

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

Printing date 02.12.2011

Version number 1

Revision: 02.12.2011

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

1.1. Product identifier

· Trade name: Formaldehyde 37 % solution in water

· Article number: 43807

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



GHS02

Flam. Liq. 3 H226 Flammable liquid and vapour.



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

Carc. 2 H351 Suspected of causing cancer.

STOT SE 1 H370 Causes damage to organs.



GHS05

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



GHS07

Skin Sens. 1 H317 May cause an allergic skin reaction.

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



T; Toxic

R23/24/25-39: Toxic by inhalation, in contact with skin and if swallowed. Danger of very serious irreversible effects.

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 **Xn; Harmful**

R40-68/20/21/22: *Limited evidence of a carcinogenic effect. Harmful: possible risk of irreversible effects through inhalation, in contact with skin and if swallowed.*

 **Xi; Irritant**

R36/37/38: *Irritating to eyes, respiratory system and skin.*

 **Xi; Sensitising**

R43: *May cause sensitisation by skin contact.*

· **Information concerning particular hazards for human and environment:**

The product has to be labelled due to the calculation procedure of the "General Classification guideline for preparations of the EU" in the latest valid version.

· **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 product is classified and labelled according to the CLP regulation.

· **Hazard pictograms** GHS02, GHS05, GHS06, GHS08

· **Signal word** Danger

· **Hazard-determining components of labelling:**

formaldehyde

methanol

· **Hazard statements**

H226 Flammable liquid and vapour.

H301 Toxic if swallowed.

H311 Toxic in contact with skin.

H331 Toxic if inhaled.

H314 Causes severe skin burns and eye damage.

H317 May cause an allergic skin reaction.

H351 Suspected of causing cancer.

H370 Causes damage to organs.

· **Precautionary statements**

P201 Obtain special instructions before use.

P210 Keep away from heat/sparks/open flames/hot surfaces. - No smoking.

P281 Use personal protective equipment as required.

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.

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

· **3.2. Chemical characterization: Mixtures**

· **Description:** Mixture of the substances listed below with harmless additions.

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

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· Dangerous components:		
CAS: 67-56-1 EINECS: 200-659-6	methanol  T R23/24/25-39/23/24/25;  F R11  Flam. Liq. 2, H225;  Acute Tox. 3, H301; Acute Tox. 3, H311; Acute Tox. 3, H331;  STOT SE 1, H370	15-30%
CAS: 50-00-0 EINECS: 200-001-8	formaldehyde  T R23/24/25;  C R34;  Xn R40;  Xi R43 Carc. Cat. 3  Acute Tox. 3, H301; Acute Tox. 3, H311; Acute Tox. 3, H331;  Carc. 2, H351;  Skin Corr. 1B, H314;  Skin Sens. 1, H317	15-30%

· **Additional information** For the wording of the listed risk phrases refer to section 16.

4 First aid measures

- **4.1. Description of first aid measures**
- **After inhalation** Supply fresh air or oxygen; call for 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. 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.

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** No further relevant information available.
- **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 equipment. Keep unprotected persons away.
- **6.2. Environmental precautions:**
Do not allow to enter sewers/ surface or ground water.
Dilute with plenty of water.
- **6.3. Methods and material for containment and cleaning up:**
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
Use neutralizing agent.
Dispose contaminated material as waste according to item 13.
Ensure adequate ventilation.
- **6.4. 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**

- **7.1. Precautions for safe handling**

Ensure good ventilation/exhaustion at the workplace.

Open and handle receptacle with care.

Prevent formation of aerosols.

- **Information about protection against explosions and fires:**

Protect from heat.

Protect against electrostatic charges.

- **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:** Store away from oxidizing agents.

· **Further information about storage conditions:** Store in cool, dry conditions in well sealed receptacles.

· **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:**

50-00-0 formaldehyde (15-30%)

WEL () Short-term value: 2.5 mg/m³, 2 ppm

Long-term value: 2.5 mg/m³, 2 ppm

· **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 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.

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. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

- **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.

