

## Safety Data Sheet (SDS)

OSHA Haz Com Standard 29 CFR 1910.1200. Prepared to GHS Rev03.

Printing date 01/13/2014

Reviewed on 8/3/2018

### 1 Identification

- **Product identifier**
- **Trade name:** Trichloroethylene
- **CAS Number:**  
79-01-6
- **EC number:**  
201-167-4
- **Index number:**  
602-027-00-9
- **Product description** Synonyms: Trichloroethane, TCE, Acetylene Trichloride, Ethinyl Trichloride
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**  
GreenChem  
222 Clematis St, Suite 207  
West Palm Beach, FL 33401  
Office: (561) 659-2236  
Fax: (561) 659-2237  
[www.greenchemindustries.com](http://www.greenchemindustries.com)
- **Emergency telephone number:** Chemtrec 800-424-9300

### 2 Hazard(s) identification

- **Classification of the substance or mixture**



GHS08 Health hazard

Muta. 2                    H341 Suspected of causing genetic defects.  
Carc. 1B                    H350 May cause cancer.



GHS07

Skin Irrit. 2                H315 Causes skin irritation.  
Eye Irrit. 2                H319 Causes serious eye irritation.  
STOT SE 3                H336 May cause drowsiness or dizziness.  
Aquatic Chronic 3 H412 Harmful to aquatic life with long lasting effects.

- **Label elements**
- **GHS label elements**  
The substance is classified and labeled according to the Globally Harmonized System (GHS).
- **Hazard pictograms**



GHS07 GHS08

- **Signal word** Danger
- **Hazard-determining components of labeling:**  
Acetylene Trichloride (Trichloroethylene )
- **Hazard statements**  
H315 Causes skin irritation.  
H319 Causes serious eye irritation.  
H341 Suspected of causing genetic defects.

## Safety Data Sheet (SDS)

OSHA Haz Com Standard 29 CFR 1910.1200. Prepared to GHS Rev03.

Printing date 01/13/2014

Reviewed on 8/3/2018

### Trade name: Trichloroethylene

H350 May cause cancer.  
 H336 May cause drowsiness or dizziness.  
 H412 Harmful to aquatic life with long lasting effects.

#### Precautionary statements

P201 Obtain special instructions before use.  
 P202 Do not handle until all safety precautions have been read and understood.  
 P261 Avoid breathing dust/fume/gas/mist/vapors/spray.  
 P264 Wash skin thoroughly after handling.  
 P271 Use only outdoors or in a well-ventilated area.  
 P273 Avoid release to the environment.  
 P280 Wear protective gloves/protective clothing/eye protection/face protection.  
 P281 Use personal protective equipment as required.  
 P302+P352 IF ON SKIN: Wash with plenty of soap and water.  
 P304+P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.  
 P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
 P308+P313 IF exposed or concerned: Get medical advice/attention.  
 P312 Call a POISON CENTER or doctor/physician if you feel unwell.  
 P321 Specific treatment (see on this label).  
 P332+P313 If skin irritation occurs: Get medical advice/attention.  
 P337+P313 If eye irritation persists: Get medical advice/attention.  
 P362 Take off contaminated clothing and wash before reuse.  
 P403+P233 Store in a well-ventilated place. Keep container tightly closed.  
 P405 Store locked up.  
 P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

#### Classification system:

#### NFPA ratings (scale 0 - 4)



#### HMIS-ratings (scale 0 - 4)



### 3 Composition/information on ingredients

- **Chemical characterization: Substances**
- **CAS No. Description**  
79-01-6 Acetylene Trichloride (Trichloroethylene )
- **Identification number(s)**
- **EC number:** 201-167-4
- **Index number:** 602-027-00-9

#### SVHC

79-01-6 Acetylene Trichloride (Trichloroethylene )

### 4 First-aid measures

- **Description of first aid measures**
- **After inhalation:** In case of unconsciousness, place patient securely in side position for transportation.
- **After skin contact:** Immediately wash with water and soap and rinse thoroughly.

(Contd. on page 3)

## Safety Data Sheet (SDS)

OSHA Haz Com Standard 29 CFR 1910.1200. Prepared to GHS Rev03.

