



Safety Data Sheet

According to EU Directive 1907/2006

Product name: PVA-M

Date of issue: 11 February 2016

Version: 1.1

1. Identification of the substance/preparation and of the company

1.1 Trade name: PVA-M

1.2 Use of the product: PVA based polymer blend, enhanced for the extrusion of 3Dprinter filaments

2. Hazards identification

2.1 Classification of the substance or mixture classification (REGULATION (EC) No 1272/2008)

Not a hazardous substance or mixture.

2.2 Label elements

Labelling (REGULATION (EC) No 1272/2008)

Not a hazardous substance or mixture.

2.3 Other hazards

Skin sensitization material (Category 1) is contained less than 0.1%.

3. Composition/information on ingredients

3.1 Mixtures

Hazardous components

Chemical Name	CAS-No.	Classification (1272/2008/EC)	Concentration [%]
	EC-No.		
	Registration number		
methanol	67-56-1	Flam. Liq. 2; H225 Acute Tox. 3; H301 Acute Tox. 3; H331 Acute Tox. 3; H311 STOT SE 1; H370	< 1
	200-659-6		

For the full text of the H-Statements mentioned in this Section, see Section 16.



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4. First aid measures

4.1 Description of first aid measures

General advice: If you feel unwell, seek medical advice (show the label where possible). Never give anything by mouth to an unconscious person. Take off contaminated clothing and shoes immediately.

If inhaled: If breathed in, move person into fresh air.

In case of skin contact: If on skin, rinse well with water. If skin irritation persists, call a physician.

In case of eye contact: If easy to do, remove contact lens, if worn. In the case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

If swallowed: Rinse mouth with water. Induce vomiting immediately and call a physician. If a person vomits when lying on his back, place him in the recovery position.

4.2 Most important symptoms and effects, both acute and delayed

no data available

4.3 Indication of any immediate medical attention and special treatment needed

no data available

5. Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media: Water spray jet, Dry chemical

Unsuitable extinguishing media: High volume water jet

5.2 Special hazards arising from the substance or mixture

Specific hazards during firefighting: Do not use a solid water stream as it may scatter and spread fire. Exposure to decomposition products may be a hazard to health.

5.3 Advice for firefighters

Special protective equipment for firefighters: Wear self-contained breathing apparatus for firefighting if necessary. Use personal protective equipment.

Further information: Standard procedure for chemical fires. Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. In the event of fire and/or explosion do not breathe fumes.



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6. Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Refer to protective measures listed in sections 7 and 8. Avoid dust formation. Avoid breathing dust. Ensure adequate ventilation, especially in confined areas.

6.2 Environmental precautions

no data available

6.3 Methods and materials for containment and cleaning up

Use mechanical handling equipment. Keep in suitable, closed containers for disposal. Clean contaminated surface thoroughly.

6.4 Reference to other sections

see chapter: 7, 8, 11, 12 and 13

7. Handling and storage

7.1 Precautions for safe handling

Advice on safe handling: For personal protection see section 8. Avoid creating dust. Do not breathe dust. Avoid contact with skin and eyes.

Advice on protection against fire and explosion: Normal measures for preventive fire protection.

Dust explosion class: No data available.

7.2 Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers: Keep containers tightly closed in a dry, cool and ventilated place.

Further information on storage conditions: Protect from moisture.

Advice on common storage: Keep away from oxidising agents and strongly acid or alkaline materials. Keep away from food, drink and animal feedingstuffs.

Storage temperature: $\leq 40\text{ }^{\circ}\text{C}$

Other data: No decomposition if stored and applied as directed.

7.3 Specific end use(s)

no data available



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8. Exposure controls/personal protection

8.1 Control parameters

Components	CAS-No.	Control parameters	Basis	Update
methanol	67-56-1	TWA: 266 mg/m ³ , 200 ppm Sk, STEL: 333 mg/m ³ , 250 ppm Sk,	GB EH40	2005-04-06
Components	CAS-No.	Control parameters	Basis	Update
methanol	67-56-1	TWA: 260 mg/m ³ , 200 ppm skin,	2006/15/EC	2006-02-09

Other information on limit values: see chapter 16

8.2 Exposure controls

Engineering measures

Provide adequate ventilation.

Personal protective equipment

Respiratory protection:

In the case of dust or aerosol formation use respirator with an approved filter. Half mask with a particle filter P2 (EN 143).

Hand protection:

Rubber gloves

Eye protection:

Goggles

Skin and body protection:

Apron

Hygiene measures:

Handle in accordance with good industrial hygiene and safety practice. General industrial hygiene practice. Do not breathe dust. Avoid contact with skin, eyes and clothing. When using do not eat, drink or smoke. Wash hands before breaks and at the end of workday. Wash contaminated clothing before re-use.