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- **For the permanent contact of a maximum of 15 minutes gloves made of the following materials are suitable:**
Nitrile rubber, NBR
Chloroprene rubber, CR
Butyl rubber, BR
- **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:

· Form:	Liquid
· Colour:	Colourless
· Odour:	Pungent
· Odour threshold:	Not determined.

· **pH-value:** Not determined.

· Change in condition

· Melting point/Melting range:	undetermined
· Boiling point/Boiling range:	100°C

· **Flash point:** 56°C

· **Flammability (solid, gaseous)** Not applicable.

· Ignition temperature:

· **Decomposition temperature:** Not determined.

· **Self igniting:** Product is not selfigniting.

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

· Explosion limits:

· Lower:	7 Vol %
· Upper:	70 Vol %

· **Vapour pressure at 39°C:** 53 hPa

· Density:	Not determined
· Relative density	Not determined.
· Vapour density	Not determined.
· Evaporation rate	Not determined.

· Solubility in / Miscibility with

· **Water:** Fully miscible

· **Segregation coefficient (n-octanol/water):** Not determined.

· Viscosity:

· dynamic:	Not determined.
· kinematic:	Not determined.

· Solvent content:

· Organic solvents:

· VOC %:	27.39 %
· VOC g/l:	340.7 g/l

· **9.2. Other information** There are no more data 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** Danger of polymerisation
- **10.4. Conditions to avoid** Ignition sources
- **10.5. Incompatible materials:** Avoid contact with: strong oxidizers, strong acids, strong alkali
- **10.6. Hazardous decomposition products:** No dangerous decomposition products known
- **Additional information:** Contains as a stabilizer Methanol ($\geq 8\%$ - $< 15\%$).

11 Toxicological information

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

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

67-56-1 methanol

Oral	LD50	13000 mg/kg (rat)
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50-00-0 formaldehyde

Oral	LD50	>200 mg/kg (rat)
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- **Primary irritant effect:**
- **on the skin:** Strong caustic effect on skin and mucous membranes.
- **on the eye:** Strong caustic effect.
- **Sensitization:** Sensitization possible through skin contact.
- **Additional toxicological information:**
The product shows the following dangers according to the calculation method of the General EU Classification Guidelines for Preparations as issued in the latest version:
Toxic
Corrosive
Irritant
Swallowing will lead to a strong caustic effect on mouth and throat and to the danger of perforation of esophagus and stomach.

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 2 (German Regulation) (Self-assessment): 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.

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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, IMDG, IATA	UN1198
· 14.2. UN proper shipping name · ADR · IMDG · IATA	1198 FORMALDEHYDE SOLUTION, FLAMMABLE FORMALDEHYDE SOLUTION, FLAMMABLE Formaldehyde solution, flammable
· 14.3. Transport hazard class(es) · ADR	
	
· Class · Label	3 Flammable liquids. 3+8
· IMDG, IATA	
	
· Class · Label	3 Flammable liquids. 3+8
· 14.4. Packing group · ADR, IMDG, IATA	III
· 14.5. Environmental hazards: · Marine pollutant:	No
· 14.6. Special precautions for user · Danger code (Kemler): · EMS Number:	Warning: Flammable liquids. 38 F-A,S-B
· 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":	UN1198, FORMALDEHYDE SOLUTION, FLAMMABLE, 3 (8), III

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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 %
Wasser	15-30
I	15-30
III	15-30

· **Water hazard class:** Water hazard class 2 (Self-assessment): 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.

· **Relevant phrases**

H225 Highly flammable liquid and vapour.

H301 Toxic if swallowed.

H311 Toxic in contact with skin.

H314 Causes severe skin burns and eye damage.

H317 May cause an allergic skin reaction.

H331 Toxic if inhaled.

H351 Suspected of causing cancer.

H370 Causes damage to organs.

R11 Highly flammable.

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

R34 Causes burns.

R39/23/24/25 Toxic: danger of very serious irreversible effects through inhalation, in contact with skin and if swallowed.

R40 Limited evidence of a carcinogenic effect.

R43 May cause sensitisation by skin contact.

· **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

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

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