

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

Printing date 24.11.2011

Version number 1

Revision: 05.08.2011

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

- **1.1. Product identifier**
- **Trade name:** Guanidine-HCl
- **Article number:** 24205
- **CAS Number:**  
50-01-1
- **EC number:**  
200-002-3
- **Index number:**  
607-148-00-0
- **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

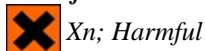
- **2.1. Classification of the substance or mixture**
- **Classification according to Regulation (EC) No 1272/2008**



GHS07

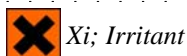
Acute Tox. 4 H302 Harmful if swallowed.  
Skin Irrit. 2 H315 Causes skin irritation.  
Eye Irrit. 2 H319 Causes serious eye irritation.

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



Xn; Harmful

R22: Harmful if swallowed.



Xi; Irritant

R36/38: Irritating to eyes and skin.

- **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
- **Signal word** Warning
- **Hazard statements**  
H302 Harmful if swallowed.  
H315 Causes skin irritation.  
H319 Causes serious eye irritation.

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**· Precautionary statements**

- P280 Wear protective gloves/protective clothing/eye protection/face protection.  
 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.  
 P301+P312 **IF SWALLOWED:** Call a POISON CENTER or doctor/physician if you feel unwell.  
 P302+P352 **IF ON SKIN:** Wash with plenty of soap and water.  
 P330 Rinse mouth.

**· 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:**  
50-01-1 guanidinium chloride
- **Identification number(s):**
- **EC number:** 200-002-3
- **Index number:** 607-148-00-0
- **Description:**
- **Empirical formula:**  $C_2H_5N_3 \cdot HCl$
- **MW:** 95,5

**\* 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 rinse with water.

**· After eye contact**

Rinse opened eye for several minutes under running water. If symptoms persist, 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.

**\* 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:

Nitrogen oxides (NO<sub>x</sub>)

Hydrogen chloride (HCl)

Carbon monoxide and carbon dioxide

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- **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.
- **6.3. Methods and material for containment and cleaning up:**  
Pick up mechanically.  
Dispose contaminated material as waste according to item 13.
- **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** Prevent formation of dust.
- **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:** Store only in the original receptacle.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:**  
Keep receptacle tightly sealed.  
Store in dry conditions.  
This product is hygroscopic.
- **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.
- **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.  
Avoid contact with the eyes and skin.
- **Breathing equipment:**  
Short term filter device:  
Filter 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

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- **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:**  
Chloroprene rubber, CR  
Nitrile rubber, NBR
- **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:**

Form:	Crystalline powder
Colour:	White
Odour:	Odourless
- **pH-value (573 g/l) at 20°C:** 5.2
- **Change in condition**

Melting point/Melting range:	187°C
Boiling point/Boiling range:	undetermined
- **Flash point:** Not applicable
- **Flammability (solid, gaseous)** Product is not flammable.
- **Danger of explosion:** Product does not present an explosion hazard.
- **Density at 20°C:** 1.34 g/cm<sup>3</sup>
- **Bulk density at 20°C:** 550 - 620 kg/m<sup>3</sup>
- **Solubility in / Miscibility with**

Water at 20°C:	573 g/l
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- **Segregation coefficient (n-octanol/water) at 20°C:**  $\leq -1.7$  log POW (OECD Guide-line 107)
- **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** moisture
- **10.5. Incompatible materials:** Avoid contact with strong oxidizers and reducing agents.
- **10.6. Hazardous decomposition products:**  
Carbon monoxide and carbon dioxide  
Nitrogen oxides (NO<sub>x</sub>)  
Hydrogen chloride (HCl)

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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	475 mg/kg (rat)
Dermal	LD50	> 2000 mg/kg (rabbit)
Inhalative	LC50/4h	5.3 mg/l (rat)

· **Primary irritant effect:**

· **on the skin:** Irritant to skin and mucous membranes.

· **on the eye:** Irritating effect.

· **Sensitization:** No sensitizing effects known.

### 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.

· **Additional ecological information:**

· **General notes:**

Water hazard class 1 (German Regulation) (Assessment by list): slightly hazardous for water.

Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.

· **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.

· **Recommended cleansing agent:** Water, if necessary with cleansing agents.

### 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, ADN, IMDG, IATA**

· **Class** Void

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

**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 1 (Assessment by list): slightly 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  
 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.**

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