

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

1.1. GHS product identifier

Product form	: Substance
Trade name	: Trichloroethylene
Substance type	: Mono-constituent
EC-No.	: 201-167-4
EC Index-No.	: 602-027-00-9
CAS-No.	: 79-01-6
Formula	: C2HCl3

1.2. Other means of identification

No additional information available

1.3. Recommended use of the chemical and restrictions on use

Recommended use	: Industrial uses Manufacture of substances
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1.4. Supplier's details

Distributor

Rolfes Chemicals (Pty) Ltd.
Cnr Brammer and Strachan Street,
P.O. Box P.O. Box 14075, Wadeville
1422 Germiston – South Africa Gauteng
T 011 873 0157

1.5. Emergency phone number

Emergency number	: 086 111 4753
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SECTION 2: Hazard identification

2.1. GHS classification of the substance/mixture and any national or regional information

Classification according to the United Nations GHS

Specific target organ toxicity – Repeated exposure, Category 2	H373
Hazardous to the aquatic environment – Acute Hazard, Category 3	H402
Hazardous to the aquatic environment – Chronic Hazard, Category 3	H412

Full text of H-statements: see section 16

Adverse physicochemical, human health and environmental effects	: May cause damage to organs through prolonged or repeated exposure, Harmful to aquatic life, Harmful to aquatic life with long lasting effects.
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2.2. GHS label elements, including precautionary statements

Labelling according to the United Nations GHS

Hazard pictograms (GHS ZA)



Signal word (GHS-ZA)	: Warning
Hazard statements (GHS ZA)	: H373 - May cause damage to organs (Respiratory tract, Skin) through prolonged or repeated exposure (Dermal, Inhalation, Oral) H412 - Harmful to aquatic life with long lasting effects
Precautionary statements (GHS ZA)	: P260 - Do not breathe dusts or mists. P273 - Avoid release to the environment.

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P-statements for label (GHS-ZA) : P319 - Get medical help if you feel unwell.
P501 - Dispose of contents and container to an approved waste disposal plant.
: P260 - Do not breathe dusts or mists.; P273 - Avoid release to the environment.; P319 - Get medical help if you feel unwell.; P501 - Dispose of contents and container to an approved waste disposal plant.

2.3. Other hazards which do not result in classification or are not covered by the GHS

No additional information available

SECTION 3: Composition/information on ingredients

3.1. Substance

Substance type : Mono-constituent
Name : Trichloroethylene
CAS-No. : 79-01-6
EC-No. : 201-167-4
EC Index-No. : 602-027-00-9
Product identifiers: See section 1.1

Name	Product identifier	%	Classification according to the United Nations GHS
Trichloroethylene	CAS-No.: 79-01-6	≤ 100	STOT RE 2, H373 Aquatic Acute 3, H402 Aquatic Chronic 3, H412

Full text of H-statements: see section 16

3.2. Mixture

Not applicable

SECTION 4: First aid measures

4.1. Description of necessary first aid measures

First-aid measures general : Get medical advice/attention if you feel unwell.
First-aid measures after inhalation : Remove person to fresh air and keep comfortable for breathing.
First-aid measures after skin contact : Wash skin with plenty of water.
First-aid measures after eye contact : Rinse eyes with water as a precaution.
First-aid measures after ingestion : Call a poison center or a doctor if you feel unwell.

4.2. Most important symptoms/effect, acute and delayed

Symptoms/effects after inhalation : Although no appropriate human or animal health effects data are known to exist, this material is expected to be an inhalation hazard.
Symptoms/effects after skin contact : None under normal conditions.
Symptoms/effects after eye contact : None under normal conditions.
Symptoms/effects after ingestion : None under normal conditions.

4.3. Indication of immediate medical attention and special treatment needed, if necessary

Treat symptomatically.

