

# Safety data sheet

according to Directive (EC) no. 1907/2006 and Directive (EU)  
no. 453/2010 (REACH)



Trading Name: Injection mortar VMU

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## 1. Designation of the substance of the mixture and the company

Product identifier

Trading name: Injection mortar VMU

Article number: 3497806/3497803

Type: VMU plus 300/VMU plus 420

### 1.1 Relevant identified uses of the substance or mixture and uses advised against

#### Relevant identified uses

Fire protection material

Composite mortar for anchoring and fastening, component A (resin)

#### Uses advised against

### 1.2 Manufacturer/supplier

OBO Bettermann Holding GmbH & Co. KG

P.O. Box 1120

58694 Menden

Germany

### 1.3 Division providing information

Customer Service

Tel.: +49 2373 89 - 1700

export@obo.de

### 1.4 Emergency telephone number

REACH Registration of Chemicals GmbH

Tel.: +49 (0)700 24112112 (OBO)

## 2. Hazards identification

### 2.1 Classification of the substance or mixture

#### Classification according to EC regulation 1272/2008 (CLP)

Hazard categories:

Respiratory or skin sensitisation: Skin Sens. 1

Specific target organ toxicity - single exposure: STOT SE 3

Hazard Statements:

May cause an allergic skin reaction.

May cause respiratory irritation.

## 2.2 Label elements

### Labelling according to Regulation (EC) No 1272/2008 [CLP/GHS]

#### Hazard components for labelling

Ethylene dimethacrylate

Methacrylic acid, monoester with propane-1,2-diol

#### Signal word

Warning

#### Hazard pictograms



#### Hazard statements

H317 May cause an allergic skin reaction.

H335 May cause respiratory irritation.

#### Precautionary statements

P271 Use only outdoors or in a well-ventilated area.

P280 Wear protective gloves/protective clothing/eye protection/face protection.

P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.

P333+P313 If skin irritation or rash occurs: Get medical advice/attention.

P362+364 Take off contaminated clothing and wash it before reuse.

P501 Dispose of contents/container to in accordance with local/regional/national/international regulation.

## 2.3 Other hazards

No information available.

## 3. Composition / information on ingredients

### 3.1 Substances

not applicable

### 3.2 Mixtures

#### Hazardous components

CAS No	Chemical name			Quantity
	EC No	Index No	REACH No	
	GHS Classification			
97-90-5	Ethylene dimethacrylate			5 - < 20 %
	202-617-2	607-114-00-5	01-2119965172-38	
	Skin Sens. 1, STOT SE 3; H317 H335			
27813-02-1	Methacrylic acid, monoester with propane-1,2-diol 5 -			1 - < 8,5 %
	248-666-3		01-2119490226-37	
	Eye Irrit. 2, Skin Sens. 1; H319 H317			
38668-48-3	1,1'-(p-Tolylimino)dipropan-2-ol < 1			< 1,25 %
	254-075-1		01-2119980937-17	
	Acute Tox. 2, Eye Irrit. 2, Aquatic Chronic 3; H300 H319 H412			
6846-50-0	1-Isopropyl-2,2-dimethyltrimethylene Diisobutyrate			< 0,5 %
	229-934-9		01-2119451093-47	
	Repr. 2, Aquatic Chronic 3; H361d H412			

Full text of H and EUH statements: see section 16.

#### Specific concentration limits and M-factors

CAS No	EC No	Chemical Name	Quantity
	Specific concentration limits and M-factors		
97-90-5	202-617-2	Ethylene dimethacrylate	5 - < 20 %
	STOT SE 3; H335: >= 10 - 100		

## 4. First aid measures

### 4.1 Description of first aid measures

#### General information

Remove affected person from the danger area and lay down. Take off immediately all contaminated clothing and wash it before reuse. Get medical advice/attention if you feel unwell.

#### After inhalation

Provide fresh air. When in doubt or if symptoms are observed, get medical advice.

#### After skin contact

After contact with skin, wash immediately with plenty of water and soap. Take off immediately all contaminated clothing and wash it before reuse. Medical treatment necessary.

#### After eye contact

Rinse immediately carefully and thoroughly with eye-bath or water. In case of eye irritation consult an ophthalmologist.

#### After ingestion

Do NOT induce vomiting. Rinse mouth thoroughly with water. Medical treatment necessary.

### 4.2 Most important symptoms and effects, both acute and delayed

May cause an allergic skin reaction.

