

Safety data sheet
according to 1907/2006/EC, Article 31

Printing date 10.05.2023

Version number 9 (replaces version 8)

Revision: 10.05.2023

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

- **1.1 Product identifier**
- **Trade name:** Trichloroacetic acid, 20 % solution
- **Article number:** 36913
- **1.2 Relevant identified uses of the substance or mixture and uses advised against**
No further relevant information available.
- **Application of the substance / the mixture:** Laboratory chemicals
- **1.3 Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
SERVA Electrophoresis GmbH
Carl-Benz-Str. 7
D-69115 Heidelberg
Tel.: +49 6221 13840-0
FAX: +49 6221 13840-10
msds.info@serva.de
- **Information department:** Product Safety department Tel.: +49 6221 13840-35
- **1.4 Emergency telephone number:**
Medical Emergency Information in case of poisoning:
Poison Information Center Mainz - Phone: +49 (0) 6131 19240
(advisory service in German or English language)

SERVA
■ serving scientists ■

SECTION 2: Hazards identification

- **2.1 Classification of the substance or mixture**
- **Classification according to Regulation (EC) No 1272/2008:**



GHS05

Skin Corr. 1A H314 Causes severe skin burns and eye damage.



GHS09

Aquatic Chronic 2 H411 Toxic to aquatic life with long lasting effects.



GHS07

STOT SE 3 H335 May cause respiratory irritation.

- **2.2 Label elements**
- **Labelling according to Regulation (EC) No 1272/2008:**
The product is classified and labelled according to the GB CLP regulation.
- **Hazard pictograms:** GHS05, GHS07, GHS09
- **Signal word:** Danger
- **Hazard-determining components of labelling:**
trichloroacetic acid
- **Hazard statements:**
H314 Causes severe skin burns and eye damage.
H335 May cause respiratory irritation.
H411 Toxic to aquatic life with long lasting effects.

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Precautionary statements

- P273 Avoid release to the environment.
- P280 Wear protective gloves/protective clothing/eye protection/face protection/hearing protection.
- P301+P330+P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
- P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].
- 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.

Labelling of packages where the contents do not exceed 125 ml
Hazard pictograms GHS05, GHS07, GHS09

Signal word Danger

Hazard-determining components of labelling:

trichloroacetic acid

Hazard statements

H314 Causes severe skin burns and eye damage.

Precautionary statements

- P280 Wear protective gloves/protective clothing/eye protection/face protection/hearing protection.
- P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].
- P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

2.3 Other hazards
Results of PBT and vPvB assessment:
PBT: PBT - assessment not available.

vPvB: vPvB - assessment not available.

Determination of endocrine-disrupting properties No further relevant information available.



SECTION 3: Composition/information on ingredients

3.2 Mixtures
Description: aqueous solution

Empirical formula:

7732-18-5	water, distilled, conductivity or of similar purity	H_2O
76-03-9	trichloroacetic acid	$C_2HCl_3O_2$

Dangerous components:

CAS: 76-03-9	trichloroacetic acid	15-30%
EINECS: 200-927-2	 Skin Corr. 1A, H314;  Aquatic Acute 1, H400; Aquatic Chronic 1, H410 Specific concentration limit: STOT SE 3; H335: C ≥ 1 %	

Additional information

the product contains no further substances which shall be indicated according to UK REACH-Regulation (Regulation (EC) No. 1907/2006).

For the wording of the listed hazard phrases refer to section 16.

SECTION 4: First aid measures

4.1 Description of first aid measures

- **General information:** Remove contaminated clothing.
- **After inhalation:** Supply fresh air; consult doctor in case of complaints.
- **After skin contact:**

Immediately wash with water and soap and rinse thoroughly. Consult doctor if you feel unwell.