Printing date 01/13/2014

Reviewed on 8/3/2018

**Trade name:** Trichloroethylene

(Contd. of page 2)

- **After eye contact:**  
Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.
- **After swallowing:** Give large amounts of water. If symptoms persist consult doctor.
- **Most important symptoms and effects, both acute and delayed** No further relevant information available.
- **Indication of any immediate medical attention and special treatment needed** No further relevant information available.

### 5 Fire-fighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:**  
CO2, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- **Special hazards arising from the substance or mixture** No further relevant information available.
- **Advice for firefighters**
- **Protective equipment:** No special measures required.

### 6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures** Not required.
- **Environmental precautions:**  
Inform respective authorities in case of seepage into water course or sewage system.
- **Methods and material for containment and cleaning up:**  
Absorb with liquid-binding material (ie. sand, diatomite, acid binders, universal binders, sawdust).  
Dispose contaminated material as waste according to section 13.  
Ensure adequate ventilation.
- **Reference to other sections**  
See Section 7 for information on safe handling.  
See Section 8 for information on personal protection equipment.  
See Section 13 for disposal information.

### 7 Handling and storage

- **Precautions for safe handling**  
Ensure good ventilation/exhaustion at the workplace. Open and handle receptacle with care.  
Prevent formation of aerosols.
- **Information about protection against explosions and fires:** Keep protective respiratory device available.
- **Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** No special requirements.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:** Keep receptacle tightly sealed.
- **Specific end use(s)** No further relevant information available.

### 8 Exposure controls/personal protection

- **Additional information about design of technical systems:** No further data; see section 7.

(Contd. on page 4)

## Safety Data Sheet (SDS)

OSHA Haz Com Standard 29 CFR 1910.1200. Prepared to GHS Rev03.

Printing date 01/13/2014

Reviewed on 8/3/2018

**Trade name: Trichloroethylene**

(Contd. of page 3)

- **Control parameters**

- **Components with limit values that require monitoring at the workplace:**

**79-01-6 Acetylene Trichloride (Trichloroethylene )**

PEL Short-term value: C 200; 300\* ppm

Long-term value: 100 ppm \*5-min  
peak in any 2 hrs

REL See Pocket Guide Apps. A and C

TLV Short-term value: 135 mg/m<sup>3</sup>, 25 ppm

Long-term value: 54 mg/m<sup>3</sup>, 10 ppm  
BEI

- **Ingredients with biological limit values:**

**79-01-6 Acetylene Trichloride (Trichloroethylene**

) BEI 15 mg/L

urine

end of shift at end of workweek

Trichloroacetic acid (nonspecific)

0.5 mg/L

blood

end of shift at end of workweek

Trichloroethanol without hydrolysis (nonspecific)

-

blood

end of shift at end of workweek

Trichloroethylene (semi-quantitative)

-

end-exhaled air

end of shift at end of workweek

Trichloroethylene (semi-quantitative)

- **Additional information:** The lists that were valid during the creation were used as basis.

- **Exposure controls**

- **Personal protective equipment:**

- **General protective and hygienic measures:** Keep away from foodstuffs, beverages and feed. Immediately remove all soiled and contaminated clothing. Wash hands before breaks and at the end of work.

Store protective clothing separately.

Avoid contact with the eyes and skin.

- **Breathing equipment:** Not required.

- **Protection of hands:**



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

(Contd. on page 5)

## Safety Data Sheet (SDS)

OSHA Haz Com Standard 29 CFR 1910.1200. Prepared to GHS Rev03.

Printing date 01/13/2014

Reviewed on 8/3/2018

**Trade name: Trichloroethylene**

(Contd. of page 4)

Select glove material based on penetration times, rates of diffusion and degradation.

- **Material of gloves**

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.

- **Penetration time of glove material**

The exact break-through time has to be determined and observed by the manufacturer of the protective gloves.

- **Eye protection:** Tightly sealed goggles

### 9 Physical and chemical properties

- **Information on basic physical and chemical properties**

- **General Information**

- **Appearance:**

**Form:** Fluid

**Color:** Colorless

- **Odor:** Like chlorine

- **Odour threshold:** Not determined.

- **pH-value:** Not determined.

- **Change in condition**

**Melting point/Melting range:** -86.4 °C (-124 °F)

**Boiling point/Boiling range:** 87 °C (189 °F)

- **Flash point:** Not applicable.

