

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006, as amended

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

1.1 Product identifier

Trade name : Trichloroacetic Acid (Granulated)
 Product code : T0369
 Index-No. : 607-004-00-7
 EC-No. : 200-927-2

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

Use of the Substance/Mixture : Use as laboratory reagent

1.3 Details of the supplier of the safety data sheet

Company : TCI EUROPE N.V.
 Address : Boereveldseweg 6 - Haven 1063, B-2070 Zwijndrecht, Belgium
 Telephone : +32 (0)3 735 07 00
 Telefax : +32 (0)3 735 07 01
 E-mail address of person responsible for the SDS : sales-eu@tcichemicals.com

1.4 Emergency telephone number

Emergency telephone number : +44 844 892 0111

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification (REGULATION (EC) No 1272/2008)

Corrosive to metals, Category 1	H290: May be corrosive to metals.
Skin corrosion, Sub-category 1A	H314: Causes severe skin burns and eye damage.
Serious eye damage, Category 1	H318: Causes serious eye damage.
Germ cell mutagenicity, Category 2	H341: Suspected of causing genetic defects.
Reproductive toxicity, Category 2	H361: Suspected of damaging fertility or the unborn child.
Specific target organ toxicity - single exposure, Category 3, Respiratory system	H335: May cause respiratory irritation.
Short-term (acute) aquatic hazard, Category 1	H400: Very toxic to aquatic life.
Long-term (chronic) aquatic hazard, Category 1	H410: Very toxic to aquatic life with long lasting effects.

2.2 Label elements

Labelling (REGULATION (EC) No 1272/2008)

Hazard pictograms :



Signal word : Danger

Hazard statements :

- H290 May be corrosive to metals.
- H314 Causes severe skin burns and eye damage.
- H335 May cause respiratory irritation.
- H341 Suspected of causing genetic defects.
- H361 Suspected of damaging fertility or the unborn child.
- H410 Very toxic to aquatic life with long lasting effects.

Precautionary statements : **Prevention:**

- P260 Do not breathe dust.
- P273 Avoid release to the environment.
- P280 Wear protective gloves/ protective clothing/ eye protection/ face protection/ hearing protection.

Response:

P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water.

P304 + P340 + P310 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER/ doctor.

P305 + P351 + P338 + P310 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER/ doctor.
P391 Collect spillage.

2.3 Other hazards

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

Ecological information: The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

Toxicological information: The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

SECTION 3: Composition/information on ingredients**3.1 Substances**

Substance name : Trichloroacetic Acid (Granulated)
Index-No. : 607-004-00-7
EC-No. : 200-927-2

Components

Chemical name	CAS RN EC-No.	Concentration (% w/w)	M-Factor, SCL, ATE
Trichloroacetic Acid	76-03-9 200-927-2	>= 90 - <= 100	specific concentration limit STOT SE 3; H335 >= 1 %

SECTION 4: First aid measures**4.1 Description of first aid measures**

If inhaled : Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER or doctor/ physician.

In case of skin contact : Take off all contaminated clothing immediately.
If on skin, rinse well with water.
Get medical advice/ attention.

In case of eye contact : Rinse with plenty of water.
If easy to do, remove contact lens, if worn.
Immediately call a POISON CENTER or doctor/ physician.

If swallowed : Immediately call a POISON CENTER or doctor/ physician.
Rinse mouth.
Do NOT induce vomiting.

4.2 Most important symptoms and effects, both acute and delayed

None known.

4.3 Indication of any immediate medical attention and special treatment needed

None known.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media : Dry powder, Foam, Water spray, Carbon dioxide (CO₂)

5.2 Special hazards arising from the substance or mixture

Specific hazards during fire-fighting : No information available.

5.3 Advice for firefighters

Special protective equipment for firefighters : Use personal protective equipment.

Specific extinguishing methods : Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. Immediately evacuate personnel to safe areas. Remove undamaged containers from fire area if it is safe to do so.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Personal precautions : Wear suitable protective equipment. Keep people away from and upwind of spill/leak. Entry to non-involved personnel should be controlled around the leakage area by roping off, etc.

