

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

### 1.1 Product identifier

Product name	TRICHLOROETHYLENE
CAS-No.	79-01-6
Product code	05S0040

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

Identified uses	Chemical for analysis and production.
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### 1.3 Details of the supplier of the safety data sheet

Company	RCI LABSCAN LIMITED. 24 Rama 1 Road, Pathumwan, Bangkok 10330 Thailand
Telephone number	(662) 613-7911-4
Fax number	(662) 613-7915

### 1.4 Emergency Telephone Number

Emergency phone	(662) 613-7911-4
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## SECTION 2: Hazards identification

### 2.1 Classification of the substance or mixture

#### Classification according to Regulation (EC) No 1272/2008

Skin irritation (Category 2), H315  
Eye irritation (Category 2), H319  
Skin sensitization (Category 1), H317  
Germ cell mutagenicity (Category 2), H341  
Carcinogenicity (Category 1B), H350  
Specific target organ toxicity - single exposure (Category 3), Central nervous system, H336  
Chronic aquatic toxicity (Category 3), H412  
For the full text of the H-Statements mentioned in this Section, see Section 16.

### 2.2 Label elements

#### Labelling according Regulation (EC) No 1272/2008

Pictogram



Signal word

Danger

Hazard statement(s)

H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H336	May cause drowsiness or dizziness.
H341	Suspected of causing genetic defects.
H350	May cause cancer.
H412	Harmful to aquatic life with long lasting effects.

Precautionary statement(s)

P203	Obtain, read and follow all safety instructions before use.
P261	Avoid breathing fume/gas/mist/vapours/spray.

P264	Wash hand thoroughly after handling.
P271	Use only outdoors or in a well-ventilated area.
P272	Contaminated work clothing should not be allowed out of the workplace.
P273	Avoid release to the environment.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P302 + P352	IF ON SKIN: Wash with plenty water.
P304 + P340	IF INHALED: Remove person to fresh air and keep 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.
P318	IF exposed or concerned: Get medical advice.
P319	Get medical help if you feel unwell.
P333 + P317	If skin irritation or rash occurs: Get medical help.
P337 + P317	If eye irritation persists: Get medical help.
P362 + P364	Take off contaminated clothing and wash it before reuse.
P403 + P233	Store in a well-ventilated place. Keep container tightly closed.
P405	Store locked up.

**2.3 Other hazards** None

### SECTION 3: Composition/information on ingredients

#### 3.1 Substances

Synonyms Acetylene trichloride, 1-Chloro-2, 2-dichloroethylene, 1, 1-Dichloro-2-chloroethylene, Ethylene trichloride, 1, 1, 2-Trichloroethylene, 1, 2, 2-Trichloroethylene, TCE.

CAS-No	EC-No	EC-Index-No	Formula	Molecular Weight	Weight %
79-01-6	201-167-4	602-027-00-9	Cl <sub>2</sub> CCHCl	131.79 g/mol	<=100

#### Hazardous ingredients according to Regulation (EC) No 1272/2008

Component	Concentration	Classification
<b>Trichloroethylene</b>		
CAS-No 79-01-6 EC-No 201-167-4 EC-Index-No 602-027-00-9	<=100 %	Skin irritation (Category 2), H315 Eye irritation (Category 2), H319 Skin sensitization (Category 1), H317 Germ cell mutagenicity (Category 2), H341 Carcinogenicity (Category 1B), H350 Specific target organ toxicity - single exposure (Category 3), Central nervous system, H336 Chronic aquatic toxicity (Category 3), H412

For the full text of the H-Statements mentioned in this Section, see Section 16.

### SECTION 4: First aid measures

#### 4.1 Description of first aid measures

General advice	Show this safety data sheet to the doctor in attendance.
Inhalation	Move to fresh air in case of accidental inhalation of vapors. Keep patient warm. In case of shortness of breath, give oxygen. Apply artificial respiration only if patient is not breathing or under medical supervision. No artificial aspiration mouth to mouth or mouth to nose. Use suitable instruments/apparatus.
Skin contact	Remove contaminated clothing and wash affected skin with soap and water. If signs of poisoning appear, treat as for inhalation. . Obtain medical attention. Wash contaminated clothing before reuse. Contaminated combustible material, e.g. clothing ignites more readily and burns fiercely.