May cause respiratory irritation.

### 4.3 Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

## 5. Firefighting measures

### 5.1 Extinguishing media

#### Suitable extinguishing media

Foam

Extinguishing powder

Water spray jet

Carbon dioxide (CO<sub>2</sub>)

#### Unsuitable extinguishing media

Full water jet

### 5.2 Special hazards arising from the substance or mixture

Pyrolysis products, toxic

Carbon monoxide

### 5.3 Advice for Firefighters

Wear a self-contained breathing apparatus and chemical protective clothing. Full protection suit. In case of fire and/or explosion do not breathe fumes.

#### Additional information

Suppress gases/vapours/mists with water spray jet. Collect contaminated fire extinguishing water separately.

Do not allow entering drains or surface water.

## 6. Accidental release measures

### 6.1 Personal precautions, protective equipment and emergency procedures

Provide adequate ventilation. Do not breathe gas/fumes/vapour/spray. Avoid contact with skin, eyes and clothes. Use personal protection equipment.

### 6.2 Environmental precautions

Do not allow to enter into surface water or drains.

### 6.3 Methods and material for containment and cleaning up

Collect spillage. Take up mechanically, placing in appropriate containers for disposal. Suitable material for taking up: Sand

Treat the recovered material as prescribed in the section on waste disposal.

Retain contaminated washing water and dispose it.

### 6.4 Reference to other sections

Safe handling: see section 7

Personal protection equipment: see section 8

Disposal: see section 13

## 7. Handling and storage

### 7.1 Precautions for safe handling

#### Advices on safe handling

Use only outdoors or in a well-ventilated area.

Wear personal protection equipment (refer to section 8).

Avoid contact with skin, eyes and clothes.

When using do not eat, drink or smoke.

Wash hands thoroughly after handling.

Take off contaminated clothing and wash it before reuse.

### 7.2 Conditions for safe storage, including any incompatibilities

#### Requirements for storage rooms and vessels

Keep container tightly closed.

Store in a place accessible by authorized persons only.

Keep only in the original container in a cool, well-ventilated place.

#### Hints on joint storage

Do not use for products which come into contact with the food stuffs.

#### Further information on storage conditions

Storage temperature : 5-25°C

### 7.3 Specific end use(s)

Adhesive mortar for fastening elements A-component (resin)

## 8. Exposure controls/personal protection

### 8.1 Control parameters

#### DNEL/DMEL values

CAS No.	Substances			
DNEL type	Exposure route	Effect	Value	
97-90-5	Ethylene dimethacrylate			
Worker DNEL, long-term	inhalation	systemic	2,45 mg/m <sup>3</sup>	
Worker DNEL, long-term	dermal	systemic	1,3 mg/kg bw/day	
27813-02-1	Methacrylic acid, monoester with propane-1,2-diol			

Worker DNEL, long-term	inhalation	systemic	14,7 mg/m <sup>3</sup>
Worker DNEL, long-term	dermal	systemic	4,2 mg/kg bw/day
Consumer DNEL, long-term	inhalation	systemic	8,8 mg/m <sup>3</sup>
Consumer DNEL, long-term	dermal	systemic	2,5 mg/kg bw/day
Consumer DNEL, long-term	oral	systemic	2,5 mg/kg bw/day
6846-50-0	1-Isopropyl-2,2-dimethyltrimethylene Diisobutyrate		
Worker DNEL, long-term	dermal	systemic	5 mg/kg bw/day
Worker DNEL, long-term	inhalation	systemic	17,62 mg/m <sup>3</sup>
Consumer DNEL, long-term	inhalation	systemic	4,35 mg/m <sup>3</sup>
Consumer DNEL, long-term	oral	systemic	5 mg/kg bw/day
Consumer DNEL, long-term	dermal	systemic	5 mg/kg bw/day

**PNEC values**

CAS No.	Substances	Value
Environmental compartment		Value
97-90-5	Ethylene dimethacrylate	
Freshwater		0,139 mg/l
Marine water		0,014 mg/l
Marine water (intermittent releases)		0,15 mg/l
Freshwater sediment		1,6 mg/kg
Marine sediment		0,16 mg/kg
Micro-organisms in sewage treatment plants (STP)		57 mg/l
Soil		0,239 mg/kg
27813-02-1	Methacrylic acid, monoester with propane-1,2-diol	
Freshwater		0,904 mg/l
Marine water		0,904 mg/l
Freshwater sediment		6,28 mg/kg
Marine sediment		6,28 mg/kg
Micro-organisms in sewage treatment plants (STP)		10 mg/l
Soil		0,727 mg/kg
6846-50-0	1-Isopropyl-2,2-dimethyltrimethylene Diisobutyrate	
Freshwater		0,014 mg/l
Marine water		0,001 mg/l
Freshwater sediment		5,29 mg/kg
Marine sediment		0,529 mg/kg
Soil		1,05 mg/kg