SECTION 5: Fire-fighting measures

5.1. Suitable (and unsuitable) extinguishing media

Suitable extinguishing media : Water spray. Dry powder. Foam. Carbon dioxide.
Unsuitable extinguishing media : Do not use a heavy water stream.

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5.2. Specific hazards arising from the chemical

Fire hazard	: No fire hazard.
Explosion hazard	: No direct explosion hazard.
Hazardous decomposition products in case of fire	: Toxic fumes may be released.

5.3. Special protective actions for fire-fighters

Firefighting instructions	: Fight fire from safe distance and protected location. Do not enter fire area without proper protective equipment, including respiratory protection.
Protection during firefighting	: Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures	: Stop leak if safe to do so. Notify authorities if product enters sewers or public waters. Absorb spillage to prevent material damage.
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6.1.1. For non-emergency personnel

Protective equipment	: Wear recommended personal protective equipment.
Emergency procedures	: Ventilate spillage area. Do not breathe spray, vapours, fume.

6.1.2. For emergency responders

Protective equipment	: Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".
Emergency procedures	: Evacuate unnecessary personnel. Stop leak if safe to do so.

6.2. Environmental precautions

Avoid release to the environment.

6.3. Methods and materials for containment and cleaning up

For containment	: Collect spillage. Contain any spills with dikes or absorbents to prevent migration and entry into sewers or streams. Stop leak without risks if possible.
Methods for cleaning up	: Take up liquid spill into absorbent material.
Other information	: Dispose of materials or solid residues at an authorized site.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling	: Ensure good ventilation of the work station. Wear personal protective equipment. Do not breathe fume, spray, vapours.
Hygiene measures	: Do not eat, drink or smoke when using this product. Always wash hands after handling the product.
Additional hazards when processed	: Not expected to present a significant hazard under anticipated conditions of normal use.

7.2. Conditions for safe storage, including any incompatibilities

Technical measures	: Keep in a cool, well-ventilated place away from heat.
Storage conditions	: Keep cool. Protect from sunlight.
Packaging materials	: Store always product in container of same material as original container.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

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Trichloroethylene (79-01-6)	
South Africa - Occupational Exposure Limits (Maximum Limits)	
Local name	Trichloroethylene
RHCA - OEL	50 ppm
RHCA - STEL/C	20 ppm
Remark	CARC (denotes carcinogenicity, which is based on GHS categorisation, including category 1A and 1B), SKIN (danger of cutaneous absorption)
Regulatory reference	Government Notice No. R. 280, 2021
South Africa - Occupational Exposure Limits (Airborne Pollutants)	
Local name	Trichloroethylene
OEL TWA	268 mg/m ³ 50 ppm
OEL STEL	535 mg/m ³ 100 ppm
Remark	Sk (Danger of cutaneous absorption)
Regulatory reference	Government Notice No. R 904
South Africa - Biological limit values	
Local name	Trichloroethylene
BEI	15 mg/l Parameter: Trichloroacetic acid - Medium: urine - Sampling time: End of shift at end of workweek - Notations: Ns (non-specific) 0.5 mg/l Parameter: Trichloroethanol - Medium: blood - Sampling time: End of shift at end of workweek - Notations: Ns (non-specific)
Regulatory reference	Government Notice No. R. 280, 2021

8.2. Appropriate engineering controls

Appropriate engineering controls : Ensure good ventilation of the work station.
Environmental exposure controls : Avoid release to the environment.

