

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

Printing date 12.12.2011

Version number 1

Revision: 12.12.2011

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

### 1.1. Product identifier

· Trade name: Lead citrate-3H<sub>2</sub>O

· Article number: 15158

· CAS Number:

6107-83-1

· EC number:

208-141-1

· Index number:

082-001-00-6

· 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)

**SERVA**  
Electrophoresis

## 2 Hazards identification

· 2.1. Classification of the substance or mixture

· Classification according to Regulation (EC) No 1272/2008



GHS08

Repr. 1A            H360Df    May damage the unborn child. Suspected of damaging fertility.

STOT RE 2        H373      May cause damage to organs through prolonged or repeated exposure.



GHS09

Aquatic Acute 1    H400     Very toxic to aquatic life.

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



GHS07

Acute Tox. 4        H302     Harmful if swallowed.

Acute Tox. 4        H332     Harmful if inhaled.

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



T; Toxic

Repr. Cat. 1, 3

R61:                May cause harm to the unborn child.



Xn; Harmful

R62-20/22:        Possible risk of impaired fertility. Harmful by inhalation and if swallowed.

(Contd. on page 2)

GB

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(Contd. of page 1)



N; Dangerous for the environment

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

R33: Danger of cumulative effects.

· **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** GHS07, GHS08, GHS09

· **Signal word** Danger

· **Hazard statements**

H302 Harmful if swallowed.

H332 Harmful if inhaled.

H360Df May damage the unborn child. Suspected of damaging fertility.

H373 May cause damage to organs through prolonged or repeated exposure.

H410 Very toxic to aquatic life with long lasting effects.

Contains lead. Should not be used on surfaces liable to be chewed or sucked by children.

· **Precautionary statements**

P201 Obtain special instructions before use.

P273 Avoid release to the environment.

P281 Use personal protective equipment as required.

P301+P312 IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.

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

P330 Rinse mouth.

· **2.3. Other hazards**

· **Results of PBT and vPvB assessment**

· **PBT:** Not applicable.

· **vPvB:** Not applicable.

### 3 Composition/information on ingredients

· **3.1. Chemical characterization: Substances**

· **CAS No. Description:**

6107-83-1 trilead dicitrate trihydrate

· **Identification number(s):**

· **EC number:** 208-141-1

· **Index number:** 082-001-00-6

· **Description:**

· **Empirical formula:** C<sub>12</sub>H<sub>10</sub>O<sub>14</sub>Pb<sub>3</sub> \* 3 H<sub>2</sub>O

· **MW:** 1053,9

### 4 First aid measures

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

· **General information**

Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.

· **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. If symptoms persist, consult doctor.

(Contd. on page 3)

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(Contd. of page 2)

- **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.

## 5 Firefighting measures

- **5.1. Extinguishing media**
- **Suitable extinguishing agents**  
CO<sub>2</sub>, 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:  
Carbon monoxide (CO)  
In certain fire conditions, traces of other toxic gases cannot be excluded.
- **5.3. Advice for firefighters**
- **Protective equipment:** Wear self-contained respiratory protective device.

## 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.  
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**  
Thorough dedusting.  
Ensure good ventilation/exhaustion at the workplace.  
Open and handle receptacle with care.
- **Information about protection against explosions and fires:** Keep respiratory protective device available.
- **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.  
Store under lock and key and with access restricted to technical experts or their assistants only.
- **7.3. Specific end use(s)** No further relevant information available.

## 8 Exposure controls/personal protection

- **Additional information about design of technical systems:** No further data; see item 7.

(Contd. on page 4)

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**Trade name: Lead citrate-3H<sub>2</sub>O**

(Contd. of page 3)

- **8.1. Control parameters**
- **Components with limit values that require monitoring at the workplace:** Not required.
- **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.  
Store protective clothing separately.
- **Breathing equipment:**  
Short term filter device:  
Filter P3.
- **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:**  
Nitrile rubber, NBR  
Chloroprene rubber, CR
- **Eye protection:** Safety glasses
- **Body protection:** Protective work clothing.

