

Safety Data Sheet



Signal word: DANGER

Hazard statements:

H225 Highly flammable liquid and vapour.
H335 May cause respiratory irritation.
H315 Causes skin irritation.
H317 May cause an allergic skin reaction

Precautionary statement:

Prevention:

P210 Keep away from heat/sparks/open flames/hot surfaces. — No smoking.
P233 Keep container tightly closed.
P261 Avoid breathing vapours.
P280 Wear protective gloves/protective clothing/eye protection/face protection.

Response:

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.
P337+P313: If eye irritation persists: Get medical advice/attention.

Disposal:

P501 Dispose of contents/container in accordance with local regulations.

Contains:

Methyl methacrylate; methyl 2-methylprop-2-enoate; methyl 2-methylpropenoate, 2-Propenoic acid, 2-methyl-, 1,2-ethanediyl ester

2.3 Other hazards

PBT and vPvB evaluations are in section 12.5. The mixture does not contain substance(s) included in the list established in accordance with Article 59(1) of REACH for having

Safety Data Sheet

endocrine disrupting properties, or is not identified as having endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605.

SECTION 3: Composition / information on ingredients

3.1 Substance

See section 3.2

3.2 Mixture

Chemical name	CAS Nr. EC-Number INDEX number	%	Classification according to EC 1272/2008	
			Hazardous class/hazardous category	Hazardous phrases
Methyl methacrylate; methyl 2-methylprop-2-enoate; methyl 2-methylpropenoate	80-62-6 201-297-1 607-035-00-6	> 95	Flamm.Liq.2 STOT SE 3 Skin Irrit.2 Skin Sens. 1	H225 H335 H315 H317
2-Propenoic acid, 2-methyl-, 1,2-ethanediyl ester	97-90-5 202-617-2 607-114-00-5	< 5	STOT SE.3 Skin Sens.1	H335 H317
Accelerator 1	3401-74-9	<< 1	Acute tox. 4 Skin Irrit.2 Eye irrit. 3 STOT SE 3	H302 H315 H319 H335
Accelerator 2	1338-02-9 029-003-00-5	<< 1	/	/
Specific concentration limits:				
Name	CAS Nr. EC-Number INDEX number REACH number	Specific concentration limit		
2-Propenoic acid, 2-methyl-, 1,2-ethanediyl ester	97-90-5 202-617-2 607-114-00-5 2119965172-38	(10 ≤ C ≤ 100) STOT SE 3, H335		
UV absorber	CAS 2440-22-4	<< 1		

Safety Data Sheet

SECTION 4: First Aid Measures

4.1 Description of first aid measures

Inhalation:

Immediately remove victim to fresh air. Keep victim at rest in half upright position. If breathing is difficult: mouth-to mouth resuscitation. If not breathing: artificial aspiration. Immediately get medical attention.

Skin contact:

Wash off with plenty of water for at least 15 minutes. Remove contaminated clothing. (Do not pull loose.) Wash off with plenty of water. Immediately get medical attention.

Eye contact:

Immediately wash out with plenty of water with the eyelid held wide open for at least 15 minutes. After initial flushing, remove any contact lenses and continue flushing. Immediately get medical attention.

Ingestion:

Never give anything by mouth to an unconscious person. Do not induce vomiting. Wash out mouth with water. Make victim drink water. Keep victim at rest. Immediately get medical attention.

Protection of first – aiders: Avoid exposure. Use appropriate protection.

4.2 Most important symptoms and effects, both acute and delayed

Inhalation: Irritating to respiratory system. Exposure may result in depressed respiration, coughing, nausea and sore throat. Prolonged or repeated exposure to large amounts may cause damage to lungs (lung edema).

Ingestion: Irritating to mouth, throat and oesophagus. Exposure may result in sore throat, nausea, retching and blisters. Prolonged or repeated exposure to large amounts may result in unconsciousness or coma.

