 311/312 Hazardous

Acute Health Hazard, Chronic Health Hazard.

SARA 313 (TRI reporting)

Not regulated.

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

Not regulated.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated

Safe Drinking Water Act

Not regulated

FEMA Priority Substances Respiratory Health and Safety in the Flavor Manufacturing Workplace

Not regulated.

US state regulations

US. Massachusetts RTK - Substance List

Listed, Trichloroacetic acid (CAS #76-03-9).

US. New Jersey Worker and Community Right-to-Know Act

Listed, Trichloroacetic acid (CAS #76-03-9).

US. Pennsylvania Worker and Community Right-to-Know Law

Listed, Trichloroacetic acid (CAS #76-03-9).

California Proposition 65

Listed, Trichloroacetic acid (CAS #76-03-9).

SECTION 16: Other information

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SECTION 17: Disclaimer

The information provided on this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text.