

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

Printing date 03.05.2018

Version number 4

Revision: 03.05.2018

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

· **1.1 Product identifier**

- **Trade name:** Paraformaldehyde
- **Synonyma** Polyoxymethylene



· **Article number:** 31628

· **CAS Number:**
30525-89-4

· **1.2 Relevant identified uses of the substance or mixture and uses advised against**
No further relevant information available.

· **Application of the substance / the mixture** 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:**

Medical Emergency Information in case of poisoning:
Poison Information Center Mainz - Phone: +49 (0) 6131 19240
(advisory service in German or English language)

SECTION 2: Hazards identification

· **2.1 Classification of the substance or mixture**

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



GHS02

Flam. Sol. 2 H228 Flammable solid.



GHS08

Carc. 2 H351 Suspected of causing cancer.



GHS07

Acute Tox. 4 H302 Harmful if swallowed.

Acute Tox. 4 H332 Harmful if inhaled.

Skin Irrit. 2 H315 Causes skin irritation.

Eye Irrit. 2 H319 Causes serious eye irritation.

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

STOT SE 3 H335 May cause respiratory irritation.

· **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** GHS02, GHS07, GHS08

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- **Signal word** Warning
- **Hazard statements**
 - H228 Flammable solid.
 - H302+H332 Harmful if swallowed or if inhaled.
 - H315 Causes skin irritation.
 - H319 Causes serious eye irritation.
 - H317 May cause an allergic skin reaction.
 - H351 Suspected of causing cancer.
 - H335 May cause respiratory irritation.
- **Precautionary statements**
 - P201 Obtain special instructions before use.
 - P261 Avoid breathing dust/fume/gas/mist/vapours/spray.
 - P264 Wash thoroughly after handling.
 - P280 Wear protective gloves/protective clothing/eye protection/face protection.
 - P302+P352 IF ON SKIN: Wash with plenty of water.
 - P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- **2.3 Other hazards**
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.

SECTION 3: Composition/information on ingredients

- **3.1 Chemical characterisation: Substances**
- **CAS No. Description:**
30525-89-4 paraformaldehyde
- **Identification number(s):** -
- **Description:**
- **Empirical formula:** (C H₂ O)_n
- **MW:** (30.0)_n

SECTION 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.
- **After swallowing** Drink copious amounts of water and provide fresh air. Call for doctor immediately.
- **4.2 Most important symptoms and effects, both acute and delayed**
Breathing difficulty
Coughing
Nausea
Gastric or intestinal disorders.
- **4.3 Indication of any immediate medical attention and special treatment needed**
No further relevant information available.

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SECTION 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**
Formation of toxic gases is possible during heating or in case of fire.
In case of fire, the following can be formed, but not limited to:
Carbon monoxide (CO)
Formaldehyde
- **5.3 Advice for firefighters**
- **Protective equipment:** Mount respiratory protective device.

SECTION 6: Accidental release measures

- **6.1 Personal precautions, protective equipment and emergency procedures**
Avoid formation of dust.
Ensure adequate ventilation
- **6.2 Environmental precautions:**
Do not allow to enter sewers/ surface or ground water.
Suppress gases/fumes/haze with water spray.
- **6.3 Methods and material for containment and cleaning up:**
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.

SECTION 7: Handling and storage

- **7.1 Precautions for safe handling**
Thorough dedusting.
Ensure good ventilation/exhaustion at the workplace.
- **Information about protection against explosions and fires:** No special measures required.
- **7.2 Conditions for safe storage, including any incompatibilities**
- **Storage**
- **Requirements to be met by storerooms and receptacles:**
Store only in unopened original receptacles.
Unsuitable material for receptacle: metal
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:**
Keep receptacle tightly sealed.
Protect from humidity and water.
Protect from heat and direct sunlight.
- **7.3 Specific end use(s)** No further relevant information available.

SECTION 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.

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- **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
- **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:**
Natural rubber, NR
Nitrile rubber, NBR
- **Eye protection:** Safety glasses
- **Body protection:** Protective work clothing.

SECTION 9: Physical and chemical properties

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

Form:	Crystalline
Colour:	White
Odour:	Characteristic
- **pH-value (10 g/l) at 20 °C:** 4.0 - 5.5 (Suspension)
- **Change in condition**

Melting point/freezing point:	ca. 130 °C
Initial boiling point and boiling range:	undetermined
- **Flash point:** 70 °C
- **Flammability (solid, gaseous)** Product is not flammable.
- **Ignition temperature:** 380 °C
- **Explosive properties:** Product does not present an explosion hazard.
- **Explosion limits:**

Lower:	7 Vol %
Upper:	73 Vol %
- **Vapour pressure at 20 °C:** 1.5-2 hPa

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· Density at 20 °C:	1.39 g/cm ³
· Bulk density at 20 °C:	500 - 800 kg/m ³
· Solubility in / Miscibility with Water:	Slightly soluble
· 9.2 Other information	No further relevant information available.

