

MATERIAL SAFETY DATA SHEET

According to (EG) 1907/2006

SILADENT Dr. Böhme & Schöps GmbH



Date of printing: 21.09.2015

reviewed on: 29.05.2015

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SilaDon liquid

1. Identification of the Substance / Preparation and Company:

Identification of the substance or preparation:

Commercial product name:

SilaDon

Use / Purpose

Denture Base Resin, hot-curing acrylic, liquid component of the 2-component acrylic system based on methyl methacrylate (powder and liquid), for the purpose of crafting individual dentures.

Company / Manufacturer:

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2. Hazards Identification:

2.1 Classification of the substance or mixture

Indications of danger:

F - Highly flammable, Xi - Irritant

R phrases:

Highly flammable.

Irritating to respiratory system and skin.

May cause sensitisation by skin contact.

Classification according to Regulation (EC) No. 1272/2008 [CLP]

Hazard categories:

Flammable liquid:

Skin corrosion/irritation:

Respiratory/skin sensitization:

Specific target organ toxicity - single exposure:

Hazard Statements:

Highly flammable liquid and vapour.

Causes skin irritation.

May cause an allergic skin reaction.

May cause respiratory irritation.

2.2 Label elements

Hazardous components which must be listed on the label:

Methyl methacrylate

Signal word:

Danger

Pictograms:

GHS02-GHS07



Hazard statements

H225

Highly flammable liquid and vapour.

H315

Causes skin irritation.

H317

May cause an allergic skin reaction.

H335

May cause respiratory irritation.

Precautionary statements

P210

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

P240

Ground/bond container and receiving equipment.

P243

Take precautionary measures against static discharge.

P280

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

2.3 Other hazards:

No information available

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3. Composition / Information on Ingredients:

3.1 Mixtures

Hazardous components

EC No	Chemical name	Quantity
CAS No	Classification according to Directive 67/548/EEC	
Index No	Classification according to Regulation (EC) No. 1272/2008 [CLP]	
REACH No		
201-297-1	Methyl methacrylate	
80-62-6	F - Highly flammable, Xi - Irritant R11-37/38-43	95 - < 100 %
	Flam. Liq. 1, Skin Irrit. 2, Skin Sens. 1, STOT SE 3; H224 H315 H317 H335	
01-2119452498-28		

Full text of R-, H- and EUH-phrases: see section 16.

4. First aid measures:

4.1 Description of first aid measures

General information:

Remove contaminated, saturated clothing immediately. If skin irritation or rash occurs: Get medical advice/attention. If eye irritation persists: Get medical advice/attention.

After inhalation:

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

After contact with skin:

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

After contact with eyes:

After contact with the eyes, rinse with water with the eyelids open for a sufficient length of time, then consult an ophthalmologist immediately.

After ingestion:

Observe risk of aspiration if vomiting occurs. Rinse mouth immediately and drink plenty of water.

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

No information available.

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

Treat symptomatically.

5. Firefighting measures:

5.1 Extinguishing media

Suitable extinguishing media:

Carbon dioxide (CO₂), Foam, Extinguishing powder.

Unsuitable extinguishing media:

Water.

5.2 Special hazards arising from the substance or mixture:

Flammable. Vapours can form explosive mixtures with air.

Advice for firefighters:

Wear a self-contained breathing apparatus and chemical protective clothing. Full protection suit.

5.3 Additional information:

Use water spray jet to protect personnel and to cool endangered containers. 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:

Remove all sources of ignition. 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 uncontrolled discharge of product into the environment. Danger of explosion

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- 6.3 Methods and material for containment and cleaning up: Absorb with liquid-binding material (e.g. sand, diatomaceous earth, acid- or universal binding agents).
Treat the recovered material as prescribed in the section on waste disposal.
- 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
Advice on safe handling: If handled uncovered, arrangements with local exhaust ventilation have to be used. Do not breathe gas/fumes/vapour/spray.
Advice on protection against fire and explosion: Keep away from sources of ignition. - No smoking. Take precautionary measures against static discharges. Vapours can form explosive mixtures with air.
- 7.2 Conditions for safe storage, including any incompatibilities
Requirements for storage rooms and vessels: Keep container tightly closed. Keep in a cool, well-ventilated place. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
- Advice on storage compatibility:
Do not store together with: Oxidising agent. Pyrophoric or self-heating substances.
- 7.3 Specific end use(s): Dental prosthesis

8. Exposure controls / Personal protection:

- 8.1 Control parameters

Exposure limits (EH40)