## \* 9 Physical and chemical properties

- **9.1. Information on basic physical and chemical properties**
- **General Information**
- **Appearance:**

<b>Form:</b>	Powder
<b>Colour:</b>	White
<b>Odour:</b>	uncharacteristic
- **pH-value (1 g/l) at 20°C:** 5.7
- **Change in condition**

<b>Melting point/Melting range:</b> (Dec.) 256 °C
<b>Boiling point/Boiling range:</b> undetermined
- **Flash point:** Not applicable
- **Flammability (solid, gaseous)** Product is not flammable.
- **Danger of explosion:** Product does not present an explosion hazard.
- **Density:** Not determined
- **Solubility in / Miscibility with**

<b>Water:</b>	Soluble
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(Contd. on page 5)

GB

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(Contd. of page 4)

· **9.2. Other information**      *There are no more data available.*

**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** *Reacts with strong oxidizing agents*
- **10.4. Conditions to avoid** *No further relevant information available.*
- **10.5. Incompatible materials:** *No further relevant information available.*
- **10.6. Hazardous decomposition products:**  
*Irritant gases/vapours*  
*Poisonous gases/vapours*

**11 Toxicological information**

- **11.1. Information on toxicological effects**
- **Acute toxicity:**
- **Primary irritant effect:**
- **on the skin:** *No irritant effect.*
- **on the eye:** *No irritating effect.*
- **Sensitization:** *No sensitizing effects known.*
- **CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)**  
*Repr. 1A*

**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.*
- **Ecotoxicological effects:**
- **Remark:** *Very toxic for fish*
- **Additional ecological information:**
- **General notes:**  
*Water danger class 3 (German Regulation) (Self-assessment): extremely hazardous for water.*  
*Do not allow product to reach ground water, water course or sewage system, even in small quantities.*  
*Danger to drinking water if even extremely small quantities leak into the ground.*  
*Also poisonous for fish and plankton in water bodies.*  
*Very toxic for aquatic organisms*
- **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 be specially treated adhering to official regulations.*  
*Must not be disposed of together with household garbage. Do not allow product to reach sewage system.*

(Contd. on page 6)

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(Contd. of page 5)

- **Uncleaned packagings:**
- **Recommendation:** Disposal must be made according to official regulations.
- **Recommended cleansing agent:** Water, if necessary with cleansing agents.

### 14 Transport information

· <b>14.1. UN-Number</b> · <b>ADR, IMDG, IATA</b>	2291
· <b>14.2. UN proper shipping name</b> · <b>ADR</b>  · <b>IMDG</b>  · <b>IATA</b>	2291 LEAD COMPOUND, SOLUBLE, N.O.S. (trilead dicitrate trihydrate) LEAD COMPOUND, SOLUBLE, N.O.S. (LEAD CITRATE, TRIHYDRATE) Lead compound, soluble, n.o.s. (Lead citrate; trihydrate)
· <b>14.3. Transport hazard class(es)</b>  · <b>ADR</b>	
	
· <b>Class</b> · <b>Label</b>	6.1 Toxic substances. 6.1
· <b>IMDG</b>	
	
· <b>Class</b> · <b>Label</b>	6.1 Toxic substances. 6.1
· <b>IATA</b>	
	
· <b>Class</b> · <b>Label</b>	6.1 Toxic substances. 6.1
· <b>14.4. Packing group</b> · <b>ADR, IMDG, IATA</b>	III
· <b>14.5. Environmental hazards:</b>  · <b>Marine pollutant:</b>  · <b>Special marking (ADR):</b>	Environmentally hazardous substance, solid; Marine Pollutant Yes (P) Symbol (fish and tree) Symbol (fish and tree)
· <b>14.6. Special precautions for user</b> · <b>Danger code (Kemler):</b> · <b>EMS Number:</b>	Warning: Toxic substances. 60 F-A,S-A
· <b>14.7. Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code</b>	Not applicable.

(Contd. on page 7)

GB

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(Contd. of page 6)

**· Transport/Additional information:****· ADR****· Tunnel restriction code**

E

**· UN "Model Regulation":**

UN2291, LEAD COMPOUND, SOLUBLE, N.O.S., 6.1, III

**15 Regulatory information****· 15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture****· National regulations****· Information about limitation of use:**

Employment restrictions concerning pregnant and lactating women must be observed.

Employment restrictions concerning women of child-bearing age must be observed.

**· Technical instructions (air):**

Class	Share in %
I	80-100

**· Water hazard class:** Water danger class 3 (Self-assessment): extremely 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.*

**· 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

P: Marine Pollutant

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)

**· \* Data compared to the previous version altered.**

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