

Safety Data Sheet

acc. to OSHA HCS

Printing date 05/03/2018

Reviewed on 09/23/2008

1 Identification

- **Product identifier**
- **Trade name:** Phenol
- **Article number:** 32046
- **CAS Number:**
108-95-2
- **EC number:**
203-632-7
- **Index number:**
604-001-00-2
- **Application of the substance / the mixture** Laboratory chemicals
- **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
- **Emergency telephone number:**
Medical Emergency Information in case of poisoning:
Poison Information Center Mainz - Phone: +49 (0) 6131 19240
(advisory service in German or English language)



2 Hazard(s) identification

- **Classification of the substance or mixture**



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.

- **Label elements**
- **GHS label elements**
The substance is classified and labeled according to the Globally Harmonized System (GHS).
- **Hazard pictograms** GHS05, GHS06, GHS08
- **Signal word** Danger
- **Hazard statements**
Toxic if swallowed, in contact with skin or if inhaled.

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*Causes severe skin burns and eye damage.**Suspected of causing genetic defects.**May cause damage to organs through prolonged or repeated exposure.***· Precautionary statements***Obtain special instructions before use.**Do not handle until all safety precautions have been read and understood.**Do not breathe dusts or mists.**Wash thoroughly after handling.**Do not eat, drink or smoke when using this product.**Use only outdoors or in a well-ventilated area.**Wear protective gloves/protective clothing/eye protection/face protection.**IF SWALLOWED: Immediately call a POISON CENTER/ doctor.**If swallowed: Rinse mouth. Do NOT induce vomiting.**If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.**IF INHALED: Remove person to fresh air and keep comfortable for breathing.**If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.**Continue rinsing.**IF exposed or concerned: Get medical advice/attention.**Call a POISON CENTER/doctor if you feel unwell.**Get medical advice/attention if you feel unwell.**Specific treatment (see on this label).**Take off immediately all contaminated clothing and wash it before reuse.**Store in a well-ventilated place. Keep container tightly closed.**Store locked up.**Dispose of contents/container in accordance with local/regional/national/international regulations.***· Classification system:****· NFPA ratings (scale 0 - 4)**

Health = 3

Fire = 2

Reactivity = 0

· HMIS-ratings (scale 0 - 4)

Health = *3

Fire = 2

Reactivity = 0

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

3 Composition/information on ingredients

· 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:** C₆H₆O**· MW:** 94.1

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4 First-aid measures

- **Description of first aid measures**
- **General information:**
Immediately remove any clothing soiled by the product.
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.
- **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 a doctor.
- **After swallowing:** Do not induce vomiting; immediately call for medical help.
- **Information for doctor:**
- **Most important symptoms and effects, both acute and delayed** No further relevant information available.
- **Indication of any immediate medical attention and special treatment needed**
No further relevant information available.

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5 Fire-fighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:**
CO₂ extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- **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.
- **Advice for firefighters**
- **Protective equipment:**
Wear self-contained respiratory protective device.
Wear fully protective suit.

6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**
Wear protective equipment. Keep unprotected persons away.
- **Environmental precautions:** Do not allow to enter sewers/ surface or ground water.
- **Methods and material for containment and cleaning up:**
Use neutralizing agent.
Dispose contaminated material as waste according to item 13.
Ensure adequate ventilation.
- **Reference to other sections**
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

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7 Handling and storage

- **Handling:**
- **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.

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- **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.
Protect from exposure to the light.
- **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.
- **Control parameters**

· Components with limit values that require monitoring at the workplace:

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

PEL ()	Long-term value: 19 mg/m ³ , 5 ppm Skin
REL ()	Short-term value: C60* mg/m ³ , C 15.6* ppm Long-term value: 19 mg/m ³ , 5 ppm *15-min; Skin
TLV ()	Long-term value: 19 mg/m ³ , 5 ppm Skin; BEI

· Ingredients with biological limit values:

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

BEI ()	250 mg/g creatinine Medium: urine Time: end of shift Parameter: Phenol with hydrolysis (background, nonspecific)
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- **Additional information:** The lists that were valid during the creation were used as basis.
- **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.

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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

- **Information on basic physical and chemical properties**

- **General Information**

- **Appearance:**

Form: Crystalline

Color: Colorless

- **Odor:** Characteristic

- **pH-value (50 g/l) at 20 °C (68 °F):** ca. 5

- **Change in condition**

Melting point/Melting range: 40 °C (104 °F)

Boiling point/Boiling range: 181 °C (358 °F)

- **Flash point:** 81 °C (178 °F)

- **Flammability (solid, gaseous):** Product is not flammable.

- **Ignition temperature:** 595 °C (1103 °F)

- **Danger of explosion:** Product does not present an explosion hazard.

- **Explosion limits:**

Lower: 1.3 Vol %

Upper: 9.5 Vol %

- **Vapor pressure at 20 °C (68 °F):** 0.2 hPa

- **Density at 20 °C (68 °F):** 1.0567 g/cm³ (8.818 lbs/gal)

- **Bulk density at 20 °C (68 °F):** ca. 62 kg/m³

- **Solubility in / Miscibility with**

Water at 20 °C (68 °F): 82 g/l

- **Alcohols:** Readily soluble.

- **Partition coefficient (n-octanol/water) at 30 °C (86 °F):**

1.47 log POW

- **Viscosity:**

Dynamic at 50 °C (122 °F): 3.437 mPas

- **Other information** No further relevant information available.