8.3. Individual protection measures, such as personal protective equipment

Hand protection : Protective gloves
Eye protection : Safety glasses
Skin and body protection : Wear suitable protective clothing
Respiratory protection : In case of insufficient ventilation, wear suitable respiratory equipment

Personal protective equipment symbol(s)



8.4. Exposure limit values for the other components

No additional information available

SECTION 9: Physical and chemical properties

9.1. Basic physical and chemical properties

Physical state : Liquid
Appearance : No data available

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Molecular mass	: 131.39 g/mol
Colour	: Colourless
Odour	: No data available
Odour threshold	: 20 ppm
pH	: No data available
pH solution	: No data available
Relative evaporation rate (butylacetate=1)	: No data available
Relative evaporation rate (ether=1)	: No data available
Melting point	: 188.1 °C
Freezing point	: No data available
Boiling point	: 86.7 °C
Flash point	: No data available
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Flammability	: Non flammable.
Vapour pressure	: 58 mm Hg
Vapour pressure at 50°C	: No data available
Relative vapour density at 20°C	: 4.53
Relative density	: No data available
Relative density of saturated gas/air mixture	: No data available
Density	: No data available
Relative gas density	: No data available
Solubility	: Completely soluble in ketonic solvents or esters.
Partition coefficient n-octanol/water (Log Pow)	: No data available
Partition coefficient n-octanol/water (Log Kow)	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosive properties	: No data available
Oxidising properties	: No data available
Explosive limits	: No data available
Lower explosion limit	: No data available
Upper explosion limit	: No data available
Physical state	: Liquid
Appearance	: No data available

9.2. Data relevant with regard to physical hazard classes (supplemental)

No additional information available

SECTION 10: Stability and Reactivity

10.1. Reactivity

The product is non-reactive under normal conditions of use, storage and transport.

10.2. Chemical Stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

10.4. Conditions to avoid

None under recommended storage and handling conditions (see section 7).

10.5. Incompatible materials

No additional information available

10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

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SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity (oral) : Not classified
Acute toxicity (dermal) : Not classified
Acute toxicity (inhalation) : Not classified

Trichloroethylene (79-01-6)	
LD50 oral rat	2402 mg/kg

Trichloroethylene (79-01-6)	
LC50 Inhalation - Rat [ppm]	12500 ppm Animal: rat, Animal sex: male

Skin corrosion/irritation : Causes skin irritation.
Serious eye damage/irritation : CAUSES EYE IRRITATION
Respiratory or skin sensitization : Not classified
Germ cell mutagenicity : May have mutagenic effect.
Carcinogenicity : Possibly carcinogenic to humans

Trichloroethylene (79-01-6)	
NOAEL (chronic, oral, animal/male, 2 years)	1000 mg/kg bodyweight Animal: mouse, Animal sex: male
NOAEL (chronic, oral, animal/female, 2 years)	1000 mg/kg bodyweight Animal: mouse, Animal sex: female

Reproductive toxicity : Not classified
Reproductive toxicity : Not classified
STOT-single exposure : Not classified
STOT-repeated exposure : May cause damage to organs (Respiratory tract, Skin) through prolonged or repeated exposure (Dermal, Inhalation, Oral).

Trichloroethylene (79-01-6)	
NOAEL (oral, rat, 90 days)	50 mg/kg bodyweight Animal: rat, Animal sex: male
STOT-repeated exposure	May cause damage to organs through prolonged or repeated exposure.

Aspiration hazard : Not classified

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general : Harmful to aquatic life. Harmful to aquatic life with long lasting effects.
Hazardous to the aquatic environment, short-term (acute) : Harmful to aquatic life.
Hazardous to the aquatic environment, long-term (chronic) : Harmful to aquatic life with long lasting effects.

Trichloroethylene (79-01-6)	
LC50 - Fish [1]	28.3 mg/l Test organisms (species): <i>Jordanella floridae</i>
EC50 72h - Algae [1]	36.5 mg/l Test organisms (species): <i>Chlamydomonas reinhardtii</i>
LOEC (chronic)	12 mg/l Test organisms (species): <i>Ceriodaphnia dubia</i> Duration: '7 d'
NOEC (chronic)	7.1 mg/l Test organisms (species): <i>Ceriodaphnia dubia</i> Duration: '7 d'
NOEC chronic fish	5.76 mg/l Test organisms (species): <i>Jordanella floridae</i> Duration: '10 d'