Eye contact	If the substance has got into the eyes, immediately wash out with plenty of water at least 15 minutes. Obtain medical attention.
Ingestion	Rinse mouth. Do not induce vomiting. Keep patient warm. In case of shortness of breath, give oxygen. Apply artificial respiration only if patient is not breathing or under medical supervision. No artificial aspiration mouth to mouth or mouth to nose. Use suitable instruments/apparatus. Obtain medical attention. Never give anything by mouth to an unconscious person.

#### 4.2 Most important symptoms and effects, both acute and delayed

The most important known symptoms and effects are described in section 2.2 and section 11

#### 4.3 Indication of any immediate medical attention and special treatment needed

Laxative: Sodium sulfate 1 tablespoon/ 250ml of water. Activate charcoal 20 - 40 g in 10% slurry. Risk of aspiration. Pulmonary failure possible.

## SECTION 5: Firefighting measures

### 5.1 Extinguishing media

#### Suitable extinguishing media

In adaption to materials stored in the immediate neighborhood.

### 5.2 Special hazards arising from the substance or mixture

Non-combustible. Vapors heavier than air. Ambient fire may liberate hazardous vapors. The following may develop in event of fire: Hydrochloric acid, phosgene.

### 5.3 Advice for firefighters

Do not stay in dangerous zone without self-contained breathing apparatus. In order to avoid contact with skin. Keep a safety distance and wear suitable protective clothing.

### 5.4 Further information

Contain escaping vapors with water. Prevent fire-fighting water from entering surface water or ground water.

## SECTION 6: Accidental release measures

### 6.1 Personal precautions, protective equipment and emergency procedures

Evacuate personnel to safe areas. Do not breathe vapors or spray mist. Wear a positive-pressure supplied-air respirator, flame retardant antistatic protective clothing. Shut off leaks if without risk. Keep people away from and upwind of spill/leak.

### 6.2 Environmental precautions

Contain or absorb leaking liquid with sand or earth, consults an expert. Prevent liquid entering sewers, basements and workpits. If substance has entered a water course or sewer or contaminated soil, advise police.

### 6.3 Methods and materials for containment and cleaning up

Spillage: May react with combustible substances creating fire or explosion hazard and formation of toxic fumes. Take necessary action to avoid static electricity discharge (which might cause ignition of organic vapors). Soak up with inert absorbent material (e.g. sand, silica gel or chemical absorbent pads). Prevent liquid entering sewers, basements and workpits; vapor may create explosive atmosphere. Transfer to covered steel drums. Dispose of promptly.

### 6.4 Reference to other sections

For disposal see **Section 13**.

## SECTION 7: Handling and storage

### 7.1 Precautions for safe handling

Work under hood. Avoid generation of vapors/aerosols. Keep container tightly closed. Use only in area provided with appropriate exhaust ventilation. Do not breathe vapors or spray mist. Do not inhale substance. Avoid contact with skin, eyes and clothing. Do not empty into drains.

### 7.2 Conditions for safe storage, including any incompatibilities

Keep tightly closed in a dry, cool and well-ventilated place. Keep away from heat and sources of ignition. Keep out of direct sunlight and away from incompatible materials. Store in original container. Electrical equipment should be protected to the appropriate standard.

### 7.3 Specific end use(s)

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated.

## SECTION 8: Exposure controls/personal protection

### 8.1 Control parameters

#### Derived No Effect Level (DNEL)

Application Area	Health Effects	Exposure	Value
Worker	Acute Local effects	Inhalation	164.1 mg/m <sup>3</sup>
Worker	Acute Systemic effects	Inhalation	164.1 mg/m <sup>3</sup>
Worker	Long-term Systemic effects	Inhalation	54.7 mg/m <sup>3</sup>
Worker	Long-term Systemic effects	Skin contact	7.8 mg/kg Body weight

#### Predicted No Effect Concentration (PNEC)

Compartment	Value
Aquatic intermittent release	0.208 mg/l
Fresh water	0.115 mg/l
Fresh water sediment	2.04 mg/kg
Marine sediment	0.204 mg/kg
Marine water	0.0115 mg/l
Sewage treatment plant	2.6 mg/l
Soil	0.344 mg/kg

### 8.2 Exposure controls

#### Appropriate engineering controls

The product should only be used in ventilation hoods and fans.