- **Flammability (solid, gaseous):** Not applicable.

- **Ignition temperature:** 410 °C (770 °F)

- **Decomposition temperature:** Not determined.

- **Auto igniting:** Not determined.

- **Danger of explosion:** Product does not present an explosion hazard.

- **Explosion limits:**

**Lower:** 7.9 Vol %

**Upper:** 90 Vol %

- **Vapor pressure @ 20 °C (68 °F):** 77 hPa (58 mm Hg)

- **Density @ 20 °C (68 °F):** 1.464 g/cm<sup>3</sup> (12.217 lbs/gal)

- **Relative density** Not determined.

- **Vapour density @ 20 °C (68 °F)** 4.5 g/cm<sup>3</sup> (37.553 lbs/gal)

- **Evaporation rate** Not determined.

- **Solubility in / Miscibility with**

**Water @ 20 °C (68 °F):** 1 g/l

- **Partition coefficient (n-octanol/water):** Not determined.

- **Viscosity:**

**Dynamic:** Not determined.

**Kinematic:** Not determined.

**Organic solvents:** 100.0 %

**VOC content:** 100.0 %

- **Other information** No further relevant information available.

(Contd. on page 6)

## Safety Data Sheet (SDS)

OSHA Haz Com Standard 29 CFR 1910.1200. Prepared to GHS Rev03.

Printing date 01/13/2014

Reviewed on 8/3/2018

**Trade name: Trichloroethylene**

(Contd. of page 5)

### 10 Stability and reactivity

- **Reactivity** No further relevant information available.
- **Chemical stability**
- **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
- **Possibility of hazardous reactions** No dangerous reactions known.
- **Conditions to avoid** No further relevant information available.
- **Incompatible materials:** No further relevant information available.
- **Hazardous decomposition products:** No dangerous decomposition products known.

### 11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity:**

- **LD/LC50 values that are relevant for classification:**

#### 79-01-6 Acetylene Trichloride (Trichloroethylene )

Oral	LD50	2402 mg/kg (mouse)
Dermal	LD50	3450 mg/kg (mouse)

- **Primary irritant effect:**
- **on the skin:** Irritant to skin and mucous membranes.
- **on the eye:** Irritating effect.
- **Sensitization:** No sensitizing effects known.
- **Additional toxicological information:**

- **Carcinogenic categories**

- **IARC (International Agency for Research on Cancer)**

79-01-6 Acetylene Trichloride (Trichloroethylene )

2A

- **NTP (National Toxicology Program)**

79-01-6 Acetylene Trichloride (Trichloroethylene )

R

### 12 Ecological information

- **Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **Persistence and degradability** No further relevant information available.
- **Bioaccumulative potential** No further relevant information available.
- **Mobility in soil** No further relevant information available.
- **Ecotoxicological effects:**
- **Remark:** Harmful to fish
- **Additional ecological information:**
- **General notes:** Harmful to aquatic organisms
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **Other adverse effects** No further relevant information available.

### 13 Disposal considerations

- **Waste treatment methods**
- **Recommendation:**  
Must not be disposed of together with household garbage. Do not allow product to reach sewage system.

(Contd. on page 7)

## **Safety Data Sheet (SDS)**

**Safety Data Sheet (SDS)**

OSHA Haz Com Standard 29 CFR 1910.1200. Prepared to GHS Rev03.

Printing date 01/13/2014

Reviewed on 8/3/2018

**Trade name: Trichloroethylene**

(Contd. of page 6)

- **Uncleaned packagings:**
- **Recommendation:** Disposal must be made according to official regulations.