**Additional advice on limit values**

This mixture contains quartz filler which is firmly bound in the pasty component, and thus not freely available during use, so that a risk of dust inhalation is excluded. Exposure limit values for respirable dusts are not relevant for this product.

## 8.2 Exposure controls



### Appropriate engineering controls

Provide adequate ventilation. If local exhaust ventilation is not possible or not sufficient, the entire working area must be ventilated by technical means.

### Protective and hygiene measures

Take off contaminated clothing and wash it before reuse. Draw up and observe skin protection programme. Wash hands thoroughly after handling. When using do not eat, drink or smoke.

### Eye/face protection

Wear eye protection/face protection. Wear safety glasses.

### Hand protection

Disposable gloves

Recommended material: NBR (Nitrile rubber)

Breakthrough time: > 480 min

Thickness of the glove material: > 0,2 mm

DIN-/EN-Norms: EN 374

When handling with chemical substances, protective gloves must be worn with the CE-label including the four control digits. For special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves.

### Skin protection

Wear suitable protective clothing.

### Respiratory protection

In case of inadequate ventilation wear respiratory protection. Respiratory protection with combination filter A1P2 (organic gases/vapors and particles) recommended.

## 9. Physical and chemical properties

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### 9.1 Information on basic physical and chemical properties

#### Appearance

Physical state: Paste

Colour: light beige

Odour: characteristic

Odour threshold: No data available

pH value: not determined

#### Changes in the physical state

Melting point: not determined

Initial boiling point and boiling range: not determined

Flash point: not applicable

#### Flammability

Solid: not determined

Gas: not applicable

Lower explosion limits: not determined

Upper explosion limits: not determined

#### Auto-ignition temperature

Solid: not determined

Gas: not applicable

Decomposition temperature: not determined

### **Oxidizing properties**

Not oxidising

Vapour pressure: not determined

Density (at 20 °C): 1,71 g/cm<sup>3</sup>

Water solubility: The study does not need to be conducted because the substance is known to be insoluble in water.

### **Solubility in other solvents**

not determined

Partition coefficient: not determined

Vapour density: not determined

Evaporation rate: not determined

## **9.2 Other information**

Solid content: not determined

## **10. Stability and reactivityReaktivität**

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### **10.1 Reactivity**

No hazardous reaction when handled and stored according to provisions.

### **10.2 Chemical stability**

The product is stable under storage at normal ambient temperatures.

### **10.3 Possibility of hazardous reactions**

No known hazardous reactions.

### **10.4 Conditions to avoid**

None

### **10.5 Incompatible materials**

No information available.

### **10.6 Hazardous decomposition products**

No known hazardous decomposition products.

**11. Toxicological information****11.1 Information on toxicological effects****Acute toxicity**

CAS No.	Chemical name				
	Exposure route	Dose	Species	Source	Method
97-90-5	Ethylene dimethacrylate				
	oral	LD50 8700 mg/kg	Rat		
	dermal	LD50 2000 > mg/kg	Rat		
27813-02-1	Methacrylic acid, monoester with propane-1,2-diol				
	oral	LD50 11200 mg/kg	Rat		
	dermal	LD50 > 5000 mg/kg	Rabbit		
38668-48-3	1,1'-(p-Tolylimino)dipropan-2-ol				
	oral	LD50 27,5 mg/kg	Rat		OECD 423
	dermal	LD50 > 2000 mg/kg	Rat		
6846-50-0	1-Isopropyl-2,2-dimethyltrimethylene Diisobutyrate				
	oral	LD50 3200 mg/kg	Rat		
	dermal	LD50 18900 mg/kg	Guinea Pig		

**Irritation and corrosivity**

Based on available data, the classification criteria are not met.

**Sensitising effects**

May cause an allergic skin reaction. (Ethylene dimethacrylate; Methacrylic acid, monoester with propane-1,2-diol)

**Carcinogenic/mutagenic/toxic effects for reproduction**

Based on available data, the classification criteria are not met.