#### Individual protection measures (Personal protective equipment, PPE)

##### Eye/face protection

Goggles giving complete protection to eyes.

##### Skin protection

Chemical resistant apron / flame retardant antistatic protective clothing, heavy duty work shoes.

Handle with gloves

- Full contact wears gloves from viton material.
- Splash contact wears gloves from nitrile rubber material.

The select protective gloves have to satisfy the specifications of EU Directive 89/686 EEC and standard EN 374 derived from it.

##### Respiratory protection

In case of insufficient ventilation, wear suitable respiratory equipment. Required when vapor/aerosols are generated filter A (EN 141 or EN 14387).

##### Environmental exposure controls

Prevent liquid entering sewers, basements and workpits.

## SECTION 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

Appearance: Form	Liquid
: Color	Colorless
Odour	Characteristic
Odour Threshold	Not Available
pH	Not Available
Melting point/range	-86 °C
Boiling point/range	87 °C at 1013 hPa
Flash point	Not Available
Evaporation rate	Not Available
Flammability (solid, gas)	Not Available
Explosion limits: lower	7.9 % (V)
upper	> 99 % (V)
Vapor Pressure	77 hPa at 20°C
Relative Vapor Density	4.53
Density	1.460 g/ml at 20°C
Water solubility	1.28 g/l at 25°C
Partition coefficient (n-octanol/water)	log Pow: 2.29
Auto-Ignition temperature	410 °C
Decomposition Temperature	Not Available
Viscosity	0.55 mPa.s at 25°C
Explosive properties	Not Explosive
Oxidizing properties	The substance or mixture is not classified as oxidizing.

## SECTION 10: Stability and reactivity

### 10.1 Reactivity

Heat sensitive/decomposition, sensitive to light, sensitive to air.

### 10.2 Chemical stability

Stable under recommended storage conditions.

### 10.3 Possibility of hazardous reactions

Risk of explosion in contact with alkali metals, sodium hydroxide, strong oxidizing agents, alkali hydroxide, aluminium, potassium hydroxide, sodium amide, penta boranes, nitrogen oxides.

The substance can react dangerously with alkali lyes, aluminium chloride, 1,4-butanediol, epoxy compounds alkaline earth metals, potassium nitrate, perchloric acid, oxygen/liquid, water / pressure / heat.

### 10.4 Conditions to avoid

Strong heating.

### 10.5 Incompatible materials

Alkali metals, alkali earth metals, metals in powder form, alkali hydroxides, alkali amides, perchloric acid, nitrogen oxides, light metals, aluminium chloride, strong oxidizing agents.  
Unsuitable working materials: various plastic, rubber.

### 10.6 Hazardous decomposition products

Hydrochloric acid and phosgene. (Hazardous decomposition products from under fire condition).

## SECTION 11: Toxicological information

### 11.1 Information on toxicological effects

#### Acute toxicity

LC<sub>50</sub> (inhalation, rat): 43.84 mg/l/4h

LD<sub>50</sub> (oral, rat): 4920 mg/kg

LD<sub>50</sub> (dermal, rabbit): >29000 mg/kg

LD<sub>LO</sub> (oral, human): 7000 mg/kg

#### Acute oral toxicity

Symptoms: nausea, vomiting.

#### Acute inhalation toxicity

Symptoms: irritations of mucous membranes, coughing, dyspnoea, dizziness, drowsiness. Possible damages: Pulmonary oedema.

#### Skin corrosion/irritation

Irritation. Degreasing effect on the skin, possibly followed by secondary inflammation.

#### Serious eye damage/eye irritation

Irritations.

#### Respiratory or skin sensitization

Not Available

#### Germ cell mutagenicity

Bacterial mutagenicity; Ames test is negative.

#### Carcinogenicity

May cause cancer. Should be regarded as if it is carcinogenic to man.

#### Reproductive toxicity

Substance which cause concern for man owing possible mutagenic effects.

#### Teratogenicity

Not Available

#### Specific target organ toxicity (STOT) - single exposure

May cause drowsiness or dizziness.

