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

Printing date 01.12.2011 *Version number 1* *Revision: 29.11.2011*

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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**
· **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)

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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.

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


C; Corrosive

R35: Causes severe burns.


N; Dangerous for the environment

R51/53: Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
· **Information concerning particular hazards for human and environment:**
The product has to be labelled due to the calculation procedure of the "General Classification guideline for preparations of the EU" in the latest valid version.
· **Classification system:**
The classification was made according to the latest editions of the EU-lists, and expanded upon fom company and literature data.

· **2.2. Label elements**
· **Labelling according to Regulation (EC) No 1272/2008**
The product is classified and labelled according to the CLP regulation.
· **Hazard pictograms** GHS05, GHS07, GHS09
· **Signal word** Danger

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· ***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.
· ***Precautionary statements***
P273 Avoid release to the environment.
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.
P301+P330+P331 IF SWALLOWED: rinse mouth. Do NOT induce vomiting.
P363 Wash contaminated clothing before reuse.
· ***2.3. Other hazards***
· ***Results of PBT and vPvB assessment***
· ***PBT:*** *Not applicable.*
· ***vPvB:*** *Not applicable.*

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3 Composition/information on ingredients

· ***3.2. Chemical characterization: Mixtures***
· ***Description:*** *Mixture of the substances listed below with harmless additions.*

· ***Dangerous components:***

CAS: 76-03-9 *EINECS: 200-927-2*	*trichloroacetic acid* *C R35; Xi R37; N R50/53* *Skin Corr. 1A, H314; Aquatic Acute 1, H400; Aquatic Chronic 1, H410; STOT SE 3, H335*	*15-30%*

· ***Additional information*** *For the wording of the listed risk phrases refer to section 16.*

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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 rinse with water.*
· ***After eye contact*** *Rinse opened eye for several minutes under running water. Then consult doctor.*
· ***After swallowing*** *Drink copious amounts of water and provide fresh air. Call for doctor immediately.*
· ***Information for doctor***
· ***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.

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5 Firefighting measures

· ***5.1. Extinguishing media***
· ***Suitable extinguishing agents*** *Use fire fighting measures that suit the environment.*
· ***5.2. Special hazards arising from the substance or mixture*** *No further relevant information available.*

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· ***5.3. Advice for firefighters***
· ***Protective equipment:*** *Mount respiratory protective device.*

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6 Accidental release measures

· ***6.1. Personal precautions, protective equipment and emergency procedures***
Wear protective equipment. Keep unprotected persons away.
· ***6.2. Environmental precautions:***
Dilute with plenty of water.
Do not allow to enter sewers/ surface or ground water.
Inform respective authorities in case of seepage into water course or sewage system.
· ***6.3. Methods and material for containment and cleaning up:***
Use neutralizing agent.
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
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.

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7 Handling and storage

· ***Handling***
· ***7.1. Precautions for safe handling***
Work only in fume cupboard.
Ensure good ventilation/exhaustion at the workplace.
Prevent formation of aerosols.
· ***Information about protection against explosions and fires:*** *The product is not flammable*

· ***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:*** *Not required.*
· ***Further information about storage conditions:*** *Keep receptacle tightly sealed.*
· ***7.3. Specific end use(s)*** *No further relevant information available.*

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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:***
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***
· ***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.
Do not inhale gases / fumes / aerosols.
Avoid contact with the eyes and skin.
· ***Breathing equipment:***
Short term filter device:
Filter P2.

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· ***Protection of hands:***
Neoprene gloves
Rubber 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. 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 trough 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 protection:*** *Tightly sealed goggles.*
· ***Body protection:*** *Protective work clothing.*

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9 Physical and chemical properties

· ***9.1. Information on basic physical and chemical properties***	
· ***General Information***	
· ***Appearance:***	
Form:	*Fluid*
Colour:	*Colourless*
· ***Odour:***	*Acidic*
· ***pH-value at 20°C:***	*< 0.5*
· ***Change in condition***	
Melting point/Melting range:	*undetermined*
Boiling point/Boiling range:	*undetermined*
· ***Flash point:***	*Not applicable*
· ***Self igniting:***	*Product is not selfigniting.*
· ***Danger of explosion:***	*Product does not present an explosion hazard.*
· ***Vapour pressure at 20°C:***	*0.1 hPa*
· ***Density at 20°C:***	*1.083 g/cm³*
· ***Solubility in / Miscibility with***	
Water:	*Fully miscible*
· ***Solvent content:***	
Organic solvents:	*0.0 %*
· ***VOC %:***	*0.00 %*
· ***Solids content:***	*20.0 %*
· ***9.2. Other information***	*No further relevant information available.*

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10 Stability and reactivity

· ***10.1. Reactivity***
· ***10.2. Chemical stability***
· ***Thermal decomposition / conditions to be avoided:*** *No decomposition if used according to specifications.*
· ***10.3. Possibility of hazardous reactions*** *No dangerous reactions known*
· ***10.4. Conditions to avoid*** *No further relevant information available.*
· ***10.5. Incompatible materials:*** *No further relevant information available.*
· ***10.6. Hazardous decomposition products:*** *No dangerous decomposition products known*

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11 Toxicological information

· ***11.1. Information on toxicological effects***
· ***Acute toxicity:***

· ***LD/LC50 values that are relevant for classification:***		
76-03-9 trichloroacetic acid		
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:***
The product shows the following dangers according to the calculation method of the General EU Classification Guidelines for Preparations as issued in the latest version:
Corrosive
Swallowing will lead to a strong caustic effect on mouth and throat and to the danger of perforation of esophagus and stomach.

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12 Ecological information

· ***12.1. Toxicity***
· ***Acquatic toxicity:*** *No further relevant information available.*
· ***12.2. Persistence and degradability*** *No further relevant information available.*
· ***Behaviour in environmental systems:***
· ***12.3. Bioaccumulative potential*** *No further relevant information available.*
· ***12.4. Mobility in soil*** *No further relevant information available.*
· ***Ecotoxical effects:***
· ***Remark:*** *Toxic for fish*
· ***Additional ecological information:***
· ***General notes:***
Water hazard class 2 (German Regulation) (Self-assessment): 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.
Danger to drinking water if even small quantities leak into the ground.
Also poisonous for fish and plankton in water bodies.
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*** *No further relevant information available.*

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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.*

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14 Transport information

· **14.1. UN-Number**	
· **ADR, IMDG, IATA**	2564
· **14.2. UN proper shipping name**	
· **ADR**	2564 TRICHLOROACETIC ACID SOLUTION
· **IMDG, IATA**	TRICHLOROACETIC ACID SOLUTION
· **14.3. Transport hazard class(es)**	
· **ADR**	
· **Class**	8 Corrosive substances.
· **Label**	8
· **IMDG, IATA**	
· **Class**	8 Corrosive substances.
· **Label**	8
· **14.4. Packing group**	
· **ADR, IMDG, IATA**	III
· **14.5. Environmental hazards:**	
· **Marine pollutant:**	No
· **Special marking (ADR):**	Symbol (fish and tree)
· **14.6. Special precautions for user**	Warning: Corrosive substances.
· **Danger code (Kemler):**	80
· **EMS Number:**	F-A,S-B
· **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":**	UN2564, TRICHLOROACETIC ACID SOLUTION, 8, III

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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	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.*

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.
H335 May cause respiratory irritation.
H400 Very toxic to aquatic life.
H410 Very toxic to aquatic life with long lasting effects.

R35 Causes severe burns.
R37 Irritating to respiratory system.
R50/53 Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

· ***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
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
· **** Data compared to the previous version altered.***