6.2 Environmental precautions

Environmental precautions : Should not be released into the environment.

6.3 Methods and material for containment and cleaning up

Methods for cleaning up : Pick up and arrange disposal without creating dust.

6.4 Reference to other sections

See sections: 7, 8, 11, 12 and 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Technical measures : Prevent dispersion of dust.

Local/Total ventilation : Ensure adequate ventilation.
Handle product only in closed system or provide appropriate exhaust ventilation at machinery.
Use a local exhaust ventilation.

Advice on safe handling : Avoid contact with skin, eyes and clothing.
Wear personal protective equipment.
Wash hands and face thoroughly after handling.
Keep only in original packaging.

7.2 Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers : Keep container tightly closed. Store in a refrigerator. Protect from moisture. Keep under inert gas. Store locked up.

Storage class (TRGS 510) : 8A

7.3 Specific end use(s)

Specific use(s) : No information available.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational Exposure Limits

Components	CAS RN	Value type (Form of exposure)	Control parameters	Basis
Trichloroacetic Acid	76-03-9	AGW	0,2 ppm 1,4 mg/m ³	DE TRGS 900
Peak-limit: excursion factor (category): 1;(I)				
Further information: Senate commission for the review of compounds at the work place dangerous for the health (MAK-commission)., When there is compliance with the OEL and biological tolerance values, there is no risk of harming the unborn child				
		MAK	0,2 ppm 1,4 mg/m ³	DE DFG MAK
Peak-limit: excursion factor (category): 1; I				
Further information: Damage to the embryo or foetus is unlikely when the MAK value or the BAT value is observed				

8.2 Exposure controls

Engineering measures

Install a closed system or local exhaust.
Also install safety shower and eye bath.

Personal protective equipment

Eye/face protection : Safety glasses, Safety goggles, Face-shield
Hand protection : Impervious gloves
Skin and body protection : Impervious protective clothing

Respiratory protection : Dustproof gas mask
Self-contained breathing apparatus

*Use personal protective equipment(PPE) approved under appropriate government standards and follow local and national regulations.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical state : Solid form
Colour : white
Odour : No data available
Odour Threshold : No data available

Melting point/freezing point : 58 °C
Boiling point/boiling range : 198 °C
Flammability : No data available
Upper explosion limit/Upper flammability limit : No data available
Lower explosion limit/Lower flammability limit : No data available
Flash point : No data available
Auto-ignition point : No data available
Decomposition temperature : No data available
pH : 1,2
(as aqueous solution)

Viscosity
Viscosity, dynamic : No data available
Viscosity, kinematic : No data available

Solubility(ies)
Water solubility : 13 060 g/l (25 °C)
very soluble
Solubility in other solvents : Solvent: Ether
very soluble
Solvent: Alcohol
very soluble
Solvent: Benzene
very soluble
Solvent: Acetone

very soluble

Partition coefficient: n-octanol/water (log value) : 1,7
Vapour pressure : 4 kPa (113 °C)
Relative density : No data available
Relative vapour density : 5,6
Particle characteristics : No data available

9.2 Other information

Refractive index : 1,60
Molecular weight : 163,38 g/mol

SECTION 10: Stability and reactivity

10.1 Reactivity

No data available

10.2 Chemical stability

Stable under normal conditions.

10.3 Possibility of hazardous reactions

Hazardous reactions : None under normal processing.

10.4 Conditions to avoid

Conditions to avoid : Heat, Exposure to moisture

10.5 Incompatible materials

Materials to avoid : Oxidizing agents,
Bases,
Metals,

10.6 Hazardous decomposition products

Carbon monoxide, Carbon dioxide (CO₂), Hydrogen chloride gas

SECTION 11: Toxicological information

11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008

Acute toxicity

Product:

Acute oral toxicity : Assessment: The component/mixture is minimally toxic after single ingestion.

Components:

Trichloroacetic Acid:

Acute oral toxicity : Assessment: The component/mixture is minimally toxic after single ingestion.

