

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

1.1 Product identifier

Product name	TETRACHLOROETHYLENE
CAS-No.	127-18-4
Product code	AR1198, AR1199, GP1198, IR1198, RP1198, RP1199

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
Carcinogenicity (Category 2), H351
Chronic aquatic toxicity (Category 2), H411
For the full text of the H-Statements mentioned in this Section, see Section 16.

Classification according to EU Directives 67/548/EEC or 1999/45/EC

Carc.Cat.3	Carcinogenic Category 3	R40
Xi	Irritant	R38
N	Dangerous for the environment	R51/53

For the full text of the R-phrases mentioned in this Section, see Section 16.

2.2 Label elements

Labelling according Regulation (EC) No 1272/2008

Pictogram



Signal word

Warning

Hazard statement(s)

H315	Causes skin irritation.
H351	Suspected of causing cancer.
H411	Toxic to aquatic life with long lasting effects.

Precautionary statement(s)

P201	Obtain special instructions before use.
P202	Do not handle until all safety precautions have been read and understood.
P264	Wash hand thoroughly after handling.

P273	Avoid release to the environment.
P280	Wear protective gloves/eye protection/face protection.
P281	Use personal protective equipment as required.
P302 + P352	IF ON SKIN: Wash with plenty of soap and water.
P308 + P313	IF exposed or concerned: Get medical advice/attention.
P332 + P313	If skin irritation occurs: Get medical advice/attention.
P362	Take off contaminated clothing and wash before reuse.
P391	Collect spillage.

2.3 Other hazards

None

SECTION 3: Composition/information on ingredients

3.1 Substances

Synonyms Carbon bichloride, Carbon dichloride, Ethylene perchloride, Ethylene tetrachloride, Perchloroethylene, Tetrachloroethene.

CAS-No	EC-No	EC-Index-No	Formula	Molecular Weight	Weight %
127-18-4	204-825-9	602-028-00-4	Cl ₂ CCCl ₂	165.83 g/mol	>99

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

Component	Concentration	Classification
Tetrachloroethylene		
CAS-No 127-18-4 EC-No 204-825-9 EC-Index-No 602-028-00-4	>99 %	Skin irritation (Category 2), H315 Carcinogenicity (Category 2), H351 Chronic aquatic toxicity (Category 2), H411

Hazardous ingredients according to Directive 1999/45/EC

Component	Concentration	Classification
Tetrachloroethylene		
CAS-No 127-18-4 EC-No 204-825-9 EC-Index-No 602-028-00-4	>99 %	Carc.Cat.3, Carcinogenic Category 3, R40 Xi, Irritant, R38 N, Dangerous for the environment, R51/53

For the full text of the H-Statements and R-Phrases 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

Activate charcoal. Sodium sulfate 1 tablespoon/ 250ml of water. Risk of aspiration.

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). 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 at room temperature 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****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	Ether like
Odour Threshold	Not Available
pH	Not Available
Melting point/range	-22 °C
Boiling point/range	121 °C at 1013 hPa
Flash point	Not flammable
Evaporation rate	Not Available
Flammability (solid, gas)	Not Available
Explosion limits: lower	Not Available
upper	Not Available
Vapor Pressure	19 hPa at 20°C
Relative Vapor Density	5.73
Density	1.620 g/ml at 20°C
Water solubility	0.16 g/l at 20°C
Partition coefficient (n-octanol/water)	log Pow: 3.4

Auto-Ignition temperature	Not combustible
Decomposition Temperature	Not Available
Viscosity	0.9 mPa.s at 20°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.

10.2 Chemical stability

Stable under recommended storage conditions.

10.3 Possibility of hazardous reactions

Risk of explosion in contact with alkali metals, aluminium, alkali hydroxide, barium, sodium amide, oxygen/heat, nitrogen dioxide.

The substance can react dangerously with strong bases, strong oxidizing agents, alkaline-earth metals, light Metals, metal powders, zinc oxide.

10.4 Conditions to avoid

Heating.

10.5 Incompatible materials

Alkali metals, alkali earth metals, metals in powder form, alkali hydroxides, nitrogen oxides.

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

LD₅₀ (oral, rat): 2629 mg/kg

LC₅₀ (inhalation, rat): 27.58 mg/l /4h

Acute oral toxicity

Symptoms: may pose a risk of aspiration. Passage into the lung (vomiting) can result in a condition resembling pneumonia (chemical pneumonitis).

Acute inhalation toxicity

Symptoms: mucosal irritations, dizziness, drowsiness, unconsciousness, pulmonary oedema.

Skin corrosion/irritation

Slightly irritations. Danger of skin absorption. Drying out effect resulting in rough and chapped skin.

Serious eye damage/eye irritation

Slightly irritations. Risk of corneal clouding.

Respiratory or skin sensitization

The Sensitization test (guinea pig) is no sensitizing effect.

Germ cell mutagenicity

Not Available

Carcinogenicity

Owing possible carcinogenic effects for man.

Reproductive toxicity

Not Available

Teratogenicity

Not Available

Specific target organ toxicity (STOT) - single exposure

Not Available

Specific target organ toxicity (STOT) - repeated exposure

Not Available

Aspiration hazard

Not Available

Further information

After long term exposure to the chemical: Possible symptoms: dermatitis.

After absorption: Headache, nausea, vomiting, CNS disorders, narcosis. 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 ₅₀ Onchorhynchus mykiss: 4.99 mg/l/96h
Toxicity to daphnia and other aquatic invertebrates	EC ₅₀ Daphnia magna: 22 mg/l/48h
Toxicity to bacteria	EC ₅ Ps. Putida: >45 mg/l /18h

12.2 Persistence and degradability

Biodegradability 11% /28d, not readily degradable.

12.3 Bioaccumulative potential

Partition coefficient (n-octanol/water) log Pow: 3.4
Bioaccumulation potential is to be expected (log Po/w >3).

12.4 Mobility in soil

Not Available

12.5 Other adverse effects

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	1897
UN proper shipping name	TETRACHLOROETHYLENE
Transport hazard class(es)	6.1
Packaging group	III
Environmental hazards	Yes
Special precautions for user	Yes

Sea transport (IMDG)

UN Number	1897
UN proper shipping name	TETRACHLOROETHYLENE
Transport hazard class(es)	6.1
Packaging group	III
Marine pollutant	Yes
Special precautions for user	Yes
EmS	F-A S-A

Air transport (IATA)

UN Number	1897
UN proper shipping name	TETRACHLOROETHYLENE
Transport hazard class(es)	6.1
Packaging group	III
Environmental hazards	Yes
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.
H351	Suspected of causing cancer.
H411	Toxic to aquatic life with long lasting effects.

Full text of R-phrases referred to under sections 2 and 3

Carc.Cat.3	Carcinogenic Category 3
Xi	Irritant
N	Dangerous for the environment
R38	Irritating to skin.

R40 Limited evidence of a carcinogenic effect.
R51/53 Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

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

01/05/2015

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.