

Material Safety Data Sheet

According to 91/155 EEC

Printing date 07.04.2005

Vers.No.: 3

Reviewed on 07.04.2005




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

- **Product details**
- **Trade name:** SILIKAL ADDITIVE M
- **Application of the substance / the preparation:**
Additive
Coating material
- **Manufacturer/Supplier:**
Silikal GmbH & Co. KG
Ostring 23
D-63533 Mainhausen
Tel.: +49-6182/9235-0
Fax.: +49-6182/9235-40
e-mail: mail@silikal.de
- **Further information obtainable from:** Environmental Department

2 Composition/information on ingredients

- **Chemical characterization**
- **Description:** Mixture of substances listed below with nonhazardous additions.

· **Dangerous components:**

CAS: 52628-03-2	methacryloyloxyethylphosphate	 Xi; R 38-41	50-100%
CAS: 80-62-6 EINECS: 201-297-1	methyl methacrylate	 Xi,  F; R 11-37/38-43	25-50%

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

3 Hazards identification

· **Hazard description:**



Xi Irritant
F Highly flammable

· **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.

- R 11 Highly flammable.
- R 37/38 Irritating to respiratory system and skin.
- R 41 Risk of serious damage to eyes.
- R 43 May cause sensitisation by skin contact.

· **Classification system:**

The classification is according to the latest editions of the EU-lists, and extended by company and literature data.

4 First-aid measures

- **General information:** Immediately remove any clothing soiled by the product.
- **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.
If skin irritation continues, consult a doctor.
- **After eye contact:**
Rinse opened eye for several minutes under running water. Then consult a doctor.

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- **After swallowing:** Do not induce vomiting; call for medical help immediately.

5 Fire-fighting measures

- **Suitable extinguishing agents:**
Foam
Fire-extinguishing powder
Carbon dioxide
- **For safety reasons unsuitable extinguishing agents:** Water
- **Protective equipment:** Wear self-contained respiratory protective device.
- **Additional information** Cool endangered receptacles with water spray.

6 Accidental release measures

- **Person-related safety precautions:**
Ensure adequate ventilation
Wear protective clothing.
Keep away from ignition sources.
Use respiratory protective device against the effects of fumes/dust/aerosol.
- **Measures for environmental protection:** Do not allow to enter sewers/ surface or ground water.
- **Measures for cleaning/collecting:**
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders).
Ensure adequate ventilation.
Dispose contaminated material as waste according to item 13.

7 Handling and storage

- **Handling:**
- **Information for safe handling:**
Keep receptacles tightly sealed.
Ensure good ventilation/exhaustion at the workplace.
- **Information about fire - and explosion protection:**
Keep ignition sources away - Do not smoke.
Protect against electrostatic charges.
Use explosion-proof apparatus / fittings and spark-proof tools.
Fumes can combine with air to form an explosive mixture.
- **Storage:**
- **Requirements to be met by storerooms and receptacles:**
Store only in the original receptacle.
Store in cool, dry conditions in well sealed receptacles.
- **Information about storage in one common storage facility:** Store away from oxidizing agents.
- **Further information about storage conditions:**
Store receptacle in a well ventilated area.
Protect from heat and direct sunlight.
- **Maximum storage temperature:** 25°C

8 Exposure controls/personal protection

- **Additional information about design of technical facilities:** No further data; see item 7.

- **Ingredients with limit values that require monitoring at the workplace:**

80-62-6 methyl methacrylate

OES	Short-term value: 416 mg/m ³ , 100 ppm Long-term value: 208 mg/m ³ , 50 ppm
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- **Additional information:** The lists valid during the making were used as basis.

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- **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.
Do not inhale gases / fumes / aerosols.
- **Respiratory protection:**
Use suitable respiratory protective device when high concentrations are present.
Filter AX
- **Protection of hands:**



Protective gloves

- **Material of gloves**
Butyl rubber, BR
Nitrile rubber, NBR
- **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:**



Tightly sealed goggles

- **Body protection:** Protective work clothing

9 Physical and chemical properties

· General Information

Form:	Fluid
Colour:	Yellow tint
Odour:	Unpleasant Ester-like

· Change in condition

Melting point/Melting range:	< 0°C
Boiling point/Boiling range:	100°C

· **Flash point:** 10°C

· **Ignition temperature:** 430°C

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

· **Danger of explosion:** Product is not explosive. However, formation of explosive air/vapour mixtures are possible.