Skin contact: Irritating to skin. Exposure may result in redness, swelling and pain. Prolonged or repeated skin contact (sweating, fever, pain) In oversensitive people even exposure to very small amounts causes allergic reactions.

Eye contact: Irritating to eyes. Exposure may result in impaired vision, tears, redness and pain.

4.3 Indication of any immediate medical attention and special treatment needed

Specific treatment: First aid, decontamination, treatment of symptoms.

Notes for the doctor: Treat symptomatically.

Safety Data Sheet

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable:

Dry chemical, AFFF, foam, carbon dioxide. In extreme cases, if aforementioned extinguishing agents are ineffective in fighting a large fire, use a halon extinguisher.

Unsuitable:

Do not extinguish with water.

5.2 Special hazards arising from the substance or mixture

Vapour is heavier than air and travels along the ground with the risk of distant ignition. Burning may produce: carbon dioxide, carbon monoxide. Fight fires from a protected location. Dyke fire control water for later disposal. Cool exposed containers with water spray.

5.3 Advice for firefighters

Burning may produce: toxic and /or corrosive vapours/gasses. Use breathing apparatus (self – contained breathing apparatus with full face shield.) Wear suitable protective clothing.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

In the event major spillage. Evacuate room. Contact safety officer immediately. Wear suitable protective clothing, gloves and eye/face protection.

6.2 Environmental precautions

Prevent dispersion. Do not allow enter sewage system. In the event of major spillage. Contact safety officer immediately.

6.3 Methods and material for containment and cleaning up

Incentive /Danger of explosion. Keep away from sources of ignition. Seal leak if possible without risk. Prevent dispersion. Clean up only under supervision of an expert. Collect spilled material in sealable containers. Absorb remainder in sand or other inert material. Collect in sealable containers.

6.4 Reference to other sections

Safe handling: see section 7. Personal protection equipment: see section 8. Disposal: see

Safety Data Sheet

section 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

When handling the product, allow for materials and conditions which should be avoided (see Section 10). Avoid exposure. Use appropriate protection (see section 8). Take precautionary measures against static discharges. Keep away from open flame, sparks or sources of ignition. Explosion protected electrical equipment.

7.2 Conditions for safe storage, including any incompatibilities

Store in fireproof location. When storing the product, allow for materials and conditions which should be avoided (see Section 10). Ventilation required along the floor. Keep container tightly closed. Keep in labeled containers.

7.3. Specific end use(s)

Product is used for repairing of dental prosthesis in dental laboratory.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational exposure limits:

Chemical name: methyl methacrylate (EU – Directive 2009/161/EU, Official Gazette. RS nr. 78 / 4.12.2018):

OEL (8 h) = 210 mg/m³ (50 ppm)

8.2 Exposure controls

8.2.1 Appropriate engineering controls:

In the event of use above flash point. Use in closed systems. Do not use compressed air by filling, discharging or handling the product. Ventilation required along the floor. ventilation required. Explosion protected electrical equipment. Explosion proof lighting. Earth connection against static electricity. Spark – free tool. Do not heat.

Hygiene measures:

Follow good hygiene practices. Keep personal protective equipment separate from other clothing. Remove contaminated clothing immediately. Do not eat, drink, smoke while using. Wash hands after each use.

8.2.2 Personal protective equipment

With proper ventilation, extraction or closed systems, breathing apparatus is not required. Chemical harm measurements. In case of increased exposure and insufficient ventilation, the use of respiratory protection is mandatory:

Safety Data Sheet

Respiratory system: With sufficient ventilation, extraction or closed system, breathing apparatus not necessary. In the event of possible exposure: gas/vapour filter. SIST EN 140:1999/AC:2000 with filter SIST EN 14387:2004 + A1:2008 filter type A.