Acute toxicity (other routes of administration) : LDLo (Mouse): 500 mg/kg
Application Route: Intraperitoneal injection

LD50 (Mouse): 270 mg/kg
Application Route: Subcutaneous

Skin corrosion/irritation

Product:

Result : Causes severe burns.

Components:**Trichloroacetic Acid:**

Result : Causes severe burns.

Serious eye damage/eye irritation**Product:**

Result : Irreversible effects on the eye

Components:**Trichloroacetic Acid:**

Result : Irreversible effects on the eye

Respiratory or skin sensitisation : No information available.

Germ cell mutagenicity**Product:**

Germ cell mutagenicity- Assessment : Suspected of inducing heritable mutations in the germ cells of humans.

Components:**Trichloroacetic Acid:**

Germ cell mutagenicity- Assessment : Suspected of inducing heritable mutations in the germ cells of humans.

Carcinogenicity : No information available.

Reproductive toxicity**Product:**

Reproductive toxicity - Assessment : Suspected human reproductive toxicant

Components:**Trichloroacetic Acid:**

Reproductive toxicity - Assessment : Suspected human reproductive toxicant

STOT - single exposure : No information available.

STOT - repeated exposure : No information available.

Repeated dose toxicity : No information available.

Aspiration hazard : No information available.

RTECS No. : AJ7875000 (Trichloroacetic Acid)

11.2 Information on other hazards**Endocrine disrupting properties****Product:**

Assessment : The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

SECTION 12: Ecological information

12.1 Toxicity

Product:

Ecotoxicology Assessment

- Acute aquatic toxicity : Very toxic to aquatic life.
Chronic aquatic toxicity : Very toxic to aquatic life with long lasting effects.

Components:

Trichloroacetic Acid:

- Toxicity to fish : LC50 (Oryzias latipes (Japanese medaka)): 277 ppm
Exposure time: 48 h

Ecotoxicology Assessment

- Acute aquatic toxicity : Very toxic to aquatic life.
Chronic aquatic toxicity : Very toxic to aquatic life with long lasting effects.

12.2 Persistence and degradability

No data available

12.3 Bioaccumulative potential

Components:

Trichloroacetic Acid:

- Partition coefficient: n-octanol/water (log value) : 1,7

12.4 Mobility in soil

Components:

Trichloroacetic Acid:

- Distribution among environmental compartments : Koc: 1

12.5 Results of PBT and vPvB assessment

Product:

- Assessment : This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

12.6 Endocrine disrupting properties

Product:

- Assessment : The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

12.7 Other adverse effects

No data available

SECTION 13: Disposal considerations

13.1 Waste treatment methods

- Product : Disposal in accordance with local and national regulations.
Entrust disposal to a licensed waste disposal company.

Contaminated packaging : Disposal in accordance with local and national regulations.
Before disposal of used container, remove contents completely.

SECTION 14: Transport information

14.1 UN number or ID number

ADR : UN 1839
IMDG : UN 1839
IATA : UN 1839

14.2 UN proper shipping name

ADR : TRICHLOROACETIC ACID
IMDG : TRICHLOROACETIC ACID, SOLID
IATA : Trichloroacetic acid

14.3 Transport hazard class(es)

	Class	Subsidiary risks
ADR	: 8	
IMDG	: 8	
IATA	: 8	

14.4 Packing group

ADR
Packing group : II
Classification Code : C4
Hazard Identification Number : 80
Tunnel restriction code : (E)

IMDG
Packing group : II
EmS Code : F-A, S-B

IATA (Cargo)
Packing instruction (cargo aircraft) : 863
Packing instruction (LQ) : Y844
Packing group : II

IATA (Passenger)
Packing instruction (passenger aircraft) : 859
Packing instruction (LQ) : Y844
Packing group : II

14.5 Environmental hazards

ADR
Environmentally hazardous : no

14.6 Special precautions for user

The transport classification(s) provided herein are for informational purposes only, and solely based upon the properties of the unpackaged material as it is described within this Safety Data Sheet. Transportation classifications may vary by mode of transportation, package sizes, and variations in regional or country regulations.