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- **After eye contact:**
Rinse opened eye for several minutes under running water. Remove present contact lenses, if easy to do, and continue rinsing. Consult ophthalmologist immediately.
- **After swallowing:**
Wash out mouth instantly. Drink copious amounts of water and provide fresh air. Call for doctor immediately.
Do not induce vomiting!
- **4.2 Most important symptoms and effects, both acute and delayed**
No further relevant information available.
- **4.3 Indication of any immediate medical attention and special treatment needed**
No further relevant information available.

SECTION 5: Firefighting measures

- **5.1 Extinguishing media**
- **Suitable extinguishing agents:**
CO₂, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- **5.2 Special hazards arising from the substance or mixture:**
In case of fire, the following can be formed, but not limited to:
Hydrogen chloride (HCl)
Carbon monoxide and carbon dioxide
Phosgene gas
- **5.3 Advice for firefighters**
- **Protective equipment:** Wear self-contained respiratory protective device.

SECTION 6: Accidental release measures

- **6.1 Personal precautions, protective equipment and emergency procedures**
Wear protective clothing.
Ensure adequate ventilation
Avoid contact with the eyes and skin.
- **6.2 Environmental precautions:**
Inform respective authorities in case of seepage into water course or sewage system.
Do not allow to enter sewers/ surface or ground water.
- **6.3 Methods and material for containment and cleaning up**
Dispose contaminated material as waste according to item 13.
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
- **6.4 Reference to other sections**
See Section 7 for information on safe handling
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

SECTION 7: Handling and storage

- **7.1 Precautions for safe handling:**
Avoid contact with eyes and skin.
Ensure good ventilation/exhaustion at the workplace.
- **Information about protection against explosions and fires:** No special measures required.
- **7.2 Conditions for safe storage, including any incompatibilities**
- **Storage**
- **Requirements to be met by storerooms and receptacles:** Provide acid-resistant floor.
- **Information about storage in one common storage facility:**
Do not store together with strong oxidizing agents.
- **Further information about storage conditions:** Keep receptacle tightly sealed and store in dry conditions.

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· **7.3 Specific end use(s):** No further relevant information available.

SECTION 8: Exposure controls/personal protection

- **8.1 Control parameters**
- **Components with limit values that require monitoring at the workplace:**
The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.
- **Additional information:** The lists that were valid during the creation were used as basis.
- **8.2 Exposure controls**
- **Appropriate engineering controls:** No further data; see item 7.
- **Individual protection measures, such as personal protective equipment:**
- **General protective and hygienic measures:**
Keep away from foodstuffs, beverages and feed.
Store protective clothing separately.
Immediately remove all soiled and contaminated clothing
Avoid contact with the eyes and skin.
Wash hands before breaks and at the end of work.
- **Breathing equipment:**
Short term filter device:
Filter P2.
- **Hand protection:**
Neoprene gloves
Rubber gloves
The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
Protective gloves.
Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.
Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation
- **Material of gloves:**
The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.
The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.
- **Penetration time of glove material:**
The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.
- **For the permanent contact of a maximum of 15 minutes gloves made of the following materials are suitable:**
Chloroprene rubber, CR
Nitrile rubber, NBR
- **Eye/face protection:** Tightly sealed goggles.
- **Body protection:** Protective work clothing.

SECTION 9: Physical and chemical properties

- **9.1 Information on basic physical and chemical properties**
- **General Information:**
- **Physical state:** Fluid
- **Colour:** Colourless
- **Odour:** Acidic
- **Odour threshold:** Not determined.

