# SAFETY DATA SHEET

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

### 1.1 Product identifiers

| | |
|---|---|
| Product name | Trichloroacetic Acid, 85% |
| 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. |

### 1.3 Details of the supplier of the safety data sheet

| | |
|---|---|
| Company | Lab Alley, LLC<br>12501 Pauls Valley Road<br>Austin, Texas 78737<br>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 | 84 - 86% |
| Water | Aqua; H2O | 7732-18-5 | 14 - 16% |

## 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 shouldbe 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

**Precautions on 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 | Liquid |
| Appearance | Colorless to tan |
| Odor | No data available |
| Odor Threshold | No data available |
| pH | No data available |
| Melting Point/Range | No data available |
| Boiling Point/Range | Approximately 100°C |
| Evaporation Rate | No data available |
| Flammability (solid) | No data available |
| Flammability or explosive limit | No data available |
| Upper | |
| Lower | |
| Vapor Pressure | No data available |
| Vapor Density | No data available |
| Density | No data available |
| Solubility | No data available |
| Partition coefficient; n-octanol/water | No data available |
| Autoignition Temp | No data available |
| Decomposition Temp | No data available |
| Viscosity | No data available |
| Molecular Formula | C2 H Cl3 O2 |
| Molecular Weight | 163.39 g/mol |
| VOC Content(%) | No data available |
| Oxidizing properties | No data 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) | - | - |

**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-no | UN2564 |
| Proper Shipping Name | Trichloroacetic Acid Solution |
| Hazard Class | 8 |
| Packing Group | II |

**IMDG**

| | |
|---|---|
| UN-no | UN2564 |
| Proper Shipping Name | Trichloroacetic Acid Solution |
| Hazard Class | 8 |
| Packing Group | II |

**IATA**

| | |
|---|---|
| UN-no | UN2564 |
| Proper Shipping Name | Trichloroacetic Acid Solution |
| Hazard Class | 8 |
| Packing 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.

**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 listed.

**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.