SECTION 10: Stability and reactivity

- **10.1 Reactivity** No further relevant information 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 alkali, amines and strong acids
Reactions with strong oxidizing agents
Risk of dust explosion
- **10.4 Conditions to avoid** No further relevant information available.
- **10.5 Incompatible materials:** No further relevant information available.
- **10.6 Hazardous decomposition products:**
Formaldehyde
Carbon monoxide and carbon dioxide

SECTION 11: Toxicological information

- **11.1 Information on toxicological effects**
 - **Acute toxicity**
Harmful if swallowed or if inhaled.
- | | | |
|---|----------|------------------------|
| · LD/LC50 values that are relevant for classification: | | |
| Oral | LD50 | 800 mg/kg (rat) |
| Inhalative | LC50/4h | 1.07 mg/l (rat) |
| | LC50/96h | 46 - 78 mg/l (Forelle) |
- **Primary irritant effect:**
 - **Skin corrosion/irritation**
Causes skin irritation.
 - **Serious eye damage/irritation**
Causes serious eye irritation.
 - **Respiratory or skin sensitisation**
May cause an allergic skin reaction.
 - **CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)**
 - **Germ cell mutagenicity** Based on available data, the classification criteria are not met.
 - **Carcinogenicity**
Suspected of causing cancer.
 - **Reproductive toxicity** Based on available data, the classification criteria are not met.
 - **STOT-single exposure**
May cause respiratory irritation.
 - **STOT-repeated exposure** Based on available data, the classification criteria are not met.
 - **Aspiration hazard** Based on available data, the classification criteria are not met.

SECTION 12: Ecological information

- **12.1 Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **12.2 Persistence and degradability** No further relevant information available.

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- **Other information:** The product is rapidly biodegradable.
- **12.3 Bioaccumulative potential** No further relevant information available.
- **12.4 Mobility in soil** No further relevant information available.
- **Ecotoxicological effects:**
- **Remark:** EC50 / 24 h (*Daphnia magna*): 42 mg / l
- **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.
Danger to drinking water if even small quantities leak into the ground.
Bactericidal effect
- **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.

SECTION 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.

SECTION 14: Transport information

- | | |
|---|--|
| · 14.1 UN-Number | UN2213 |
| · ADR, IMDG, IATA | |
| · 14.2 UN proper shipping name | 2213 PARAFORMALDEHYDE |
| · ADR | PARAFORMALDEHYDE |
| · IMDG | Paraformaldehyde |
| · IATA | |
| · 14.3 Transport hazard class(es) | |
| · ADR, IMDG, IATA | |
|  | |
| · Class | 4.1 Flammable solids, self-reactive substances and solid desensitised explosives. |
| · Label | 4.1 |
| · 14.4 Packing group | III |
| · ADR, IMDG, IATA | |
| · 14.5 Environmental hazards: | |
| · Marine pollutant: | No |
| · 14.6 Special precautions for user | Warning: Flammable solids, self-reactive substances and solid desensitised explosives. |
| · Danger code (Kemler): | 40 |
| · EMS Number: | F-A,S-G |

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- | | |
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| · 14.7 Transport in bulk according to Annex II of Marpol and the IBC Code | Not applicable. |
| · Transport/Additional information: | |
| · ADR | |
| · Limited quantities (LQ) | 5kg |
| · Transport category | 3 |
| · Tunnel restriction code | E |
| · UN "Model Regulation": | UN2213, PARAFORMALDEHYDE, 4.1, III |

SECTION 15: Regulatory information

- **15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**
- **REGULATION (EC) No 1907/2006 ANNEX XVII Conditions of restriction: 40**
- **National regulations**
- **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.**

SECTION 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**
- **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
 - IATA: International Air Transport Association
 - GHS: Globally Harmonised System of Classification and Labelling of Chemicals
 - CAS: Chemical Abstracts Service (division of the American Chemical Society)
 - LC50: Lethal concentration, 50 percent
 - LD50: Lethal dose, 50 percent
 - PBT: Persistent, Bioaccumulative and Toxic
 - vPvB: very Persistent and very Bioaccumulative
 - Flam. Sol. 2: Flammable solids – Category 2
 - Acute Tox. 4: Acute toxicity – Category 4
 - Skin Irrit. 2: Skin corrosion/irritation – Category 2
 - Eye Irrit. 2: Serious eye damage/eye irritation – Category 2
 - Skin Sens. 1: Skin sensitisation – Category 1
 - Carc. 2: Carcinogenicity – Category 2
 - STOT SE 3: Specific target organ toxicity (single exposure) – Category 3
- *** Data compared to the previous version altered.**

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