**STOT-single exposure**

May cause respiratory irritation. (Ethylene dimethacrylate)

**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.

**Further information**

The mixture is classified as hazardous according to regulation (EC) No 1272/2008 [CLP].

**12. Ecological information****12.1 Toxicity**

The product is not: Ecotoxic.

CAS No.	Chemical name					
	Aquatic toxicity	Dose	[h]   [d]	Species	Source	Method
97-90-5	Ethylene dimethacrylate					
	Acute fish toxicity	LC50 15,95 mg/l	96 h	Brachydanio rerio (zebra-fish)		
	Acute algae toxicity	ErC50 17,3 mg/l	72 h	Pseudokirchneriella subcapitata		
	Acute crustacea toxicity	EC50 44,9 mg/l	48 h	Daphnia magna (Big water flea)		
	Crustacea toxicity	NOEC 13,2 mg/l	2 d			
27813-02-1	Methacrylic acid, monoester with propane-1,2-diol					
	Acute algae toxicity	ErC50 > 97,2 mg/l	72 h	Pseudokirchneriella subcapitata		
	Acute crustacea toxicity	EC50 > 143 mg/l	48 h	Daphnia magna (Big water flea)		
	Algae toxicity	NOEC mg/l				
38668-48-3	1,1'-(p-Tolylimino)dipropan-2-ol					
	Acute fish toxicity	LC50 17 mg/l	96 h	Brachydanio rerio (zebra-fish)		
	Acute algae toxicity	ErC50 245 mg/l	72 h	Desmodesmus subspicatus		
	Acute crustacea	EC50 28,8 mg/l	48 h	Daphnia magna (Big water flea)		
	Algae toxicity	NOEC 57,8 mg/l	72 d	Desmodesmus subspicatus		OECD 201

### 12.2 Persistence and degradability

The product has not been tested.

CAS No.	Chemical name				
	Method		Value	d	Source
	Evaluation				
97-90-5	Ethylene dimethacrylate				
	OECD 301D		71%	28	
27813-02-1	Methacrylic acid, monoester with propane-1,2-diol				
	OECD 310		81 %	28	

### 12.3 Bioaccumulative potential

The product has not been tested.

#### Partition coefficient n-octanol/water

CAS No	Chemical name	Log Pow
97-90-5	Ethylene dimethacrylate	2,4
27813-02-1	Methacrylic acid, monoester with propane-1,2-diol	0,97
38668-48-3	1,1'-(p-Tolylimino)dipropan-2-ol	2,1
6846-50-0	1-Isopropyl-2,2-dimethyltrimethylene Diisobutyrate	4,91

#### 12.4 Mobility in soil

The product has not been tested.

#### 12.5 Results of PBT and vPvB assessment

The product has not been tested.

#### 12.6 Other adverse effects

No information available.

##### Further information

Do not allow to enter into surface water or drains. Do not allow to enter into soil/subsoil.

### 13. Disposal considerations

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#### 13.1 Waste treatment methods

##### Disposal recommendations

Subsequent waste code numbers of the European Waste Catalogue are considered as recommendations. Dispose of waste according to applicable legislation. Do not allow to enter into surface water or drains. Do not allow to enter into soil/subsoil.

##### List of Wastes Code - residues/unused products

080409

WASTES FROM THE MANUFACTURE, FORMULATION, SUPPLY AND USE (MFSU) OF COATINGS (PAINTS, VARNISHES AND VITREOUS ENAMELS), ADHESIVES, SEALANTS AND PRINTING INKS; wastes from MFSU of adhesives and sealants (including waterproofing products); waste adhesives and sealants containing organic solvents or other hazardous substances; hazardous waste

##### List of Wastes Code - used product

080409

WASTES FROM THE MANUFACTURE, FORMULATION, SUPPLY AND USE (MFSU) OF COATINGS (PAINTS, VARNISHES AND VITREOUS ENAMELS), ADHESIVES, SEALANTS AND PRINTING INKS; wastes from MFSU of adhesives and sealants (including waterproofing products); waste adhesives and sealants containing organic solvents or other hazardous substances; hazardous waste

##### List of Wastes Code - contaminated packaging

150110

WASTE PACKAGING; ABSORBENTS, WIPING CLOTHS, FILTER MATERIALS AND PROTECTIVE CLOTHING NOT OTHERWISE SPECIFIED; packaging (including separately collected municipal packaging waste); packaging containing residues of or contaminated by hazardous substances; hazardous waste

### 14. Transport information

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**Land transport (ADR/RID), Inland waterways transport (ADN), Marine transport (IMDG), Air transport (ICAO-TI/IATA-DGR)**

#### 14.1 UN number

ADR/RID, ADN, IMDG, ICATO-TI/IATA-DGR: No dangerous good in sense of this transport regulation.