12.2. Persistence and degradability

Trichloroethylene (79-01-6)	
Persistence and degradability	Not rapidly degradable

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Trichloroethylene (79-01-6)

Persistence and degradability

12.3. Bioaccumulative potential

Trichloroethylene (79-01-6)

Bioaccumulative potential

No additional information available

12.4. Mobility in soil

Trichloroethylene (79-01-6)

Mobility in soil

No additional information available

12.5. Other adverse effects

Ozone

: Not classified

Other adverse effects

: No additional information available

SECTION 13: Disposal Considerations

13.1. Disposal methods

Regional waste regulation

: Disposal must be done according to official regulations.

Waste treatment methods

: Dispose of contents/container in accordance with licensed collector's sorting instructions.

Sewage disposal recommendations

: Disposal must be done according to official regulations.

Product/Packaging disposal recommendations




: Disposal must be done according to official regulations.

Additional information

: Do not re-use empty containers.

SECTION 14: Transport information

In accordance with SANS / IMDG / IATA

SANS	IMDG	IATA
14.1. UN number		
1710	1710	1710
14.2. UN Proper Shipping Name		
TRICHLOROETHYLENE	TRICHLOROETHYLENE	Trichloroethylene
14.3. Transport hazard class(es)		
6.1	6.1	6.1
		
14.4. Packing group, if applicable		
III	III	III
14.5. Environmental hazards		
Dangerous for the environment : No	Dangerous for the environment : No Marine pollutant : No	Dangerous for the environment : No
No supplementary information available		

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14.6. Special precautions for user

SANS

Limited quantities (SANS)	: 5 L
Limited quantities (SANS)	: 5 L
Packagings, large packagings and IBCs Packing instructions (SANS)	: P001, IBC03, LP01
Portable tank and bulk containers instructions (SANS)	: T4
Portable tank and bulk container special provisions (SANS)	: TP1

IMDG

Limited quantities (IMDG)	: 5 L
Excepted quantities (IMDG)	: E1
Packing instructions (IMDG)	: P001, LP01
IBC packing instructions (IMDG)	: IBC03
Tank instructions (IMDG)	: T4
Tank special provisions (IMDG)	: TP1
EmS-No. (Fire)	: F-A - FIRE SCHEDULE Alfa - GENERAL FIRE SCHEDULE
EmS-No. (Spillage)	: S-A - SPILLAGE SCHEDULE Alfa - TOXIC SUBSTANCES
Stowage category (IMDG)	: A
Stowage and handling (IMDG)	: SW2
Segregation (IMDG)	: SGG10
Properties and observations (IMDG)	: Colourless liquid with a chloroform-like odour. When involved in a fire, evolves extremely toxic fumes (phosgene). Toxic if swallowed, by skin contact or by inhalation.

IATA

PCA Excepted quantities (IATA)	: E1
PCA Limited quantities (IATA)	: Y642
PCA limited quantity max net quantity (IATA)	: 2L
PCA packing instructions (IATA)	: 655
PCA max net quantity (IATA)	: 60L
CAO packing instructions (IATA)	: 663
CAO max net quantity (IATA)	: 220L
ERG code (IATA)	: 6A

14.7. Transport in bulk according to IMO instructions

Not applicable

SECTION 15: Regulatory information

15.1. National regulations

15.1.1. OCCUPATIONAL HEALTH AND SAFETY ACT, 1993

Prohibited Hazardous Chemical Agents

Not regulated

15.2. Safety, health, and environmental national regulations specific for the product

No additional information available

SECTION 16: Other information

Issue date	: 21/09/2024
Revision date	: 21/09/2024
Supersedes	: 21/09/2024

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Full text of H-statements:	
H373	May cause damage to organs through prolonged or repeated exposure
H402	Harmful to aquatic life
H412	Harmful to aquatic life with long lasting effects

Safety Data Sheet (SDS), South Africa (HCA)

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.