14.7 Maritime transport in bulk according to IMO instruments

Not applicable for product as supplied.

SECTION 15: Regulatory information

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

REACH - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles (Annex XVII)	:	Conditions of restriction for the following entries should be considered: Number on list 75 If you intend to use this product as tattoo ink, please contact your vendor.
REACH - Candidate List of Substances of Very High Concern for Authorisation (Article 59).	:	Not applicable
Regulation (EC) on substances that deplete the ozone layer	:	Not applicable
Regulation (EC) No 850/2004 on persistent organic pollutants	:	Not applicable
Regulation (EU) No 649/2012 of the European Parliament and the Council concerning the export and import of dangerous chemicals	:	Not applicable
REACH - List of substances subject to authorisation (Annex XIV)	:	Not applicable
Water hazard class (Germany)	:	WGK 2 obviously hazardous to water Code Number: 197 Classification according to AwSV, Annex 1 (4)

Other regulations:

Take note of Law on the protection of mothers at work, in education and in studies (Maternity Protection Act - MuSchG).

Take note of Directive 94/33/EC on the protection of young people at work or stricter national regulations, where applicable.

The components of this product are reported in the following inventories:

CH BAGREG	:	On the inventory, or in compliance with the inventory
TSCA	:	All substances listed as active on the TSCA inventory
AICS	:	On the inventory, or in compliance with the inventory
DSL	:	All components of this product are on the Canadian DSL
ENCS	:	On the inventory, or in compliance with the inventory
ISHL	:	On the inventory, or in compliance with the inventory
KECI	:	On the inventory, or in compliance with the inventory
PICCS	:	On the inventory, or in compliance with the inventory
IECSC	:	On the inventory, or in compliance with the inventory
NZIoC	:	On the inventory, or in compliance with the inventory

15.2 Chemical safety assessment

A Chemical Safety Assessment is not required for this substance.

SECTION 16: Other information**Full text of other abbreviations**

DE DFG MAK	:	Germany. MAK BAT Annex IIa
DE TRGS 900	:	Germany. TRGS 900 - Occupational exposure limit values.
DE DFG MAK / MAK	:	MAK value
DE TRGS 900 / AGW	:	Time Weighted Average

ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways; ADR - Agreement concerning the International Carriage of Dangerous Goods by Road; AIIIC - Australian Inventory of Industrial Chemicals; ASTM - American Society for the Testing of Materials; bw - Body weight; CLP - Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECHA - European Chemicals Agency; EC-Number - European Community number; ECx - Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s. - Not Otherwise Specified; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RID - Regulations concerning the International Carriage of Dangerous Goods by Rail; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; SVHC - Substance of Very High Concern; TCSI - Taiwan Chemical Substance Inventory; TECI - Thailand Existing Chemicals Inventory; TRGS - Technical Rule for Hazardous Substances; TSCA - Toxic Substances Control Act (United States); UN - United Nations; vPvB - Very Persistent and Very Bioaccumulative

Further information

This SDS was prepared sincerely based on the information obtained, however, any warranty shall not be given regarding the data contained and the assessment of hazards and toxicity. Prior to use, please investigate not only the hazards and toxicity information but also the laws and regulations of the organization, area and country where the products are to be used, which shall be given the first priority. The products are supposed to be used promptly after purchase in consideration of safety. Some new information or amendments may be added afterwards. If the products are to be used far behind the expected time of use or you have any questions, please feel free to contact us. The stated cautions are for normal handling only. In case of special handling operations, sufficient care should be taken, in addition to the safety measures suitable for the given situation. All chemical products should be treated with the recognition of "having unknown hazards and toxicity", which differ greatly depending on the conditions and handling when in use and/or the conditions and duration of storage. The products must be handled only by those who are familiar with specialized knowledge and have experience or under the guidance of those specialists throughout use from opening to storage and disposal. Safe usage conditions shall be set up on each user's own responsibility.

DE / 6N