

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

Printing date 07.01.2015

Version number 24

Revision: 15.12.2014

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

1.1 Product identifier

· **Trade name:** Phosphate buffered formaldehyde 38%

· **Article number:** 3859, B3859

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.

P.O.Box 1

7400 AA Deventer

The Netherlands

Tel: (+31) (0)570 - 687500

Fax: (+31) (0)570 - 687574

E-mail : jtbaker.nl@avantormaterials.com

· **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**

Acute Tox. 3 H311 Toxic in contact with skin.

Acute Tox. 3 H331 Toxic if inhaled.

Muta. 2 H341 Suspected of causing genetic defects.

Carc. 1B H350 May cause cancer.

STOT SE 1 H370 Causes damage to organs.

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

Eye Dam. 1 H318 Causes serious eye damage.

Acute Tox. 4 H302 Harmful if swallowed.

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

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

T; Toxic

R23/24/25-39/23/24/25: Toxic by inhalation, in contact with skin and if swallowed. Toxic: danger of very serious irreversible effects through inhalation, in contact with skin and if swallowed.

C; Corrosive

R34: Causes burns.

Xn; Harmful

R40: Limited evidence of a carcinogenic effect.

Xi; Irritant

R37: Irritating to respiratory system.

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.

(Contd. on page 2)

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

Printing date 07.01.2015

Version number 24

Revision: 15.12.2014

Trade name: Phosphate buffered formaldehyde 38%

(Contd. of page 1)

- **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**



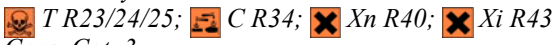
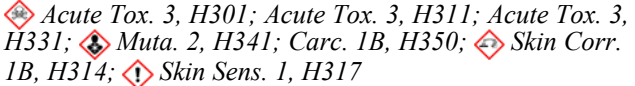
GHS05 GHS06 GHS08

- **Signal word** *Danger*
- **Hazard-determining components of labelling:**
Formaldehyde
methanol
- **Hazard statements**
H302 Harmful 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.
H341 Suspected of causing genetic defects.
H350 May cause cancer.
H370 Causes damage to organs.
- **Precautionary statements**
P260 Do not breathe dust/fume/gas/mist/vapours/spray.
P280 Wear protective gloves/protective clothing/eye protection/face protection.
P303+P361+P353 IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310 Immediately call a POISON CENTER/doctor.
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 consisting of the following components.

· **Dangerous components:**

CAS: 50-00-0 EINECS: 200-001-8	Formaldehyde  Carc. Cat. 3 	25 - 50%
-----------------------------------	--	----------

(Contd. on page 3)

GB

Safety data sheet

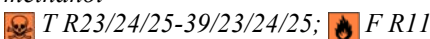

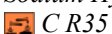

according to 1907/2006/EC, Article 31

Printing date 07.01.2015

Version number 24

Revision: 15.12.2014

Trade name: Phosphate buffered formaldehyde 38%

		(Contd. of page 2)
CAS: 67-56-1 EINECS: 200-659-6	methanol  	5 - 12.5%
CAS: 1310-73-2 EINECS: 215-185-5 Reg.nr.: 01-2119457892-27-XXXX	Sodium Hydroxide  	< 1%

· **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

Instantly remove any clothing soiled by the product.

Remove breathing apparatus only after soiled clothing has been completely removed.

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

· After inhalation

Supply fresh air or oxygen; call for doctor.

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. Then consult doctor.

· After swallowing

Rinse out mouth and then drink plenty of water.

Do not induce vomiting; instantly call for medical help.

Drink copious amounts of water and provide fresh air. 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

CO₂, extinguishing powder or water jet. Fight larger fires with water jet or alcohol-resistant foam.

· 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.

· 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

Wear protective equipment. Keep unprotected persons away.

· 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).

Use neutralising agent.

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.

(Contd. on page 4)

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

Printing date 07.01.2015

Version number 24

Revision: 15.12.2014

Trade name: Phosphate buffered formaldehyde 38%

See Section 13 for information on disposal.

