

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

Printing date 13.03.2012

Version number 1

Revision: 13.03.2012

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

1.1. Product identifier

- Trade name: Trichloroacetic acid
- Synonyma TCA

SERVA
Electrophoresis

- Article number: 36910

- CAS Number:

76-03-9

- EC number:

200-927-2

- Index number:

607-004-00-7

- Registration number 01-2119485186-30

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

- Application of the substance / the preparation 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: +49 6131 19240 (university hospital Mainz)

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 Acute 1 H400 Very toxic to aquatic life.

Aquatic Chronic 1 H410 Very toxic to aquatic life with long lasting effects.



GHS07

STOT SE 3 H335 May cause respiratory irritation.

- Classification according to Directive 67/548/EEC or Directive 1999/45/EC



C; Corrosive

R35: Causes severe burns.



Xi; Irritant

R37: Irritating to respiratory system.



N; Dangerous for the environment

(Contd. on page 2)

GB

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 13.03.2012

Version number 1

Revision: 13.03.2012

Trade name: Trichloroacetic acid

(Contd. of page 1)

R50/53: Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

· **Classification system:**

The classification was made according to the latest editions of the EU-lists, and expanded upon from company and literature data.

· **2.2. Label elements**

· **Labelling according to Regulation (EC) No 1272/2008**

The substance is classified and labelled according to the CLP regulation.

· **Hazard pictograms** GHS05, GHS07, GHS09

· **Signal word** Danger

· **Hazard statements**

H314 Causes severe skin burns and eye damage.

H335 May cause respiratory irritation.

H410 Very toxic to aquatic life with long lasting effects.

· **Precautionary statements**

P273 Avoid release to the environment.

P280 Wear protective gloves/protective clothing/eye protection/face protection.

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

P304+P340 IF INHALED: Remove victim to fresh air and keep at rest in a position 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.

P405 Store locked up.

· **2.3. Other hazards**

· **Results of PBT and vPvB assessment**

· **PBT:** PBT - assessment not available.

· **vPvB:** vPvB - assessment not available.

3 Composition/information on ingredients

· **3.1. Chemical characterization: Substances**

· **CAS No. Description:**

76-03-9 trichloroacetic acid

· **Identification number(s):**

· **EC number:** 200-927-2

· **Index number:** 607-004-00-7

· **Description:**

· **Empirical formula:** C₂HCl₃O₂

· **MW:** 163,4

4 First aid measures

· **4.1. Description of first aid measures**

· **General information** Remove contaminated clothing.

· **After inhalation** Supply fresh air and to be sure call for a doctor.

· **After skin contact** Immediately wash with water and soap and rinse thoroughly.

· **After eye contact**

Rinse opened eye for several minutes under running water. Remove present contact lenses, if easy to do, and continue rinsing.

· **After swallowing**

Drink copious amounts of water and provide fresh air. Call for doctor immediately.

Do not induce vomiting - risk of chemical burns!

· **Information for doctor**

· **4.2. Most important symptoms and effects, both acute and delayed**

No further relevant information available.

(Contd. on page 3)

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

Printing date 13.03.2012

Version number 1

Revision: 13.03.2012

Trade name: Trichloroacetic acid

(Contd. of page 2)

- **4.3. Indication of any immediate medical attention and special treatment needed**
No further relevant information available.

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 released:
Hydrogen chloride (HCl)
Phosgene gas
- **5.3. Advice for firefighters**
- **Protective equipment:** Wear self-contained respiratory protective device.
- **Additional information**
Dispose of fire debris and contaminated fire fighting water in accordance with official regulations.

6 Accidental release measures

- **6.1. Personal precautions, protective equipment and emergency procedures**
Wear protective equipment. Keep unprotected persons away.
- **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:**
Use neutralizing agent.
Dispose contaminated material as waste according to item 13.
Ensure adequate ventilation.
- **6.4. Reference to other sections**
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

7 Handling and storage

- **Handling**
- **7.1. Precautions for safe handling**
Open and handle receptacle with care.
Ensure good ventilation/exhaustion at the workplace.
Thorough dedusting.
- **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:** Store only in unopened original receptacles.
- **Information about storage in one common storage facility:** Store away from oxidizing agents.
- **Further information about storage conditions:**
Store in cool, dry conditions in well sealed receptacles.
Store receptacle in a well ventilated area.
- **7.3. Specific end use(s)** No other specific uses as mentioned in section 1.2..

8 Exposure controls/personal protection

- **Additional information about design of technical systems:** No further data; see item 7.
- **8.1. Control parameters**
- **Components with limit values that require monitoring at the workplace:** Not required.

(Contd. on page 4)

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

Printing date 13.03.2012

Version number 1

Revision: 13.03.2012

Trade name: Trichloroacetic acid

(Contd. of page 3)

- **Additional information:** The lists that were valid during the creation were used as basis.
- **8.2. Exposure controls**
- **Personal protective equipment**
- **General protective and hygienic measures**
Keep away from foodstuffs, beverages and feed.
Immediately remove all soiled and contaminated clothing
Wash hands before breaks and at the end of work.
Avoid contact with the eyes and skin.
- **Breathing equipment:**
Short term filter device:
Filter A/P2.
- **Protection of hands:**
Protective gloves.
The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
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.
- **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:**
Butyl rubber, BR
Chloroprene rubber, CR
- **Eye protection:** Tightly sealed goggles.
- **Body protection:** Protective work clothing.

9 Physical and chemical properties

· 9.1. Information on basic physical and chemical properties

· General Information

· Appearance:

Form:	Crystalline
Colour:	White
Odour:	Acidic

· **pH-value (50 g/l) at 20°C:** < 1

· Change in condition

Melting point/Melting range: 57 - 59°C
Boiling point/Boiling range: 198°C

· **Flash point:** Not applicable

· **Flammability (solid, gaseous)** Product is not flammable.