CAS No	Substance	ppm	mg/m ³	fibres/ml	Category	Origin
80-62-6	Methyl methacrylate	50	208		TWA (8 h)	WEL
		100	416		STEL (15 min)	WEL

DNEL/DMEL values

CAS No	Substance	Exposure route	Effect	Value
80-62-6	Methyl methacrylate			
	Worker DNEL, long-term	inhalation		208 mg/m ³
	Worker DNEL, long-term	demal		17 mg/kgbw/day

- 8.2 Exposure controls
Appropriate engineering controls: If handled uncovered, arrangements with local exhaust ventilation have to be used. Do not breathe gas/fumes/vapour/spray.
- Protective and hygiene measures: Remove contaminated, saturated clothing immediately. Draw up and observe skin protection programme. Wash hands and face before breaks and after work and take a shower if necessary.
When using do not eat or drink.
- Eye/face protection: Wear eye/face protection.
- Hand protection: When handling with chemical substances, protective gloves must be worn with the CE-label including the four control digits. The quality of the protective gloves resistant to chemicals must be chosen as a function of the specific working place concentration and quantity of hazardous substances. 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.

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Skin protection: Flame-retardant protective clothing. Wear anti-static footwear and clothing:
Respiratory protection: In case of inadequate ventilation wear respiratory protection.

9. Physical and chemical properties:

9.1 Information on basic physical and chemical properties

Physical state:	liquid
Colour:	colourless
Odour:	characteristic
pH-Value:	not determined
Changes in the physical state	
Melting point:	-48 °C
Initial boiling point and boiling range:	100,5 °C
Flash point:	10 °C
Flammability	
Solid:	not applicable
Gas:	not applicable
Lower explosion limits:	2,1 vol. %
Upper explosion limits:	12,5 vol. %
Ignition temperature:	421 °C
Auto-ignition temperature	
Solid:	not applicable
Gas:	not applicable
Decomposition temperature:	not determined
Oxidizing properties	Not oxidizing
Vapour pressure:	36 hPa
(at 20 °C)	
Density (at 15,5 °C):	0,949 g/cm ³
Water solubility:	12,5 g/L
(at 20 °C)	
Solubility in other solvents	not determined
Partition coefficient:	1,38
Viscosity / dynamic:	0,53 mPa·s
(at 20 °C)	
Vapour density:	3,5
(at 20 °C)	
Evaporation rate:	not determined

9.2 Other information

Solid content: not determined

10. Stability and Reactivity:

10.1 Reactivity	Flammable, Ignition hazard.
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	Keep away from sources of heat (e.g. hot surfaces), sparks and open flames. Vapours can form explosive mixtures with air.
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: Based on available data, the classification criteria are not met.

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ATEmix tested

	Dose	Species	Source
LD50, oral	7870 mg/kg	Rat	
LD50, dermal	> 5000 mg/kg	Rabbit	
LC50, inhalative (vapour) (4h)	78 mg/l	Rat	

CAS No	Chemical name	Exposure routes	Method	Dose	Species	Source
80-62-6	Methyl methacrylate	oral	LD50	>5000 mg/kg		
		dermal	LD50	>5000 mg/kg		
		inhalative vapour	LC50	29,8 mg/l		

Irritation and corrosivity:	Causes skin irritation.
Sensitising effects:	May cause an allergic skin reaction. (Methyl methacrylate)
STOT-single exposure:	May cause respiratory irritation. (Methyl methacrylate)
Severe effects after repeated or prolonged exposure:	Based on available data, the classification criteria are not met.
Carcinogenic/mutagenic/toxic effects for reproduction:	Based on available data, the classification criteria are not met.
Aspiration hazard:	Based on available data, the classification criteria are not met.
Additional information on tests:	This mixture is classified as hazardous according to regulation (EC) No. 1272/2008 [CLP].

12. Ecological Information:

12.1 Toxicity Acute (short-term) fish toxicity

CAS No	Chemical name	Method	Dose	[h] [d]	Species	Source
80-62-6	Methyl methacrylate					
	Acute fish toxicity	LC50 > 79 mg/l		96 h	Oncorhynchus mykiss (Rainbow trout)	OECD 203
	Acute algae toxicity	ErC50 > 110 mg/l		72 h	Selenastrum capricornutum	OECD 201
	Acute crustacea toxicity	EC50 69 mg/l		48 h	Daphnia magna (Big water flea)	OECD 202
	Crustacea toxicity	NOEC 37 mg/l		21 d	Daphnia magna (Big waterflea)	OECD 202

12.2 Persistence and degradability:	Biodegradable.
12.3 Bioaccumulative potential:	On the basis of existing data about the elimination/degradation and bioaccumulation potential longer term damage to the environment is unlikely.