(Contd. of page 3)

SECTION 7: Handling and storage

· 7.1 Precautions for safe handling

Ensure good ventilation/exhaustion at the workplace.
Open and handle container with care.
Prevent formation of aerosols.

· Information about protection against explosions and fires:

Keep ignition sources away - Do not smoke.
Keep breathing equipment ready.

· 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:** Store away from hydrochloric acid
· **Further information about storage conditions:** Keep container tightly sealed.

· 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.
Store protective clothing separately.
Avoid contact with the eyes and skin.

· 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.

(Contd. on page 5)

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

Printing date 07.01.2015

Version number 24

Revision: 15.12.2014

Trade name: Phosphate buffered formaldehyde 38%

(Contd. of page 4)

- **Penetration time of glove material**
The exact break trough time has to be found out by the manufacturer of the protective gloves and has to be observed.
- **Eye protection:**
Safety glasses
Tightly sealed 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:	Fluid
· Colour:	Colourless
· Smell:	Characteristic
· Odour threshold:	Not determined.

· **pH-value:** Not determined.

· **Change in condition**

· Melting point/Melting range:	0 °C
· Boiling point/Boiling range:	-21 °C
· Flash point:	Not applicable

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

· **Ignition temperature:** 300 °C

· **Decomposition temperature:** Not determined.

· **Self-inflammability:** Product is not selfigniting.

· **Danger of explosion:** Product is not explosive.

· **Critical values for explosion:**

· Lower:	5.5 Vol %
· Upper:	73.0 Vol %

· **Steam pressure at 20 °C:** 128 hPa

· **Density at 20 °C** 1.1 g/cm³

· **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.

· **9.2 Other information** No further relevant information available.

· **VOC in g/l:** 1169.5 g/l

· **VOC in %:** 46.89 %

SECTION 10: Stability and reactivity

· **10.1 Reactivity**

· **10.2 Chemical stability**

· **Thermal decomposition / conditions to be avoided:** Heat,boiling temperatures.

(Contd. on page 6)

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

Printing date 07.01.2015

Version number 24

Revision: 15.12.2014

Trade name: Phosphate buffered formaldehyde 38%

(Contd. of page 5)

- **10.3 Possibility of hazardous reactions**
Reaction with hydrochloric acid forming Dichlorodimethylether
- **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:** Harmful if swallowed.

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

50-00-0 Formaldehyde

Oral	LD50	>200 mg/kg (rat)
------	------	------------------

67-56-1 methanol

Oral	LD50	5628 mg/kg (rat)
	LDLo	143 mg/kg (Human)

- **Primary irritant effect:**
- **on the skin:** Caustic effect on skin and mucous membranes.
- **on the eye:** Strong caustic 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:
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.
- **CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)**
Muta. 2, Carc. 1B

SECTION 12: Ecological information

- **12.1 Toxicity**

- **Aquatic toxicity:**

67-56-1 methanol

EC5 / 16h	6600 mg/l (Pseudomonas putida.)
EC5 / 72h	>10000 mg/l (Entosiphon sulcatum)
EC50	31100 mg/l (Chlorella sp.)
EC50/24h	10000 mg/l (daphnia magna)
EC50/48h	>10000 mg/l (daphnia magna)
	18756 mg/l (Protozoa)
IC5 / 8 d	8000 mg/l ((alg) Scenedesmus quadricauda)
LC50/96h	13680 ppm (Trout, rainbow (Salmo gairdnerii))
	28100 mg/l (Fathead minnow (Pimephales promelas))
TLM fishes / 96h:	>1000 mg/l (Pisces)
TLM fishes/48h	8000 mg/l (Salvelinus Sp.)
TLMwaterorganism/24h	10000 mg/l (Artemia Salina)

(Contd. on page 7)

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

Printing date 07.01.2015

Version number 24

Revision: 15.12.2014

Trade name: Phosphate buffered formaldehyde 38%



(Contd. of page 6)

- **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) 2 (Self-assessment): hazardous for water.
Do not allow product to reach ground water, water bodies or sewage system.
Must not reach sewage water or drainage ditch undiluted or unneutralised.
Danger to drinking water if even small quantities leak into soil.
- **12.5 Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **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.
- **Recommended cleaning agent:** Water, if necessary with cleaning agent.

