



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

- **1.1 Product identifier**
- **Trade name:** *Formalin solution 10%, phosphate buffered*
- **Article number:** 3933, B3933
- **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 :** *For Laboratory, Research or Manufacturing use.*
- **1.3 Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
Avantor Performance Materials B.V. *Tel: (+31) (0)570 - 687500*
P.O.Box 1 *Fax: (+31) (0)570 - 687574*
7400 AA Deventer *E-mail : jtbaker.nl@avantormaterials.com*
The Netherlands
- **Informing department:**
E-mail : pawel.skiba@avantormaterials.com
Avantor Performance Materials Sales Office Tel.: +31(0) 570 687500
- **1.4 Emergency telephone number:**
Environment Health & Safety department
during normal opening times (8 am till 5.30 pm) tel: (+31)(0) 570 687500

SECTION 2: Hazards identification

- **2.1 Classification of the substance or mixture**
- **Classification according to Regulation (EC) No 1272/2008**
Muta. 2 H341 Suspected of causing genetic defects.
Carc. 1B H350 May cause cancer.
Skin Sens. 1 H317 May cause an allergic skin reaction.
- **Classification according to Directive 67/548/EEC or Directive 1999/45/EC**
Xn; Harmful
R20/21/22-40: Harmful by inhalation, in contact with skin and if swallowed. Limited evidence of a carcinogenic effect.
- *Xi; Sensitising*
R43: May cause sensitisation by skin contact.
- **Information concerning particular hazards for human and environment:** *void*
- **Classification system:**
The classification is in line with current EC lists. It is expanded, however, by information from technical literature and by information furnished by supplier companies.
- **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**


 GHS07 GHS08
- **Signal word** *Danger*
- **Hazard-determining components of labelling:**
Formaldehyde
- **Hazard statements**
H317 May cause an allergic skin reaction.
H341 Suspected of causing genetic defects.
H350 May cause cancer.

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· Precautionary statements

- P261 Avoid breathing dust/fume/gas/mist/vapours/spray.
 P280 Wear protective gloves/protective clothing/eye protection/face protection.
 P281 Use personal protective equipment as required.
 P363 Wash contaminated clothing before reuse.
 P308+P313 IF exposed or concerned: Get medical advice/attention.
 P405 Store locked up.

· 2.3 Other hazards

· Results of PBT and vPvB assessment

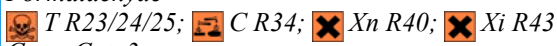
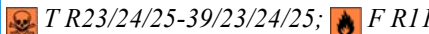
- **PBT:** Not applicable.
 · **vPvB:** Not applicable.

SECTION 3: Composition/information on ingredients

· 3.2 Chemical characterisation: Mixtures

- **Description:** Mixture of the substances with harmless additions.

· Dangerous components:

CAS: 50-00-0 EINECS: 200-001-8	Formaldehyde  Carc. Cat. 3 Acute Tox. 3, H301; Acute Tox. 3, H311; Acute Tox. 3, H331; Muta. 2, H341; Carc. 1B, H350; Skin Corr. 1B, H314; Skin Sens. 1, H317	2.5 - 10%
CAS: 67-56-1 EINECS: 200-659-6	methanol  Flam. Liq. 2, H225; Acute Tox. 3, H301; Acute Tox. 3, H311; Acute Tox. 3, H331; STOT SE 1, H370	< 2.5%

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

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 call for doctor for safety reasons.

In case of unconsciousness bring patient into stable side position for transport.

· After skin contact Instantly wash with water and soap and rinse thoroughly.

· After eye contact Rinse opened eye for several minutes under running water.

· After swallowing Instantly call 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.

SECTION 5: Firefighting measures

· 5.1 Extinguishing media

· Suitable extinguishing agents Use fire fighting measures that suit the environment.

· For safety reasons unsuitable extinguishing agents Water with a full water jet.

· 5.2 Special hazards arising from the substance or mixture No further relevant information available.

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- **5.3 Advice for firefighters**
- **Protective equipment:** Put on breathing apparatus.

SECTION 6: Accidental release measures

- **6.1 Personal precautions, protective equipment and emergency procedures** Not required.
- **6.2 Environmental precautions:** 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).
Dispose of 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 information on disposal.

SECTION 7: Handling and storage

- **7.1 Precautions for safe handling**
Ensure good ventilation/exhaustion at the workplace.
Prevent formation of aerosols.
- **Information about protection against explosions and fires:** no special requirements
- **7.2 Conditions for safe storage, including any incompatibilities**
- **Storage**
- **Requirements to be met by storerooms and containers:** No special requirements.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:** Keep container tightly sealed.
- **Recommended storage temperature:** 18 °C ~ 30 °C
- **7.3 Specific end use(s)** No further relevant information available.

SECTION 8: Exposure controls/personal protection

· **8.1 Control parameters**

· **Components with critical values that require monitoring at the workplace:**

50-00-0 Formaldehyde

WEL	Short-term value: 2.5 mg/m ³ , 2 ppm
	Long-term value: 2.5 mg/m ³ , 2 ppm

67-56-1 methanol

WEL	Short-term value: 333 mg/m ³ , 250 ppm
	Long-term value: 266 mg/m ³ , 200 ppm
	Sk

· **Additional information:** The lists that were valid during the compilation were used as basis.