· Explosion limits:

Lower:	2.1 Vol %
Upper:	12.5 Vol %

· **Vapour pressure at 20°C:** 38.7 hPa

· **Density at 20°C:** 1.21 g/cm³

· **Solubility in / Miscibility with water at 20°C:** 40 g/l

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· **Viscosity:**
Dynamic at 23°C: 50 mPas

· **Solvent content:**
Organic solvents: 0.0 %

10 Stability and reactivity

- **Thermal decomposition / conditions to be avoided:**
No decomposition if used according to specifications.
- **Materials to be avoided:**
Reacts with peroxides and other radical forming substances.
Do not store together with reducing agents, heavy-metal compounds, acids and alkalis.
- **Dangerous reactions:**
Exothermic polymerization.
Reacts with acids, alkalis and oxidizing agents.
Reacts with peroxides and other radical forming substances.
- **Dangerous decomposition products:** No dangerous decomposition products known.
- **Additional information:** Do not allow to enter sewers/ surface or ground water.

11 Toxicological information

· **Acute toxicity:**

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

52628-03-2 methacryloyloxyethylphosphate

Oral	LD50	> 2000 mg/kg (rat)
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· **Primary irritant effect:**

- **on the skin:** Irritant to skin and mucous membranes.
- **on the eye:** Strong irritant with the danger of severe eye injury.
- **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:
Irritant

12 Ecological information

· **Ecotoxic effects:**

· **Aquatic toxicity:**

52628-03-2 methacryloyloxyethylphosphate

EC50 (48h)	> 100 mg/l (Daphnia magna)
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LC50 (96h)	> 100 mg/l (fish)
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· **General notes:**

Water hazard class 1 (German Regulation) (Self-assessment): slightly hazardous for water
Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.

13 Disposal considerations

· **Product:**

· **Recommendation**

Must not be disposed together with household garbage. Do not allow product to reach sewage system.

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Must be specially treated adhering to official regulations.

· European waste catalogue
07 02 08 other still bottoms and reaction residues

· Uncleaned packaging:**· Recommendation:**

Empty contaminated packagings thoroughly. They may be recycled after thorough and proper cleaning.

Packagings that may not be cleansed are to be disposed of in the same manner as the product.

Non contaminated packagings may be recycled.

Disposal must be made according to official regulations.

14 Transport information

· Land transport ADR/RID (cross-border)**· ADR/RID class:** 3 Flammable liquids.**· Danger code (Kemler):** 338**· UN-Number:** 2924**· Packaging group:** II**· Hazard label** 3+8**· Description of goods:** 2924 FLAMMABLE LIQUID, CORROSIVE, N.O.S. (METHYL METHACRYLATE MONOMER, STABILIZED, Phosphoric acid ester)**· Maritime transport IMDG:****· IMDG Class:** 3**· UN Number:** 2924**· Label** 3+8**· Packaging group:** II**· EMS Number:** F-E,S-C**· Marine pollutant:** No**· Proper shipping name:** FLAMMABLE LIQUID, CORROSIVE, N.O.S. (METHYL METHACRYLATE MONOMER, STABILIZED, Phosphoric acid ester)**· Air transport ICAO-TI and IATA-DGR:****· ICAO/IATA Class:** 3**· UN/ID Number:** 2924**· Label** 3+8**· Packaging group:** II**· Proper shipping name:** FLAMMABLE LIQUID, CORROSIVE, N.O.S. (METHYL METHACRYLATE MONOMER, STABILIZED, Phosphoric acid ester)

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15 Regulatory information

- **Labelling according to EU guidelines:**

The product has been classified and marked in accordance with EU Directives / Ordinance on Hazardous Materials.

- **Code letter and hazard designation of product:**

Xi Irritant
F Highly flammable

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

methyl methacrylate

- **Risk phrases:**

11 Highly flammable.
37/38 Irritating to respiratory system and skin.
41 Risk of serious damage to eyes.
43 May cause sensitisation by skin contact.

- **Safety phrases:**

24 Avoid contact with skin.
26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
36/37/39 Wear suitable protective clothing, gloves and eye/face protection.
45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

- **National regulations:**

- **Technical instructions (air):**

Class	Share in %
II	25-50

- **Waterhazard class:** Water hazard class 1 (Self-assessment): slightly hazardous for water.

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 R-phrases**

11 Highly flammable.
37/38 Irritating to respiratory system and skin.
38 Irritating to skin.
41 Risk of serious damage to eyes.
43 May cause sensitisation by skin contact.

- **Department issuing MSDS:** Environmental Department

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