

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

Printing date 28.11.2011

Version number 1

Revision: 28.11.2011

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

### 1.1. Product identifier

· Trade name: Phenol

· Article number: 32046

· CAS Number:

108-95-2

· EC number:

203-632-7

· Index number:

604-001-00-2

· 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



GHS06

Acute Tox. 3 H301 Toxic if swallowed.

Acute Tox. 3 H311 Toxic in contact with skin.

Acute Tox. 3 H331 Toxic if inhaled.



GHS08

Muta. 2 H341 Suspected of causing genetic defects.

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



GHS05

Skin Corr. 1B H314 Causes severe skin burns and eye damage.

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



T; Toxic

R23/24/25: Toxic by inhalation, in contact with skin and if swallowed.



C; Corrosive

R34: Causes burns.

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**Xn; Harmful**

R48/20/21/22-68: *Harmful: danger of serious damage to health by prolonged exposure through inhalation, in contact with skin and if swallowed. Possible risk of irreversible effects.*

Muta. Cat. 3

· **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, GHS06, GHS08

· **Signal word** Danger

· **Hazard statements**

H301 Toxic if swallowed.

H311 Toxic in contact with skin.

H331 Toxic if inhaled.

H314 Causes severe skin burns and eye damage.

H341 Suspected of causing genetic defects.

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

· **Precautionary statements**

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

P301+P310 IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.

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:**

108-95-2 phenol

· **Identification number(s):**

· **EC number:** 203-632-7

· **Index number:** 604-001-00-2

· **Description:**

· **Empirical formula:** C<sub>6</sub>H<sub>6</sub>O

· **MW:** 94,1

### \* 4 First aid measures

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

· **General information**

Remove contaminated clothing.

Remove breathing apparatus only after contaminated clothing have been completely removed.

In case of irregular breathing or respiratory arrest provide artificial respiration.

· **After inhalation** Supply fresh air or oxygen; call for doctor.

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- **After skin contact**  
Immediately wash with water and soap and rinse thoroughly.  
Wash with polyethylene glycol 400 and then rinse with copious amounts of water.
- **After eye contact** Rinse opened eye for several minutes under running water. Then consult doctor.
- **After swallowing** Do not induce vomiting; call for medical help 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**  
Can form explosive gas-air mixtures.  
Formation of dangerous gases or vapours is possible in case of fire.
- **5.3. Advice for firefighters**
- **Protective equipment:**  
Wear self-contained respiratory protective device.  
Wear fully protective suit.

## 6 Accidental release measures

- **6.1. Personal precautions, protective equipment and emergency procedures**  
Wear protective equipment. Keep unprotected persons away.
- **6.2. Environmental precautions:** 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**  
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:**  
Store in cool, dry place in tightly closed receptacles.  
Store only in the original receptacle.
- **Information about storage in one common storage facility:**  
Do not store together with strong oxidizing agents.
- **Further information about storage conditions:**  
Store under lock and key and with access restricted to technical experts or their assistants only.  
Keep receptacle tightly sealed.  
This product is hygroscopic.

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- Protect from exposure to the light.
- **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:**

**108-95-2 phenol (80-100%)**

WEL ()	Long-term value: 2 ppm
	Sk

- **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.
  - Avoid contact with the eyes and skin.
- **Breathing equipment:**
  - Short term filter device:
  - Filter A/P2.
  - In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use respiratory protective device that is independent of circulating air.
- **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:**
  - Rubber gloves
  - Neoprene gloves
- **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:**

<b>Form:</b>	Crystalline
<b>Colour:</b>	Colourless
<b>Odour:</b>	Characteristic

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· <b>pH-value (50 g/l) at 20°C:</b>	ca. 5
· <b>Change in condition</b>	
<b>Melting point/Melting range:</b>	40°C
<b>Boiling point/Boiling range:</b>	181°C
· <b>Flash point:</b>	81°C
· <b>Flammability (solid, gaseous)</b>	Product is not flammable.
· <b>Ignition temperature:</b>	595°C
· <b>Danger of explosion:</b>	Product does not present an explosion hazard.
· <b>Explosion limits:</b>	
<b>Lower:</b>	1.3 Vol %
<b>Upper:</b>	9.5 Vol %
· <b>Vapour pressure at 20°C:</b>	0.2 hPa
· <b>Density at 20°C:</b>	1.0567 g/cm <sup>3</sup>
· <b>Bulk density at 20°C:</b>	ca. 62 kg/m <sup>3</sup>
· <b>Solubility in / Miscibility with</b>	
<b>Water at 20°C:</b>	82 g/l
· <b>Alcohols:</b>	Readily soluble
· <b>Segregation coefficient (n-octanol/water) at 30°C:</b>	1.47 log POW
· <b>Viscosity:</b>	
<b>dynamic at 50°C:</b>	3.437 mPas
· <b>9.2. Other information</b>	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**
  - Reacts with oxidizing agents
  - Strong exothermic reaction with acids
  - Reacts with alkali (lyes)
  - Danger of explosion with:
    - nitrites, nitrites, peroxid compounds, strong oxidizing agents
- **10.4. Conditions to avoid** No further relevant information available.
- **10.5. Incompatible materials:**
  - Halogens
  - Aldehydes
  - Hydrogen peroxide
  - Fe(III) - compounds
- **10.6. Hazardous decomposition products:** No dangerous decomposition products known

## 11 Toxicological information

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

· **LD/LC50 values that are relevant for classification:**

Oral	LD50	300 mg/kg (Maus)
		317 mg/kg (rat)

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Dermal	LD50	670 mg/kg (rat)
Inhalative	LC50/4 h	316 mg/l (rat)

- **Primary irritant effect:**
- **on the skin:** 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.
- **CMR effects (carcinogenity, mutagenicity and toxicity for reproduction)**  
Muta. 2

## 12 Ecological information

- **12.1. Toxicity**
- **Acquatic toxicity:** No further relevant information available.
- **12.2. Persistence and degradability** No further relevant information available.
- **Other information:** The product is 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.  
Must not reach sewage water or drainage ditch undiluted or unneutralized.  
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.

## 14 Transport information

- |  |                    |
|--|--------------------|
| · <b>14.1. UN-Number</b>               |                    |
| · <b>ADR, IMDG, IATA</b>               | UN1671             |
| · <b>14.2. UN proper shipping name</b> |                    |
| · <b>ADR</b>                           | 1671 PHENOL, SOLID |
| · <b>IMDG</b>                          | PHENOL, SOLID      |
| · <b>IATA</b>                          | Phenol, solid      |

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## · 14.3. Transport hazard class(es)

## · ADR



- Class 6.1 Toxic substances.
- Label 6.1

## · IMDG, IATA



- Class 6.1 Toxic substances.
- Label 6.1

## · 14.4. Packing group

- ADR, IMDG, IATA II

## · 14.5. Environmental hazards:

- Marine pollutant: No

## · 14.6. Special precautions for user

- Warning: Toxic substances.
- Danger code (Kemler): 60
- EMS Number: F-A,S-A

## · 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 D/E
- UN "Model Regulation": UN1671, PHENOL, SOLID, 6.1, 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 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)

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*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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