· **8.2 Exposure controls**

· **Personal protective equipment**

· **General protective and hygienic measures**

- Keep away from foodstuffs, beverages and food.
- Instantly remove any soiled and impregnated garments.
- Wash hands during breaks and at the end of the work.
- Do not inhale gases / fumes / aerosols.
- Avoid contact with the eyes and skin.

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· **Breathing equipment:**

In case of brief exposure or low pollution use breathing filter apparatus. In case of intensive or longer exposure use breathing apparatus 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. 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.

· **Eye protection:** Safety glasses recommended during refilling.

SECTION 9: Physical and chemical properties

· **9.1 Information on basic physical and chemical properties**

· **General Information**

· **Appearance:**

· Form:	Fluid
· Colour:	According to product specification
· Smell:	Characteristic
· Odour threshold:	Not determined.

· **pH-value:** Not determined.

· **Change in condition**

· Melting point/Melting range:	0 °C
· Boiling point/Boiling range:	100 °C
· Flash point:	107 °C

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

· **Ignition temperature:**

· Decomposition temperature:	Not determined.
· Self-inflammability:	Product is not selfigniting.
· Danger of explosion:	Product is not explosive.
· Critical values for explosion:	
· Lower:	Not determined.
· Upper:	Not determined.

· Steam pressure at 20 °C:	23 hPa
· Density at 20 °C	1 g/cm ³
· Relative density	Not determined.
· Vapour density	Not determined.
· Evaporation rate	Not determined.
· Solubility in / Miscibility with	
· Water:	Fully miscible
· Partition coefficient (n-octanol/water):	Not determined.

· **Viscosity:**

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

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|--------------------------------|--|
| · 9.2 Other information | No further relevant information available. |
| · VOC in g/l: | 1233.4 g/l |
| · VOC in %: | 4.81 % |

SECTION 10: Stability and reactivity

- **10.1 Reactivity**
- **10.2 Chemical stability**
- **Thermal decomposition / conditions to be avoided:** Heat, boiling temperatures.
- **10.3 Possibility of hazardous reactions** No dangerous reactions known
- **10.4 Conditions to avoid** No further relevant information available.
- **10.5 Incompatible materials:** No further relevant information available.
- **10.6 Hazardous decomposition products:** No dangerous decomposition products known

SECTION 11: Toxicological information

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

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

50-00-0 Formaldehyde

Oral	LD50	>200 mg/kg (rat)
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- **Primary irritant effect:**
- **on the skin:** No irritant effect.
- **on the eye:** No irritant effect.
- **Sensitisation:** Sensitization possible by skin contact.
- **Additional toxicological information:**
The product shows the following dangers according to the calculation method of the General EC Classification Guidelines for Preparations as issued in the latest version:
Harmful
Irritant
- **CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)**
Muta. 2, Carc. 1B

SECTION 12: Ecological information

- **12.1 Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **12.2 Persistence and degradability** No further relevant information available.
- **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 (D) 1 (Self-assessment): slightly hazardous for water.
Do not allow undiluted product or large quantities of it to reach ground water, water bodies or sewage system.
- **12.5 Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **12.6 Other adverse effects** No further relevant information available.

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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.
- **Recommended cleaning agent:** Water, if necessary with cleaning agent.

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

SECTION 15: Regulatory information

- **15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**
- **Labelling according to Regulation (EC) No 1272/2008**
The product is classified and labelled according to the CLP regulation.
- **Hazard pictograms**



GHS07 GHS08

- **Signal word** Danger
- **Hazard-determining components of labelling:**
Formaldehyde
- **Hazard statements**
H317 May cause an allergic skin reaction.
H341 Suspected of causing genetic defects.
H350 May cause cancer.
- **Precautionary statements**
P261 Avoid breathing dust/fume/gas/mist/vapours/spray.
P280 Wear protective gloves/protective clothing/eye protection/face protection.

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- P281 Use personal protective equipment as required.
- P363 Wash contaminated clothing before reuse.
- P308+P313 IF exposed or concerned: Get medical advice/attention.
- P405 Store locked up.
- **15.2 Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

SECTION 16: Other information

These data are based on our present knowledge. However, they 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.
- H341 Suspected of causing genetic defects.
- H350 May cause cancer.
- H370 Causes damage to organs.
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- 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 data specification sheet: EHS**

· **Contact:** Paweł Skiba

· **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)
- IATA-DGR: Dangerous Goods Regulations by the "International Air Transport Association" (IATA)
- ICAO: International Civil Aviation Organisation
- ICAO-TI: Technical Instructions by the "International Civil Aviation Organisation" (ICAO)
- 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
- EINECS: European Inventory of Existing Commercial Chemical Substances
- ELINCS: European List of Notified Chemical Substances
- CAS: Chemical Abstracts Service (division of the American Chemical Society)
- LC50: Lethal concentration, 50 percent
- LD50: Lethal dose, 50 percent
- Flam. Liq. 2: Flammable liquids, Hazard Category 2
- Acute Tox. 3: Acute toxicity, Hazard Category 3
- Skin Corr. 1B: Skin corrosion/irritation, Hazard Category 1B
- Skin Sens. 1: Sensitisation - Skin, Hazard Category 1
- Muta. 2: Germ cell mutagenicity, Hazard Category 2
- Carc. 1B: Carcinogenicity, Hazard Category 1B
- STOT SE 1: Specific target organ toxicity - Single exposure, Hazard Category 1

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