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· Melting point/freezing point:	<i>no information available</i>
· Boiling point or initial boiling point and boiling range:	<i>no information available</i>
· Flammability:	<i>product is not combustible.</i>
· Lower and upper explosion limit:	
· Lower:	<i>no information available</i>
· Upper:	<i>no information available</i>
· Flash point:	<i>no information available</i>
· Decomposition temperature:	<i>no information available</i>
· pH at 20 °C:	<i><0.5</i>
· Viscosity:	
· Kinematic viscosity:	<i>no information available</i>
· Dynamic viscosity:	<i>no information available</i>
· Solubility:	
· Water:	<i>Fully miscible</i>
· Partition coefficient n-octanol/water (log value):	<i>no information available</i>
· Vapour pressure:	<i>no information available</i>
· Density and/or relative density:	
· Density:	<i>no information available</i>
· Relative density:	<i>no information available</i>

· **9.2 Other information**

· Appearance:	
· Form:	<i>Solution</i>
· Important information on protection of health and environment, and on safety:	
· Explosive properties:	<i>Product does not present an explosion hazard.</i>

SECTION 10: Stability and reactivity

- **10.1 Reactivity:** *No further relevant information available.*
- **10.2 Chemical stability:**
- **Thermal decomposition / conditions to be avoided:** *No decomposition if used according to specifications.*
- **10.3 Possibility of hazardous reactions:** *No further relevant informations available.*
- **10.4 Conditions to avoid:** *No further relevant information available.*
- **10.5 Incompatible materials:** *Avoid contact with strong oxidizers.*
- **10.6 Hazardous decomposition products:** *In case of fire: See Section 5*

SECTION 11: Toxicological information

- **11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008:**
- **Acute toxicity:** *Based on available data, the classification criteria are not met.*
- **Skin corrosion/irritation:** *Causes severe skin burns and eye damage.*
- **Serious eye damage/irritation:** *Based on available data, the classification criteria are not met.*
- **Respiratory or skin sensitisation:** *Based on available data, the classification criteria are not met.*
- **Germ cell mutagenicity:** *Based on available data, the classification criteria are not met.*
- **Carcinogenicity:** *Based on available data, the classification criteria are not met.*
- **Reproductive toxicity:** *Based on available data, the classification criteria are not met.*
- **STOT-single exposure:** *May cause respiratory irritation.*
- **STOT-repeated exposure:** *Based on available data, the classification criteria are not met.*
- **Aspiration hazard:** *Based on available data, the classification criteria are not met.*
- **11.2 Information on other hazards:**
- **Endocrine disrupting properties:** *no relevant information available*

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SECTION 12: Ecological information

- **12.1 Toxicity:**
- **Aquatic toxicity:**
CAS 76-03-9 Trichloroacetic acid / Toxicity to algae: EC50/14d (Chlorella pyrenoidosa) = 0,27 mg/l
- **12.2 Persistence and degradability:** No further relevant information available.
- **12.3 Bioaccumulative potential:** No further relevant information available.
- **12.4 Mobility in soil:** No further relevant information available.
- **12.5 Results of PBT and vPvB assessment:**
- **PBT:** PBT - assessment not available.
- **vPvB:** vPvB - assessment not available.
- **12.6 Endocrine disrupting properties:** For information on endocrine disrupting properties see section 11.
- **12.7 Other adverse effects:**
- **Additional ecological information:**
- **General notes:**
Do not allow product to reach ground water, water course or sewage system.
Water hazard class 2 (German Regulation) (Self-assessment): hazardous for water.

SECTION 13: Disposal considerations

- **13.1 Waste treatment methods**
- **Recommendation**
Disposal must be made according to official regulations.
Must not be disposed of together with household garbage. Do not allow product to reach sewage system.
- **Uncleaned packagings:**
- **Recommendation:**
Disposal of uncleaned packagings must be made according to official regulations in the same manner as the product.
- **Recommended cleansing agent:** Water, if necessary with cleansing agents.