Partition coefficient n-octanol/water

CAS No	Chemical name	Log Pow
80-62-6	Methyl methacrylate	1,38

12.4 Mobility in soil:	Mobility in soil: No adsorption in soil or sediment.
12.5 Results of PBT and vPvB assessment:	This substance does not meet the PBT/vPvB criteria of REACH, annex XIII.
12.6 Other adverse effects:	No information available.
12.7 Further information:	Avoid release to the environment.

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13. Disposal Considerations:

- 13.1 Waste treatment methods
Advice on disposal: Do not allow to enter into surface water or drains. Dispose of waste according to applicable legislation.
- 13.2 Waste disposal number of 070208 waste from residues/unused products
WASTES FROM ORGANIC CHEMICAL PROCESSES; wastes from the MFSU of plastics, synthetic rubber and man-made fibres; other still bottoms and reaction residues Classified as hazardous waste.
- Contaminated packaging Non-contaminated packages may be recycled. Handle contaminated packages in the same way as the substance itself.

14. Transport information:

- 14.1 Land transport (ADR/RID)
- | | |
|------------------------------------------------|-----------------------------------------|
| UN number: | UN 1247 |
| UN proper shipping name: | METHYL METHACRYLATE MONOMER, STABILIZED |
| Transport hazard class(es): | 3 |
| Packing group: | II |
| Hazard label: | 3 |
| Classification code: | F1 |
| Limited quantity: | 1 L |
| Transport category: | 2 |
| Hazard No: | 339 |
| Tunnel restriction code: | D/E |
| Other applicable information (land transport): | E2 |
- 14.2 Inland waterways transport (ADN)
- | | |
|------------------------------------------------------------|-----------------------------------------|
| UN number: | UN 1247 |
| UN proper shipping name: | METHYL METHACRYLATE MONOMER, STABILIZED |
| Transport hazard class(es): | 3 |
| Packing group: | II |
| Hazard label: | 3 |
| Classification code: | F1 |
| Limited quantity: | |
| Other applicable information (inland waterways transport): | E2 |
- 14.3 Marine transport (IMDG)
- | | |
|-------------------------------------------------|-----------------------------------------|
| UN number: | UN 1247 |
| UN proper shipping name: | METHYL METHACRYLATE MONOMER, STABILIZED |
| Transport hazard class(es): | 3 |
| Packing group: | II |
| Hazard label: | 3 |
| Special Provisions: | - |
| Limited quantity: | 1 L |
| EmS: | F-E, S-D |
| Other applicable information (marine transport) | E2 |
- 14.4 Air transport (ICAO)
- | | |
|----------------------------------------|-----------------------------------------|
| UN number: | UN 1247 |
| UN proper shipping name: | METHYL METHACRYLATE MONOMER, STABILIZED |
| Transport hazard class(es): | 3 |
| Packing group: | II |
| Hazard label: | 3 |
| Limited quantity Passenger: | 1 L |
| IATA-packing instructions - Passenger: | 353 |
| IATA-max. quantity - Passenger: | 5 L |

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IATA-packing instructions - Cargo: 364
IATA-max. quantity - Cargo: 60 L
Other applicable information (air transport): E2
Passenger-LQ: Y341

14.5 Environmental hazards

ENVIRONMENTALLY HAZARDOUS: no

14.6 Special precautions for user

Warning: Combustible liquids.

14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code

not applicable

15. Regulations:

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

EU regulatory information

Additional information

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

National regulatory information

Employment restrictions:

Observe employment restrictions for young people. Observe employment restrictions for child bearing mothers and nursing.

Water contaminating class (D):

1 - slightly water contaminating

Skin resorption/Sensitization:

Causes allergic hypersensitivity reactions.

15.2 Chemical safety assessments:

Chemical safety assessments for substances in this mixture were not carried out.

16. Further information

16.1 Abbreviations and acronyms

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 Harmonized 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

LC50: Lethal concentration, 50%

LD50: Lethal dose, 50%

Relevant R-phrases (Number and full text)

11 Highly flammable.

37/38 Irritating to respiratory system and skin.

43 May cause sensitisation by skin contact.

Relevant H- and EUH-phrases (Number and full text)

H224 Extremely flammable liquid and vapour.

H225 Highly flammable liquid and vapour.

H315 Causes skin irritation.

H317 May cause an allergic skin reaction.

H335 May cause respiratory irritation.

16.2 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.