10 Stability and reactivity

- **Reactivity** No further relevant informations available

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- **Chemical stability**
- **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
- **Possibility of hazardous reactions**
 - Reacts with oxidizing agents.
 - Strong exothermic reaction with acids.
 - Reacts with alkali (lyes).
 - Danger of explosion with:
 - nitrates, nitrites, peroxid compounds, strong oxidizing agents
- **Conditions to avoid** No further relevant information available.
- **Incompatible materials:**
 - Halogens
 - Aldehydes
 - Hydrogen peroxide
 - Fe(III) - compounds
- **Hazardous decomposition products:** No dangerous decomposition products known.

11 Toxicological information

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

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

Oral	LD50	300 mg/kg (Maus)
		317 mg/kg (rat)
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.
- **Carcinogenic categories**
 - **IARC (International Agency for Research on Cancer)** 3
 - **NTP (National Toxicology Program)** Substance is not listed.
 - **OSHA-Ca (Occupational Safety & Health Administration)** Substance is not listed.

12 Ecological information

- **Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **Persistence and degradability** No further relevant information available.
- **Other information:** The product is biodegradable.
- **Behavior in environmental systems:**
 - **Bioaccumulative potential** No further relevant information available.
 - **Mobility in soil** No further relevant information available.
- **Additional ecological information:**
- **General notes:**
 - Water hazard class 2 (Assessment by list): hazardous for water
 - Do not allow product to reach ground water, water course or sewage system.
 - Must not reach bodies of water or drainage ditch undiluted or unneutralized.
 - Danger to drinking water if even small quantities leak into the ground.
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.

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- **vPvB:** Not applicable.
- **Other adverse effects** No further relevant information available.

13 Disposal considerations

- **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

- **UN-Number**
- **DOT, ADR, IMDG, IATA** UN1671
- **UN proper shipping name**
- **ADR** 1671 PHENOL, SOLID
- **IMDG** PHENOL, SOLID
- **IATA** Phenol, solid
- **Transport hazard class(es)**
- **DOT**
- 
- **Class** 6.1 Toxic substances
- **Label** 6.1
- **ADR, IMDG, IATA**
- 
- **Class** 6.1 Toxic substances
- **Label** 6.1
- **Packing group**
- **DOT, ADR, IMDG, IATA** II
- **Environmental hazards:**
- **Marine pollutant:** No
- **Special precautions for user** Warning: Toxic substances
- **Danger code (Kemler):** 60
- **EMS Number:** F-A,S-A
- **Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code** Not applicable.
- **UN "Model Regulation":** UN1671, PHENOL, SOLID, 6.1, II

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15 Regulatory information

- **Safety, health and environmental regulations/legislation specific for the substance or mixture**
- **Section 355 (extremely hazardous substances):** Substance is listed.
- **Section 313 (Specific toxic chemical listings):** Substance is listed.
- **TSCA (Toxic Substances Control Act):** Substance is listed.
- **Proposition 65** Substance is not listed.
- **Chemicals known to cause cancer:** Substance is not listed.
- **Chemicals known to cause reproductive toxicity for females:** Substance is not listed.
- **Chemicals known to cause reproductive toxicity for males:** Substance is not listed.
- **Chemicals known to cause developmental toxicity:** Substance is not listed.
- **Carcinogenicity categories**
- **EPA (Environmental Protection Agency) D**
- **TLV (Threshold Limit Value established by ACGIH) A4**
- **NIOSH-Ca (National Institute for Occupational Safety and Health)** Substance is not listed.
- **GHS label elements**
The substance is classified and labeled according to the Globally Harmonized System (GHS).
- **Hazard pictograms** GHS05, GHS06, GHS08
- **Signal word** Danger
- **Hazard statements**
Toxic if swallowed, in contact with skin or if inhaled.
Causes severe skin burns and eye damage.
Suspected of causing genetic defects.
May cause damage to organs through prolonged or repeated exposure.
- **Precautionary statements**
Obtain special instructions before use.
Do not handle until all safety precautions have been read and understood.
Do not breathe dusts or mists.
Wash thoroughly after handling.
Do not eat, drink or smoke when using this product.
Use only outdoors or in a well-ventilated area.
Wear protective gloves/protective clothing/eye protection/face protection.
IF SWALLOWED: Immediately call a POISON CENTER/ doctor.
If swallowed: Rinse mouth. Do NOT induce vomiting.
If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
IF INHALED: Remove person to fresh air and keep comfortable for breathing.
If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
IF exposed or concerned: Get medical advice/attention.
Call a POISON CENTER/doctor if you feel unwell.
Get medical advice/attention if you feel unwell.
Specific treatment (see on this label).
Take off immediately all contaminated clothing and wash it before reuse.
Store in a well-ventilated place. Keep container tightly closed.
Store locked up.
Dispose of contents/container in accordance with local/regional/national/international regulations.
- **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 SDS:** Product safety department
- **Contact:** +49 6221 13840-35
- **Date of preparation / last revision** 05/03/2018 / 4

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· Abbreviations and acronyms:

RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)

ICAO: International Civil Aviation Organisation

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)

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

ACGIH: American Conference of Governmental Industrial Hygienists

EINECS: European Inventory of Existing Commercial Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

NFPA: National Fire Protection Association (USA)

HMIS: Hazardous Materials Identification System (USA)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

NIOSH: National Institute for Occupational Safety

OSHA: Occupational Safety & Health

TLV: Threshold Limit Value

PEL: Permissible Exposure Limit

REL: Recommended Exposure Limit

BEI: Biological Exposure Limit

Acute Tox. 3: Acute toxicity – Category 3

Skin Corr. 1B: Skin corrosion/irritation – Category 1B

Muta. 2: Germ cell mutagenicity – Category 2

STOT RE 2: Specific target organ toxicity (repeated exposure) – Category 2

· * Data compared to the previous version altered.

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