SECTION 14: Transport information

- | | |
|--|---|
| · 14.1 UN number or ID number
· ADR, IMDG, IATA | UN2564 |
| · 14.2 UN proper shipping name
· ADR
· IMDG, IATA | 2564 TRICHLOROACETIC ACID SOLUTION,
ENVIRONMENTALLY HAZARDOUS
TRICHLOROACETIC ACID SOLUTION |
| · 14.3 Transport hazard class(es)
· ADR, IMDG, IATA | |
|  | |
| · Class:
· Label: | 8 Corrosive substances.
8 |
| · 14.4 Packing group
· ADR, IMDG, IATA | III |
| · 14.5 Environmental hazards | Not applicable. |
| · 14.6 Special precautions for user
· Hazard identification number (Kemler code): | Warning: Corrosive substances.
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· EMS Number:	F-A,S-B
· Segregation groups	(SGG1) Acids
· Stowage Category	B
· 14.7 Maritime transport in bulk according to IMO instruments	Not applicable.
· Transport/Additional information:	
· ADR	
· Limited quantities (LQ)	5L
· Excepted quantities (EQ)	Code: E1 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml
· Transport category	3
· Tunnel restriction code	E
· IMDG	
· Limited quantities (LQ)	5L
· Excepted quantities (EQ)	Code: E1 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml
· UN "Model Regulation":	UN 2564 TRICHLOROACETIC ACID SOLUTION, 8, III, ENVIRONMENTALLY HAZARDOUS

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SECTION 15: Regulatory information

- **15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**
- **Directive 2012/18/EU**
- **Named dangerous substances - ANNEX I** None of the ingredients is listed.
- **Seveso category E2** Hazardous to the Aquatic Environment
- **Qualifying quantity (tonnes) for the application of lower-tier requirements** 200 t
- **Qualifying quantity (tonnes) for the application of upper-tier requirements** 500 t
- **REGULATION (EC) No 1907/2006 ANNEX XVII** Conditions of restriction: 3

· **DIRECTIVE 2011/65/EU on the restriction of the use of certain hazardous substances in electrical and electronic equipment – Annex II**

None of the ingredients is listed.

· **REGULATION (EU) 2019/1148**

· **Annex I - RESTRICTED EXPLOSIVES PRECURSORS (Upper limit value for the purpose of licensing under Article 5(3))**

None of the ingredients is listed.

· **Annex II - REPORTABLE EXPLOSIVES PRECURSORS**

None of the ingredients is listed.

· **Regulation (EC) No 273/2004 on drug precursors**

None of the ingredients is listed.

· **Regulation (EC) No 111/2005 laying down rules for the monitoring of trade between the Community and third countries in drug precursors**

None of the ingredients is listed.

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· **National regulations:**

· **Technical instructions (air):**

Class	Share in %
Wasser	60-80
I	15-30

- **Water hazard class:** Water hazard class 2 (Self-assessment): hazardous for water.
- **15.2 Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

SECTION 16: Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· **Relevant phrases**

H314 Causes severe skin burns and eye damage.

H400 Very toxic to aquatic life.

H410 Very toxic to aquatic life with long lasting effects.

· **Department issuing SDS:** Product safety department

· **Contact:** +49 6221 13840-35

· **Date of previous version:** 23.03.2021

· **Version number of previous version:** 8

· **Abbreviations and acronyms:**

RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)

ICAO: International Civil Aviation Organisation

PBT: persistent, bioaccumulative, toxic substance (UK REACH)

vPvB: very persistent, very bioaccumulative substance (UK REACH)

UK REACH: Regulation concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals

GB CLP: Regulation on classification, labelling and packaging of substances and mixtures

bw: body weight

ADR: Accord relatif au transport international des marchandises dangereuses par route (European Agreement Concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

GHS: Globally Harmonised System of Classification and Labelling of Chemicals

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

Skin Corr. 1A: Skin corrosion/irritation – Category 1A

STOT SE 3: Specific target organ toxicity (single exposure) – Category 3

Aquatic Acute 1: Hazardous to the aquatic environment - acute aquatic hazard – Category 1

Aquatic Chronic 1: Hazardous to the aquatic environment - long-term aquatic hazard – Category 1

Aquatic Chronic 2: Hazardous to the aquatic environment - long-term aquatic hazard – Category 2