· **Danger of explosion:** Product does not present an explosion hazard.

· **Vapour pressure at 20°C:** 0.1 hPa

· **Density:** Not determined

· **Bulk density at 20°C:** ca. 900 kg/m³

· Solubility in / Miscibility with

Water at 20°C: 1200 g/l

(Contd. on page 5)

GB

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

Printing date 13.03.2012

Version number 1

Revision: 13.03.2012

Trade name: Trichloroacetic acid

(Contd. of page 4)

· **9.2. Other information** No further relevant information available.

10 Stability and reactivity

- **10.1. Reactivity** No further relevant informations 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:**
 - Bases
 - Metals
- **10.6. Hazardous decomposition products:**
 - Hydrogen chloride (HCl)
 - Carbon monoxide
 - Phosgen

11 Toxicological information

- **11.1. Information on toxicological effects**
 - **Acute toxicity:**
- | | | |
|---|------|------------------|
| · LD/LC50 values that are relevant for classification: | | |
| Oral | LD50 | 3320 mg/kg (rat) |
- **Primary irritant effect:**
 - **on the skin:** Strong caustic effect on skin and mucous membranes.
 - **on the eye:** Strong caustic effect.
 - **Sensitization:** No sensitizing effects known.
 - **Additional toxicological information:**
 - Swallowing will lead to a strong caustic effect on mouth and throat and to the danger of perforation of esophagus and stomach.
 - **Acute effects (acute toxicity, irritation and corrosivity)** Respiratory irritation is possible.

12 Ecological information

- **12.1. Toxicity**
- | | |
|----------------------------|-------------------|
| · Aquatic toxicity: | |
| EC50/48h | >1000 mg/l (Fish) |
- **12.2. Persistence and degradability** No further relevant information available.
 - **Other information:**
 - The product is difficultly biodegradable.
 - 59 % (20 d); OECD 302 B
 - **Behaviour in environmental systems:**
 - **12.3. Bioaccumulative potential** No further relevant information available.
 - **12.4. Mobility in soil** No further relevant information available.
 - **Ecotoxicological effects:**
 - **Remark:**
 - Very toxic for fish
 - LC 50 / 48 h (Leuciscus idus): > 1000 mg / l
 - **Additional ecological information:**
 - **General notes:**
 - Water hazard class 2 (German Regulation) (Assessment by list): hazardous for water.
 - Do not allow product to reach ground water, water course or sewage system.
 - Must not reach sewage water or drainage ditch undiluted or unneutralized.

(Contd. on page 6)

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

Printing date 13.03.2012

Version number 1

Revision: 13.03.2012

Trade name: Trichloroacetic acid

(Contd. of page 5)

Danger to drinking water if even small quantities leak into the ground.

Very toxic for aquatic organisms



Rinse off of bigger amounts into drains or the aquatic environment may lead to decreased pH-values. A low pH-value harms aquatic organisms. In the dilution of the use-level the pH-value is considerably increased, so that after the use of the product the aqueous waste, emptied into drains, is only low water-dangerous.

- **12.5. Results of PBT and vPvB assessment**
- **PBT:** PBT - assessment not available.
- **vPvB:** vPvB - assessment not available.
- **12.6. Other adverse effects** Toxicity to bacteria (test criterium EC0): >200 mg/l

13 Disposal considerations

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

14 Transport information

· 14.1. UN-Number · ADR, IMDG, IATA	UN1839
· 14.2. UN proper shipping name · ADR · IMDG · IATA	1839 TRICHLOROACETIC ACID TRICHLOROACETIC ACID Trichloroacetic acid
· 14.3. Transport hazard class(es) · ADR 	8 Corrosive substances. 8
· IMDG, IATA 	8 Corrosive substances. 8
· 14.4. Packing group · ADR, IMDG, IATA	II
· 14.5. Environmental hazards: · Special marking (ADR):	Environmentally hazardous substance, solid; Marine Pollutant Symbol (fish and tree)
· 14.6. Special precautions for user · Danger code (Kemler): · EMS Number:	Warning: Corrosive substances. 80 F-A,S-B

(Contd. on page 7)

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

Printing date 13.03.2012

Version number 1

Revision: 13.03.2012

Trade name: Trichloroacetic acid

(Contd. of page 6)

· Segregation groups	Acids
· 14.7. Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code	Not applicable.
· Transport/Additional information:	
· ADR	
· Tunnel restriction code	E
· UN "Model Regulation":	UN1839, TRICHLOROACETIC ACID, 8, II

15 Regulatory information

- 15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture
- National regulations
- Technical instructions (air):

Class	Share in %
I	100.0

- Water hazard class: Water hazard class 2 (Assessment by list): hazardous for water.
- 15.2. Chemical safety assessment: A Chemical Safety Assessment has been carried out.

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.

- Department issuing MSDS: Product safety department
- Contact: +49 6221 13840-35
- Abbreviations and acronyms:
 - PBT: persistent, bioaccumulative, toxic substance (REACH)
 - vPvB: very persistent, very bioaccumulative substance (REACH)
 - REACH: Regulation concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals
 - CLP: Regulation on classification, labelling and packaging of substances and mixtures
 - ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
 - RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)
 - IMDG: International Maritime Code for Dangerous Goods
 - IATA: International Air Transport Association
 - ICAO: International Civil Aviation Organization
 - GHS: Globally Harmonized System of Classification and Labelling of Chemicals
 - EINECS: European Inventory of Existing Commercial Chemical Substances
 - CAS: Chemical Abstracts Service (division of the American Chemical Society)
 - LC50: Lethal concentration, 50 percent
 - LD50: Lethal dose, 50 percent
- * Data compared to the previous version altered.

GB