**14 Transport information**

- **UN-Number**
- **DOT, ADR, IMDG, IATA** UN1710
- **UN proper shipping name**
- **DOT** Trichloroethylene
- **ADR** UN1710 Trichloroethylene
- **IMDG, IATA** TRICHLOROETHYLENE
- **Transport hazard class(es)**
- **DOT**



- **Class** 6.1
- **Label** 6.1

---

**· ADR, IMDG, IATA**


- **Class** 6.1
- **Label** 6.1
- **Packing group** III
- **DOT, ADR, IMDG, IATA**
- **Environmental hazards:**
- **Marine pollutant:** No
- **Special precautions for user** Not applicable.
- **EMS Number:** F-A,S-A
- **Segregation groups** Liquid halogenated hydrocarbons
- **Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code** Not applicable.
- **Transport/Additional information:**
- **DOT**
- **Remarks:** ERG Guide Number: 160
- **UN "Model Regulation":** UN1710, Trichloroethylene, 6.1, III

**15 Regulatory information**

- **Safety, health and environmental regulations/legislation specific for the substance or mixture**
- **Sara**
- **Section 355 (extremely hazardous substances):**  
Substance is not listed.
- **Section 313 (Specific toxic chemical listings):** Substance is listed.

(Contd. on page 8)



**Safety Data Sheet (SDS)**

OSHA Haz Com Standard 29 CFR 1910.1200. Prepared to GHS Rev03.

Printing date 01/13/2014

Reviewed on 8/3/2018

**Trade name: Trichloroethylene**

(Contd. of page 7)

**· TSCA (Toxic Substances Control Act):**

Substance is listed.

**· Proposition 65**

**California Prop 65:** WARNING: This product can expose you to chemical Trichloroethylene, which is known to the State of California to cause Cancer and Reproductive Harm. For more information go to [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov).

**· EPA (Environmental Protection Agency)**

Substance is not listed.

**· TLV (Threshold Limit Value established by ACGIH)**

79-01-6 Acetylene Trichloride (Trichloroethylene )

A2

**· NIOSH-Ca (National Institute for Occupational Safety and Health)**

Substance is listed.

**· OSHA-Ca (Occupational Safety & Health Administration)**

Substance is not listed.

**· GHS label elements**

The substance is classified and labeled according to the Globally Harmonized System (GHS).

**· Hazard pictograms**

GHS07 GHS08

**· Signal word** Danger**· Hazard-determining components of labeling:**

Acetylene Trichloride (Trichloroethylene )

**· Hazard statements**

H315 Causes skin irritation.

H319 Causes serious eye irritation.

H341 Suspected of causing genetic defects.

H350 May cause cancer.

H336 May cause drowsiness or dizziness.

H412 Harmful to aquatic life with long lasting effects.

**· Precautionary statements**

P261 Avoid breathing dust/fume/gas/mist/vapors/spray.

P271 Use only outdoors or in a well-ventilated area.

P280 Wear protective gloves/protective clothing/eye protection/face protection.

P281 Use personal protective equipment as required.

P273 Avoid release to the environment.

(Contd. on page 9)

**Safety Data Sheet (SDS)**

OSHA Haz Com Standard 29 CFR 1910.1200. Prepared to GHS Rev03.

Printing date 01/13/2014

Reviewed on 8/3/2018

**Trade name: Trichloroethylene**

(Contd. of page 8)

P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
 P321 Specific treatment (see on this label).  
 P362 Take off contaminated clothing and wash before reuse.  
 P304+P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.  
 P312 Call a POISON CENTER or doctor/physician if you feel unwell.  
 P308+P313 IF exposed or concerned: Get medical advice/attention.  
 P332+P313 If skin irritation occurs: Get medical advice/attention.  
 P405 Store locked up.  
 P403+P233 Store in a well-ventilated place. Keep container tightly closed.  
 P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

**• National regulations:**

Substance is not listed.

**• State Right to Know**

Substance is not listed.

**• Information about limitation of use:**

Workers are not allowed to be exposed to this hazardous material. Exceptions can be made by the authorities in certain cases.

**• Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.**16 Other information**

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

**• Date of preparation / last revision** 01/23/2018 / -**• Abbreviations and acronyms:**

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)  
 IMDG: International Maritime Code for Dangerous Goods  
 DOT: US Department of Transportation  
 IATA: International Air Transport Association  
 ACGIH: American Conference of Governmental Industrial Hygienists  
 EINECS: European Inventory of Existing Commercial Chemical Substances  
 CAS: Chemical Abstracts Service (division of the American Chemical Society)  
 NFPA: National Fire Protection Association (USA)  
 HMIS: Hazardous Materials Identification System (USA)  
 VOC: Volatile Organic Compounds (USA, EU)  
 LC50: Lethal concentration, 50 percent  
 LD50: Lethal dose, 50 percent