

**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 | AR1205, GP1205, LC1205, RP1205, RP1205V |

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

|                 |                                       |
|-----------------|---------------------------------------|
| Identified uses | Chemical for analysis and production. |
|-----------------|---------------------------------------|

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

|                  |   |
|------------------|---|
| Company          | RCI LABSCAN LIMITED.<br>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 |
|-----------------|------------------|

**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<br>EC-No 201-167-4<br>EC-Index-No 602-027-00-9 | <=100 %       | Skin irritation (Category 2), H315<br>Eye irritation (Category 2), H319<br>Skin sensitization (Category 1), H317<br>Germ cell mutagenicity (Category 2), H341<br>Carcinogenicity (Category 1B), H350<br>Specific target organ toxicity - single exposure (Category 3), Central nervous system, H336<br>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<br>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. |
|------------------|--------------------------------------|

### 12.3 Bioaccumulative potential

|   |  |
|---|--|
| Partition coefficient (n-octanol/water) | log Pow: 2.29  |
|   | No appreciable bioaccumulation potential is to be expected<br>(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**

07/07/2022

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The information provided in 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 guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered 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 materials or in any process unless specified in the text.