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

Printing date 13.03.2012 Version number 1 Revision: 13.03.2012

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

· **1.1. Product identifier**

· **Trade name:** **Ethylenediamine tetraacetic acid**
· **Synonyma** EDTA

· **Article number:** 11278
· **CAS Number:**
60-00-4
· **EC number:**
200-449-4
· **Index number:**
607-429-00-8
· **Registration number** 01-2119486399-18
· **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**

GHS07

Eye Irrit. 2 H319 Causes serious eye irritation.

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

Xi; Irritant

R36: Irritating to eyes.
· **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 substance is classified and labelled according to the CLP regulation.
· **Hazard pictograms** GHS07
· **Signal word** Warning
· **Hazard statements**
H319 Causes serious eye irritation.
· **Precautionary statements**

P280	Wear protective gloves/protective clothing/eye protection/face protection.
P261	Avoid breathing dust.
P264	Wash thoroughly after handling.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P337+P313	If eye irritation persists: Get medical advice/attention.

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

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3 Composition/information on ingredients

· **3.1. Chemical characterization: Substances**
· **CAS No. Description:**
60-00-4 edetic acid
· **Identification number(s):**
· **EC number:** 200-449-4
· **Index number:** 607-429-00-8
· **Description:**
· **Empirical formula:** $C_{10}H_{16}N_2O_8$
· **MW:** 292,3

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4 First aid measures

· **4.1. Description of first aid measures**
· **After inhalation** Supply fresh air; consult doctor in case of complaints.
· **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.
· **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**
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:
Nitrogen oxides (NOx)
Carbon monoxide and carbon dioxide
· **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.

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6 Accidental release measures

· **6.1. Personal precautions, protective equipment and emergency procedures** Wear protective clothing.
· **6.2. Environmental precautions:**
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:** Pick up mechanically.
· **6.4. Reference to other sections**
See Section 8 for information on personal protection equipment.

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See Section 13 for disposal information.

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7 Handling and storage

· **Handling**
· **7.1. Precautions for safe handling**
Ensure good ventilation/exhaustion at the workplace.
Prevent formation of dust.
· **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:** No special requirements.
· **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:** Not required.
· **DNELs**
workers: long term exposure-systemic effects, dernal: 400 mg/kg/Tag
Worker: Long term exposition - systemic effect, inhalation: 394 mg/m³
Population: Long term exposition - systemic effect, dermal: 200 mg/kg/Tag
Population: Long term exposition - systemic effect, inhalation: 70 mg/m³
Population: Long term exposition - systemic effect, oral: 100 mg/m³
· **PNECs**
Freshwater: 17 mg/l
Seawater: 1,7 mg/l
Sporadic release: 1,2 mg/l
Soil: 3,41 mg/l
Sewage plant: 11,0 mg/l
· **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 P2.
· **Protection of hands:**
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.

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· **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:**
Natural rubber, NR
· **Eye protection:** Safety glasses
· **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:	Crystalline powder
Colour:	White
· **Odour:**	Product specific
· **pH-value (10 g/l) at 20°C:**	2.3 - 3.3
· **Change in condition**	
Melting point/Melting range:	220°C
Boiling point/Boiling range:	undetermined
· **Flash point:**	> 100°C
· **Flammability (solid, gaseous)**	Product is not flammable.
· **Ignition temperature:**	> 200°C
· **Danger of explosion:**	Product does not present an explosion hazard.
· **Vapour pressure at 20°C:**	< 0.013 hPa
· **Density at 20°C:**	0.86 g/cm³
· **Bulk density at 20°C:**	720 - 920 kg/m³
· **Solubility in / Miscibility with**	
Water at 20°C:	0.5 g/l
· **9.2. Other information**	No further relevant information available.

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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**
As the product is supplied it is not capable of dust explosion; however enrichment with fine dust causes risk of dust explosion
· **10.4. Conditions to avoid** No further relevant information available.
· **10.5. Incompatible materials:** Light metals
· **10.6. Hazardous decomposition products:**
Carbon monoxide and carbon dioxide
Nitrogen oxides (NOx)

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11 Toxicological information

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

· **LD/LC50 values that are relevant for classification:**		
Oral	LD50	> 2000 mg/kg (rat)
	LC50/96h	>100 mg/l (Fish)

· **Primary irritant effect:**
· **on the skin:** No irritant effect.
· **on the eye:** Irritating effect.
· **Sensitization:** No sensitizing effects known.
· **Other information (about experimental toxicology):**
LC 50 (rat) inhalation: 1000 - 5000 mg/m³ 6h (OECD - regulation 403)

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12 Ecological information

· **12.1. Toxicity**

· **Aquatic toxicity:**	
EC50/48h	> 100 mg/l (Daphnia magna)

· **12.2. Persistence and degradability** No further relevant information available.
· **Other information:** The product is difficultly biodegradable.
· **Behaviour in environmental systems:**
· **12.3. Bioaccumulative potential** No further relevant information available.
· **12.4. Mobility in soil** No further relevant information available.
· **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.
Danger to drinking water if even small quantities leak into the ground.
· **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.

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.

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14 Transport information

· **14.1. UN-Number**	
· **ADR, ADN, IMDG, IATA**	Void
· **14.2. UN proper shipping name**	
· **ADR, ADN, IMDG, IATA**	Void
· **14.3. Transport hazard class(es)**	
· **ADR, IMDG, IATA**	
· **Class**	Void

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· **Label**	-
· **ADN/R Class:**	Void
· **14.4. Packing group**	
· **ADR, IMDG, IATA**	Void
· **14.5. Environmental hazards:**	
· **Marine pollutant:**	No
· **14.6. Special precautions for user**	Not applicable.
· **14.7. Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code**	Not applicable.
· **Transport/Additional information:**	Not dangerous according to the above specifications.
· **UN "Model Regulation":**	-

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15 Regulatory information

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

· **National regulations**

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

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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)
DNEL: Derived No-Effect Level (REACH)
PNEC: Predicted No-Effect Concentration (REACH)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
· *** Data compared to the previous version altered.**