Environmental exposure controls

no data available



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9. Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance:	pellets
Colour:	white, light yellow
Odour:	slight vinegar-like
Odour Threshold:	no data available
Flash point:	> 200 °C, Method: Seta closed cup
Ignition temperature:	520 °C
Thermal decomposition:	>= 200 °C
Lower explosion limit:	35 g/m ³
Upper explosion limit:	no data available
Explosive properties:	no data available
Flammability:	no data available
Oxidizing properties:	no data available
Auto-ignition temperature:	no data available
Burning number:	no data available
Molecular Weight:	no data available
pH:	5.0 – 7.0
Concentration:	100.00 g/L
Melting point/range:	150 - 230 °C
Vapour pressure:	no data available
Density :	1.19 – 1.31 g/cm ³
Bulk density:	no data available
Water solubility:	insoluble
Partition coefficient: n- octanol/water:	no data available
Solubility in other solvents:	insoluble Medium: Acetone Insoluble Medium: Alcohol insoluble Medium: n-hexane Insoluble Medium: toluene soluble Medium: Dimethylformamide soluble Medium: Dimethyl sulfoxide
Viscosity, dynamic:	no data available
Viscosity, kinematic:	no data available
Flow time:	no data available
Impact Sensitivity:	no data available
Relative vapour density:	no data available
Surface tension:	no data available
Evaporation rate:	no data available
Minimum ignition energy:	no data available
Acid number:	no data available
Refraction index:	no data available
Miscibility in water:	no data available
Solvent separation test:	no data available



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9.2 Other information

None known.

10. Stability

10.1 Reactivity

no data available.

10.2 Chemical stability

The product is chemically stable.

10.3 Possibility of hazardous reactions

Stability: No decomposition if stored and applied as directed. Dust can form an explosive mixture in air.

10.4 Conditions to avoid

no data available

10.5 Incompatible materials

Materials to avoid: Oxidizing agents, Acids, Bases

10.6 Hazardous decomposition products

Hazardous decomposition products: Build-up of dangerous/toxic fumes possible in cases of fire/high temperature.

11. Toxicological information

11.1 Information on toxicological effects

Acute toxicity

Acute oral toxicity: LD50 Oral : > 2,000 mg/kg

Acute inhalation toxicity: Acute toxicity estimate : > 20 mg/L
Test atmosphere: vapour
Exposure time: 4 h
Method: Calculation method

Acute dermal toxicity: Acute toxicity estimate : > 2,000 mg/kg
Method: Calculation method



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Acute toxicity (other routes of administration)

no data available

Skin corrosion/irritation

methanol: Species: rabbit
No skin irritation

Serious eye damage/eye irritation

methanol: Species: rabbit
No eye irritation

Respiratory or skin sensitization

Sensitisation:

methanol: Test Method: Maximisation
Test Species: guinea pig
Result: Does not cause skin sensitisation.
Method: OECD Test Guideline 406

Germ cell mutagenicity

Genotoxicity in vitro: no data available
Genotoxicity in vivo: no data available

Carcinogenicity

Remarks:

Mutagenicity: Tests on bacterial or mammalian cell cultures did not show mutagenic effects.

Reproductive toxicity: no data available

Teratogenicity: no data available

STOT - single exposure

methanol: Causes damage to organs.

STOT - repeated exposure

no data available

Aspiration hazard

Aspiration toxicity: no data available

Neurological effects: no data available

Toxicology Assessment

Toxicology, Metabolism, Distribution: no data available.
Acute effects: no data available



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12. Ecological information

12.1 Toxicity

Toxicity to fish: (Oncorhynchus mykiss (rainbow trout)): > 100 mg/L Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates: (Daphnia magna (Water flea)): > 100 mg/L Exposure time: 48 h

Toxicity to algae: (algae): > 100 mg/L

Toxicity to bacteria
methanol:

IC50 : > 1,000 mg/L Exposure time: 3 h
Test Method: Respiration inhibition of
activated sludge Method: OECD Test
Guideline 209

Toxicity to fish (Chronic toxicity):
methanol:

NOEC: 7,900 mg/L
Exposure time: 200 h
Species: Oryzias latipes (Orange-red killifish)

12.2 Persistence and degradability

Biodegradability

methanol:

Result: Readily biodegradable.

12.3 Bioaccumulative potential

Bioaccumulation

methanol:

Species: Cyprinus carpio (Carp)
Concentration: 5 mg/L Bioconcentration factor
(BCF): 1 – 4.5

12.4 Mobility in soil

no data available

12.5 Results of PBT and vPvB assessment

no data available

12.6 Other adverse effects

Additional ecological information:

When used as support material for 3D printing
the polymer can be disposed of through the
drain.



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13. Disposal considerations

13.1 Waste treatment methods

Advice on disposal and packaging: Disposal: In accordance with local and national regulations. Waste codes should be assigned by the user based on the application for which the product was used.

14. Transport information

ADR

Not dangerous goods

RID

Not dangerous goods

IATA

Not dangerous goods

IMDG

Not dangerous goods

Special precautions for user

see chapter: 6, 7 and 8

15. Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

VOC: 0.5 %
VOC content less water: 6.55 g/L

Directive 96/82/EC: Update: 2003
Directive 96/82/EC does not apply

Further information: Reserved for industrial and professional use.

15.2 Chemical Safety Assessment

no data available



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16. Other information

Full text of H-Statements referred to under sections 2 and 3.

- H225 Highly flammable liquid and vapour
- H301 Toxic if swallowed.
- H311 Toxic in contact with skin.
- H331 Toxic if inhaled.
- H370 Causes damage to organs.

Other information

- Sk Can be absorbed through skin. The assigned substances are those for which there are concerns that dermal absorption will lead to systemic toxicity.
- skin Identifies the possibility of significant uptake through the skin

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.