Skin/Hands:

Mandatory use of gloves SIST EN 374: 2004. Butyl gloves (0.7 mm), throughput time 60 min. In practice, given the different exposure conditions, this information is used to assist in the selection of suitable protective gloves. Information is not a substitute for end-user tests. It is necessary to choose the appropriate type of gloves according to working conditions. There are several types of protective gloves available. Gloves made of elastomeric materials include latex (natural rubber), neoprene (polyisoprene), nitrile gloves (ABS rubber), butyl gloves, polyvinyl alcohol (PVA), polyvinyl chloride (PVC) and fluoroelastomers. The multi-layer gloves are made of PVA layers sandwiched between layers of polyethylene. In the permeability test, PVA / polyethylene multilayer and PVA backed gloves showed the best results (PVA becomes ineffective in contact with water if other layers are damaged). Butyl and nitrile gloves offer only short-term protection. Surgical gloves offer too little effective protection. Gloves should be properly stored and replaced regularly, especially with prolonged use of the chemical.

Eyes: Safety goggles SIST EN 166:2002

Other: In the case of handling with higher volume of liquids: full face mask, chemical-resistant boots, rubber apron.

8.3 Environmental exposure controls

General instructions: Do not flush into surface water or sanitary sewer system.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical state	Liquid
Colour	Colourless
Odour	Ester-like
Boiling point	100,3°C
Melting point	- 48 °C
Vapour pressure	47 mbar (20°C)
Density	0.94 g/ml at 20°C
Solubility in water	15.9 g/l (20°C)
pH	n.a.
Flash point	10°C
Auto ignition temperature	430 °C
Lower explosion limit	2.1 volume %

Safety Data Sheet

Upper explosion limit	12.5 volume %
Viscosity	0.6 mPa.s
9.2 Other information No additional information relevant to safe use.	

SECTION 10: Stability and reactivity

10.1 Reactivity

Not reactive under normal conditions and proper use.

10.2 Chemical stability

Stable under normal conditions. When incorrectly used: Fire hazard, polymerization (stable with: hydrochinon).

10.3 Possibility of hazardous reaction

Data not available.

10.4 Conditions to avoid

Keep away from: open flame and sources of ignition. Do not heat. Protect from (sun)light and heat.

10.5 Incompatible materials

No data available.

10.6 Hazardous decomposition products

Not known.

SECTION 11: Toxicological information

11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008

Acute toxicity (oral): Not classified

Acute toxicity (dermal): Not classified

Acute toxicity (inhalation): Not classified

Methyl-methacrylate; methyl 2-methylprop-2-enoate; methyl 2-methylpropenoate (80-62-6)

Acute toxicity- Oral: LD50 (rat): 7900 - 9400 mg /kg

Acute toxicity - Dermal: LD50 (rabbit): 5000 mg /kg

Acute toxicity - Inhalation: LD50 (rat, 4 hour): 29,8 ml / l

Vapour of methyl methacrylate can tease respiratory organs, eyes and skin. Skin exposure can lead to dermatitis. Inhalation can cause dizziness, nausea and vomiting. Long term exposure can cause asthma.

Safety Data Sheet

Skin irritation (rabbit): slightly irritating
Eye irritation (rabbit): slightly irritating
Sensitization (guinea pig): not sensitizing

2-Propenoic acid, 2-methyl-, 1,2-ethanediyl ester (97-90-5)

LD50 oral rat 8300 ml/kg
LD50 dermal rat 2000 mg/k

N,N-dimethyl-p-toluidine (99-97-8)

LD50 oral rat: 1650 mg/kg
LD50 oral: 139 mg/kg bodyweight Animal: mouse, Guideline: other:
LD50 dermal rabbit: 2000 mg/kg
LC50 Inhalation – Rat: 1.4 mg/l/4h

Skin corrosion/irritation: Causes skin irritation.

pH: Not applicable

Serious eye damage/irritation: Not classified

pH: Not applicable

Additional information: Based on available data, the classification criteria are not met

Respiratory or skin sensitization: May cause an allergic skin reaction.