#### Specific target organ toxicity (STOT) - repeated exposure

Not Available

#### Aspiration hazard

Not Available

#### Further information

After accidental swallowing the substance may pose a risk of aspiration. Passage into the lung (vomiting) can result in a condition resembling pneumonia (chemical pneumonitis).

After absorption: Headache, dizziness, cardiac dysrhythmia, nausea, agitation, spasms, inebriation, narcosis.

After long term exposure to the chemical: Toxic effect on central nervous system. Damage liver and kidneys.

The product should be handled with the care usual when dealing with chemicals.

## SECTION 12: Ecological information

### 12.1 Toxicity

Toxicity to fish	LC <sub>50</sub> P.promelas: 41 mg/l/96h
Toxicity to daphnia and other aquatic invertebrates	EC <sub>50</sub> Daphnia magna: 18 mg/l/48h
Toxicity to algae	IC <sub>50</sub> Selenastrum capricornutum: 175 mg/l/96h
Toxicity to bacteria	EC <sub>50</sub> Photobacterium phosphoreum: 975 mg/l/5min

### 12.2 Persistence and degradability

Biodegradability	19% /28d, not readily biodegradable.
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### 12.3 Bioaccumulative potential

Partition coefficient (n-octanol/water)	log Pow: 2.29
	No appreciable bioaccumulation potential is to be expected (log Po/w 1-3)

### 12.4 Mobility in soil

Not Available

### 12.5 Other adverse effects

Toxic for aquatic organisms. May cause long term adverse effects in the aquatic environment.  
Do not allow to enter waters, waste water or soil.

## SECTION 13: Disposal considerations

### 13.1 Waste treatment methods

#### Product

There are no uniform EC Regulations for the disposal of chemicals or residues. Chemical residues generally count as special waste. The disposal of the latter is regulated in the EC member countries through corresponding law and regulations. We recommend that you contact either the authorities in charge or approved waste disposal companies which will advise you on how to dispose of special waste or burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting as this material is highly flammable. Observe all federal, state, and local environmental regulations.

#### Contaminated packaging

Disposal in compliance with official regulations. Handle contaminated packaging as hazardous waste in the same way of the substance itself. If not officially specified differently, non-contaminated packaging may be treated like household waste or recycled.

## SECTION 14: Transport information

### Land Transport (ADR/RID)

UN Number	1710
UN proper shipping name	TRICHLOROETHYLENE
Transport hazard class(es)	6.1
Packing group	III
Environmental hazards	No
Special precautions for user	Yes

### Sea transport (IMDG)

UN Number	1710
UN proper shipping name	TRICHLOROETHYLENE
Transport hazard class(es)	6.1
Packing group	III
Marine pollutant	No

Special precautions for user	Yes
EmS	F-A S-A

**Air transport (IATA)**

UN Number	1710
UN proper shipping name	TRICHLOROETHYLENE
Transport hazard class(es)	6.1
Packing group	III
Environmental hazards	No
Special precautions for user	No

**River transport (AND/ADNR)**

(Not examined)

**SECTION 15: Regulatory information**

This safety datasheet complies with the requirements of Globally Harmonized System of Classification and Labelling of Chemicals (GHS)

**15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**

Not Available

**15.2 Chemical Safety Assessment**

For this product a chemical safety assessment was not carried out.

**SECTION 16: Other information****Full text of H-Statements referred to under sections 2 and 3**

H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H336	May cause drowsiness or dizziness.
H341	Suspected of causing genetic defects.
H350	May cause cancer.
H412	Harmful to aquatic life with long lasting effects.

**Recommended restrictions**

Take notice of labels and safety data sheets for the working.

**Reference**

Globally Harmonized System of Classification and Labelling of Chemicals (GHS).

Labelling according to EC Directives 67/548 EEC and Regulation (EC) No 1272/2008.

Transportation information according to Recommendations on the Transport of Dangerous Goods, Model Regulations. Twelfth revised edition. United Nations.

Institute for Occupational Safety and Health of the German Social Accident Insurance in Sankt Augustin/Germany, Source: IFA for Databases on hazardous substances (GESTIS).

**Further information**

Contact to RCI Labscan Limited.

**Revision Date**

01/05/2021

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