SECTION 14: Transport information

- **14.1 UN-Number**
- **ADR, IMDG, IATA** UN2924
- **14.2 UN proper shipping name**
- **ADR** 2924 FLAMMABLE LIQUID, CORROSIVE, N.O.S.
(METHANOL, SODIUM HYDROXIDE)
- **IMDG, IATA** FLAMMABLE LIQUID, CORROSIVE, N.O.S.
(METHANOL, SODIUM HYDROXIDE)
- **14.3 Transport hazard class(es)**
- **ADR**
- 
- **Class** 3 (FC) Flammable liquids.
- **Label** 3+8
- **IMDG, IATA**
- 
- **Class** 3 Flammable liquids.
- **Label** 3+8
- **14.4 Packing group**
- **ADR, IMDG, IATA** III

(Contd. on page 8)

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

Printing date 07.01.2015

Version number 24

Revision: 15.12.2014

Trade name: Phosphate buffered formaldehyde 38%

(Contd. of page 7)

· 14.5 Environmental hazards:	
· Marine pollutant:	No
· 14.6 Special precautions for user	Warning: Flammable liquids.
· Kemler Number:	38
· EMS Number:	F-E,S-C
· Segregation groups	Alkalis
· 14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code	Not applicable.
· Transport/Additional information:	
· ADR	
· Limited quantities (LQ)	5L
· Excepted quantities (EQ)	Code: E1 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml
· Transport category	3
· Tunnel restriction code	D/E
· IMDG	
· Limited quantities (LQ)	5L
· Excepted quantities (EQ)	Code: E1 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml
· UN "Model Regulation":	UN2924, FLAMMABLE LIQUID, CORROSIVE, N.O.S. (METHANOL, SODIUM HYDROXIDE), 3 (8), III

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**



GHS05 GHS06 GHS08

- **Signal word** Danger
- **Hazard-determining components of labelling:**
Formaldehyde
methanol
- **Hazard statements**
H302 Harmful 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.
H341 Suspected of causing genetic defects.
H350 May cause cancer.
H370 Causes damage to organs.
- **Precautionary statements**
P260 Do not breathe dust/fume/gas/mist/vapours/spray.

(Contd. on page 9)

GB

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

Printing date 07.01.2015

Version number 24

Revision: 15.12.2014

Trade name: Phosphate buffered formaldehyde 38%

(Contd. of page 8)

- P280 *Wear protective gloves/protective clothing/eye protection/face protection.*
 P303+P361+P353 *IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.*
 P305+P351+P338 *IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.*
 P310 *Immediately call a POISON CENTER/doctor.*
 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.*
 H290 *May be corrosive to metals.*
 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.*
 H318 *Causes serious eye damage.*
 H331 *Toxic if inhaled.*
 H341 *Suspected of causing genetic defects.*
 H350 *May cause 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.*
 R35 *Causes severe 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*
 Met. Corr. 1: *Corrosive to metals, Hazard Category 1*
 Acute Tox. 3: *Acute toxicity, Hazard Category 3*
 Acute Tox. 4: *Acute toxicity, Hazard Category 4*
 Skin Corr. 1A: *Skin corrosion/irritation, Hazard Category 1A*
 Skin Corr. 1B: *Skin corrosion/irritation, Hazard Category 1B*
 Eye Dam. 1: *Serious eye damage/eye irritation, Hazard Category 1*
 Skin Sens. 1: *Sensitisation - Skin, Hazard Category 1*
 Muta. 2: *Germ cell mutagenicity, Hazard Category 2*
 Carc. 1B: *Carcinogenicity, Hazard Category 1B*

(Contd. on page 10)

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

Printing date 07.01.2015

Version number 24

Revision: 15.12.2014

Trade name: Phosphate buffered formaldehyde 38%

STOT SE 1: Specific target organ toxicity - Single exposure, Hazard Category 1
· *** Data compared to the previous version altered.**

(Contd. of page 9)

GB