#### 14.2 UN proper shipping name

ADR/RID, ADN, IMDG, ICATO-TI/IATA-DGR: No dangerous good in sense of this transport regulation.

#### 14.3 Transport hazard class(es)

ADR/RID, ADN, IMDG, ICATO-TI/IATA-DGR: No dangerous good in sense of this transport regulation.

#### 14.4 Packing group

ADR/RID, ADN, IMDG, ICATO-TI/IATA-DGR: No dangerous good in sense of this transport regulation.

#### 14.5 Environmental hazards

ENVIRONMENTALLY HAZARDOUS: no

#### 14.6 Special precautions for user

No information available.

#### 14.7 Transport in bulk according to Annex II of Marpol and the IBC Code

Not applicable

### 15. Regulatory information

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

##### EU regulatory information

Information according to 2012/18/EU (SEVESO III): Not subject to 2012/18/EU (SEVESO III)

##### Additional information

VOC content: 6,9% (DIN EN ISO 11890-2)

To follow: 850/2004/EC, 79/117/EEC, 689/2008/EC

##### National regulatory information:

Employment restrictions: Observe restrictions to employment for juvenils according to the 'juvenile work protection guideline' (94/33/EC).

Water hazard class (D): 1 - slightly hazardous to water

Skin resorption/Sensitization: Causes allergic hypersensitivity reactions.

### 16. Other information

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#### Department issuing data sheet

Technical documentation

#### Changes

This data sheet contains changes from the previous versions in section(s): 2,3,8.

#### Abbreviations and acronyms

ADN: Accord européen relatif au transport international des marchandises Dangereuses par voie de Navigation

(European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways)

ADR: Accord européen sur le transport des marchandises dangereuses par route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

CAS: Chemical Abstracts Service

CLP: Classification, Labeling and Packaging

DMEL: Derived Minimal Effect level

DNEL: Derived No Effect Level

EC50: Effective concentration, 50%

ErC50: EC50 in terms of reduction of growth rate

IATA: International Air Transport Association

IATA-DGR: Dangerous Goods Regulations (DRG) for the air transport (IATA)

IMDG: International Maritime Code for Dangerous Goods

LC50: Lethal concentration, 50%

LD50: Lethal dose, 50%

NOEC: No Observed Effect Concentration

OECD: Organisation for Economic Co-operation and Development

PBT: persistent, bioaccumulative and toxic

vPvB: very persistent and very bioaccumulative

PNEC: Predicted No Effect Concentration

REACH: Registration, Evaluation, Authorisation and Restriction of Chemicals

RID: Règlement concernant le transport international ferroviaire de marchandises dangereuses (Regulations

Concerning the International Carriage of Dangerous Goods by Rail)

VOC: Volatile organic compound

Acute Tox. 2: Acute toxicity, Category 2

Aquatic Chronic 3: Long-term aquatic hazard, Category 3

Eye Irrit. 2: Serious eye damage/eye irritation, Category 2

Skin Sens. 1: Skin sensitization, Category 1

STOT SE 3: Specific target organ toxicity (single exposure), Category 3

**Classification for mixtures and used evaluation method according to Regulation (EC) No. 1272/2008 [CLP]**

Classification	Classification procedure
Skin Sens. 1; H317	Calculation method
STOT SE 3; H335	Calculation method

**Relevant H and EUH statements (number and full text)**

H300 Fatal if swallowed.

H317 May cause an allergic skin reaction.

H319 Causes serious eye irritation.

H335 May cause respiratory irritation.

H412 Harmful to aquatic life with long lasting effects.

**Further Information**

The above information describes exclusively the safety requirements of the product and is based on our present-day knowledge. The information is intended to give you advice about the safe handling of the product named in this safety data sheet, for storage, processing, transport and disposal. The information cannot be transferred to other products. In the case of mixing the product with other products or in the case of processing, the information on this safety data sheet is not necessarily valid for the new made-up material.