Germ cell mutagenicity: Not classified

Additional information: Based on available data, the classification criteria are not met

Carcinogenicity: Not classified

Additional information: Based on available data, the classification criteria are not met

Reproductive toxicity: Not classified

Additional information: Based on available data, the classification criteria are not met

STOT-single exposure: May cause respiratory irritation

methyl methacrylate; methyl 2-methylprop-2-enoate; methyl 2-methylpropenoate (80-62-6)

STOT-single exposure May cause respiratory irritation.

2-Propenoic acid, 2-methyl-, 1,2-ethanediyl ester (97-90-5) STOT-single exposure May cause respiratory irritation. STOT-repeated exposure : Not classified

Additional information : Based on available data, the classification criteria are not met methyl methacrylate; methyl 2-methylprop-2-enoate; methyl 2-methylpropenoate (80-62-6) LOAEC (inhalation, rat, vapour, 90 days) 416 mg/m³ air NOAEL (oral, rat, 90 days)

124.1 – 164 mg/kg bodyweight/day NOAEC (inhalation, rat, dust/mist/fume, 90 days)

500 – 1000 ppm 2-Propenoic acid, 2-methyl-, 1,2-ethanediyl ester (97-90-5) LOAEC

(inhalation, rat, gas, 90 days) 350 ppm Animal: rat, Guideline: OECD Guideline 413

(Subchronic Inhalation Toxicity: 90- Day Study) NOAEL (oral, rat, 90 days) 100 – 1500

mg/kg bodyweight/day

Aspiration hazard: Not classified

Additional information: Based on available data, the classification criteria are not met

Safety Data Sheet

methyl methacrylate; methyl 2-methylprop-2-enoate; methyl 2-methylpropenoate (80-62-6)

STOT-single exposure

May cause respiratory irritation.

2-Propenoic acid, 2-methyl-, 1,2-ethanediyl ester (97-90-5)

STOT-single exposure

May cause respiratory irritation.

STOT-repeated exposure: Not classified

Additional information: Based on available data, the classification criteria are not met

methyl methacrylate; methyl 2-methylprop-2-enoate; methyl 2-methylpropenoate (80-62-6)

LOAEC (inhalation, rat, vapour, 90 days): 416 mg/m³ air

NOAEL (oral, rat, 90 days): 124.1 – 164 mg/kg bodyweight/day

NOAEC (inhalation, rat, dust/mist/fume, 90 days): 500 – 1000 ppm

2-Propenoic acid, 2-methyl-, 1,2-ethanediyl ester (97-90-5)

LOAEC (inhalation, rat, gas, 90 days): 350 ppm Animal: rat, Guideline: OECD Guideline 413 (Subchronic Inhalation Toxicity: 90-Day Study)

NOAEL (oral, rat, 90 days): 100 – 1500 mg/kg bodyweight/day

N,N-dimethyl-p-toluidine (99-97-8)

LOAEL (oral, rat, 90 days): 201.786 mg/kg bodyweight/day

STOT-repeated exposure

May cause damage to organs through prolonged or repeated exposure.

Aspiration hazard: Not classified

Additional information:

Based on available data, the classification criteria are not met

11.2. Information on other hazards

11.2.1. Endocrine disrupting properties

No additional information available

SECTION 12: Ecological information

12.1 Toxicity

No ecological information is known about the product but some is available on the ingredients defined in section 2.

Chemical name: Methyl-methacrylate

Safety Data Sheet

Ecologically toxic: LC₅₀ (*Lepomis macrochirus*, 96 hour): 191 mg /l
EC₅₀ (*Daphnia magna*, 48 hour): 69 mg /l
Stability in water: Hydrolysis is not significant at neutral or acid pH.
Adsorption in soil-air: MMA volatiles rapidly from soil.
PNECaqua=740µg/l
PNECmicroorganisms = 100 mg/l
PNECsoil_porewater=740µg/l

12.2 Persistence and degradability

No data available.

12.3 Bioaccumulative potential

No data available.

12.4 Mobility in soil

No data available.

12.5 Results of PBT and vPvB assessment

No data available.

12.6 Endocrine disrupting properties

No data available.

12.7 Other adverse effect

Not known

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Methods of disposal: Disposal according to the local legislation.

Waste of residues: Keep waste separate. Because of possible pollution, remove as industrial waste or hazardous waste.

Contaminated packaging: Keep waste packaging separate. Because of possible pollution, remove as industrial waste or hazardous waste.

Category of disposal: 16 03 05* Organic wastes containing dangerous substances.

Safety Data Sheet

SECTION 14: Transport Information				
	Land-Road/Railway (ADR/RID):	Inland waterways (ADNR):	Sea (IMDG):	Air (IATA):
14.1 UN number	UN 1247	UN 1247	UN 1247	UN 1247
14.2 UN proper shipping name	methyl methacrylate, stabilized	methyl methacrylate, stabilized	methyl methacrylate, stabilized	methyl methacrylate, stabilized
14.3 Transport hazard class(es)				
Class	3	3	3	3
Hazard identification number	339	/	/	/
Classification group	F1	/	/	/
Hazardous label	3	/	/	/
Tunnel restriction code	(D/E)	/	/	/
Medical First Aid Guide:	/	/	330	/
EmS	/	/	F-E, S-D	/
14.4 Packing group	II	/	II	II
14.5 Environmental hazards	Not marine pollutant			
14.6 Special precautions for user	No special precautions			
14.7 Maritime transport in bulk according to IMO instruments	No data available			

SECTION 15: Regulatory information

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

Safety Data Sheet

Product is classified in accordance with directive EC 1907/2006 and 1272/2008 and additional changes or national legislation Ur.l. RS 101/2002 and Ur.l.RS 16/2008.

15.2 Chemical safety assessment

No data available.

SECTION 16: Other information

Revision:

Version 08 issued on May 2023 in accordance with EC 1907/2006 (Commission Regulation (EU) 2015/830) and EC 1272/2008.

Revision in accordance to changes in COMMISSION REGULATION (EU) 2020/878 amending Annex II to Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH).

Legend of abbreviations:

ADR – European agreement concerning the international carriage of dangerous goods by road

CAS – Chemical Abstracts Service

CLP – Classification, Labeling and Packaging

CMR – Carcinogenic, Mutagenic or toxic for Reproduction

DNEL - Derived no-effect level

EC₅₀: Half maximal effective concentration

EmS – Emergency Schedule

GHS – Globally Harmonised System of Classification and Labeling of Chemicals

IATA – International Air Transport Association

IMDG – International Maritime Dangerous Goods Code

LC₅₀: Lethal concentration, 50%

LD₅₀: Median lethal dose; the dose causing 50% lethality

MARPOL – International convention for the prevention of pollution from ships

NOEC - No-observed-effect concentration

OEL - Occupational exposure limit

OECD - Organisation for Economic Co-operation and Development

PBT – Persistent Bioaccumulative Toxic

PNEC: Predicted no-effect concentration

Ppm – parts per million

REACH – Registration, Evaluation, Authorisation and Restriction of Chemicals

RID – Regulation concerning the international carriage of dangerous goods by rail

vPvB – very Persistent and very Bioaccumulative

Safety Data Sheet

References:

Safety data sheets of the substances for the product

Directive EC 1907/2006 and 1272/2008 with all amendments

Council Directive 98/24/EC with all implementations and amendments

(Official Gazette RS, No. 100/01, 39/05, 53/07, 102/10, 43/11 – ZVZD-1, 38/15, 78/18, 78/19; 72/21);

Directive 2008/98/EC with all amendments, Official Gazette RS 37/15, 69/15.

Martindale: The Extra Pharmacopoeia, 13. edition

European convention about international transport of hazardous material ADR

Disclaimer of expressed and implied warranties:

The information contained in the safety data sheet is correct to the best of our knowledge at the date of issue. It is intended as a guide for the safe use, handling, disposal, storage and transportation and is not intended as warranty or as a specification. The information relates only to the product specified and may not be suitable for combinations with other materials or in processes other than those specifically described herein.