

according to Regulation (EC) No 1907/2006
 Revision date: 09.07.2021 Revision No: 1,03

Date of printing: 05.07.2022
 Page: 1 / 10

SilaDon Liquid

SECTION 1: Identification of the substance/mixture and of the company/undertaking

- 1.1 Product identifier**
Commercial product name: SilaDon Liquid
Product group: Liquid component
- 1.2 Relevant identified uses of the substance or mixture and uses advised against**
Use of the substance/mixture: Manufacture of dental products.
- 1.3 Details of the supplier of the safety data sheet**
Manufacturer: retec® Kunststofftechnik GmbH
 Street / mailbox: Industriestraße 2
 Country code. / postal code / city: D-61191 Rosbach v.d.H
 Phone: +49 (0) 6007 - 9157 0
 Fax: +49 (0) 6007 - 9157 29
 E-mail / Website: info@retec-dent.de / www.retec-dent.de
 Contact person: Herr Dr. Manfred Steinbach
 e-mail: manfred.steinbach@retec-dent.de
- Supplier:** SILADENT Dr. Böhme & Schöps GmbH
 Street / mailbox: Im Klei 26
 Country code. / postal code / city: D - 38644 Goslar
 Phone: 0 53 21 / 37 79 – 0
 Fax: 0 53 21 / 38 96 32
 E-mail / Website: info@siladent.de / www.siladent.de
- 1.4 Emergency telephone number:** +49 (0) 6007-91570

SECTION 2: Hazards identification

- 2.1 Classification of the substance or mixture:**
 Regulation (EC) No. 1272/2008
 Hazard categories:
 Flammable liquid: Flam. Liq. 2
 Skin corrosion/irritation: Skin Irrit. 2
 Respiratory or skin sensitisation: Skin Sens. 1
 Specific target organ toxicity - single exposure: STOT SE 3
 Hazard Statements:
 Highly flammable liquid and vapour.
 Causes skin irritation.
 May cause an allergic skin reaction.
 May cause respiratory irritation.
- 2.2 Label elements:**
Regulation (EC) No. 1272/2008
Hazard components for labelling: Methyl methacrylate
 1,4-Butandiol dimethacrylate
- Signal word:** Danger

Pictograms:



Hazard statements:

H225 Highly flammable liquid and vapour.

according to Regulation (EC) No 1907/2006
 Revision date: 09.07.2021 Revision No: 1,03

Date of printing: 05.07.2022
 Page: 2 / 10

SilaDon Liquid

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.
 P261 Avoid breathing dust/fume/gas/mist/vapours/spray.
 P280 Wear protective gloves/protective clothing/eye protection/face protection/ hearing protection.
 P302+P352 IF ON SKIN: Wash with plenty of water and soap.
 P333+P313 If skin irritation or rash occurs: Get medical advice/attention.
 P362+P364 Take off contaminated clothing and wash it before reuse.
 P370+P378 In case of fire: Use carbon dioxide (CO₂), foam or dry powder to extinguish.
 P403+P235 Store in a well-ventilated place. Keep cool.
 P501 Dispose of contents/container to as hazardous waste - in accordance with local and national legislation - suitable, approved incinerator for combustible organic waste.

2.3 Other hazards No information available.

SECTION 3: Composition/information on ingredients

3.2 Mixtures

Chemical characterisation: Mixture based on methyl methacrylate.

| CAS No | Chemical name | Quantity |
|-----------|---|-------------|
| | EC No Index No REACH No | |
| | GHS Classification | |
| 80-62-6 | Methyl methacrylate | 90 - < 95 % |
| | 201-297-1 01-2119452498-28 | |
| | Flam. Liq. 1, Skin Irrit. 2, Skin Sens. 1, STOT SE 3; H224 H315 H317 H335 | |
| 2082-81-7 | 1,4-Butandiol dimethacrylate | 5 - < 10 % |
| | 218-218-1 01-2119967415-30 | |
| | Skin Sens. 1; H317 | |

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

Specific Conc. Limits, M-factors and ATE

| CAS No | EC No | Chemical name | Quantity |
|-----------|--|------------------------------|-------------|
| | Specific Conc. Limits, M-factors and ATE | | |
| 80-62-6 | 201-297-1 | Methyl methacrylate | 90 - < 95 % |
| | inhalation: LC50 = 29,8 mg/l (vapours); dermal: LD50 = >5000 mg/kg; oral: LD50 = >5000 mg/kg | | |
| 2082-81-7 | 218-218-1 | 1,4-Butandiol dimethacrylate | 5 - < 10 % |
| | dermal: LD50 = > 3000 mg/kg; oral: LD50 = > 10000 mg/kg | | |

SECTION 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.

according to Regulation (EC) No 1907/2006
 Revision date: 09.07.2021 Revision No: 1,03

Date of printing: 05.07.2022

Page: 3 / 10

SilaDon Liquid

| | |
|--|--|
| After contact with skin: | After contact with skin, wash immediately with plenty of water and soap. Take off immediately all contaminated clothing and wash it before reuse. In case of skin irritation, consult a physician. |
| 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: | Do NOT induce vomiting. Rinse mouth. Call a physician immediately. |
| 4.2 Most important symptoms and effects, both acute and delayed: | Causes skin irritation. May cause respiratory irritation. May cause an allergic skin reaction. |
| 4.3 Indication of any immediate medical attention and special treatment needed: | Treat symptomatically. |

SECTION 5: Firefighting measures

| | |
|---|---|
| 5.1 Extinguishing media: | |
| Suitable extinguishing media: | Carbon dioxide (CO ₂), Foam, Extinguishing powder. |
| Unsuitable extinguishing media: | Full water jet. |
| 5.2 Special hazards arising from the substance or mixture: | Highly flammable liquid and vapour. Can polymerise exothermically if heated, exposed to air, sunlight or by addition or free radical initiators. Vapours can form explosive mixtures with air. |
| 5.3 Advice for firefighters: | Wear a self-contained breathing apparatus and chemical protective clothing. Full protection suit. |
| 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. |

SECTION 6: Accidental release measures

| | |
|---|---|
| 6.1 Personal precautions, protective equipment and emergency procedures: | |
| General measures | Remove all sources of ignition. Wear protective gloves and eye / face protection. Avoid inhalation of vapours. See section: 8. |
| 6.2 Environmental precautions: | Do not allow to enter into surface water or drains. |
| 6.3 Methods and material for containment and cleaning up: | |
| Other information: | Absorb with liquid-binding material (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 |

according to Regulation (EC) No 1907/2006
 Revision date: 09.07.2021 Revision No: 1,03

Date of printing: 05.07.2022
 Page: 4 / 10

SilaDon Liquid

SECTION 7: Handling and storage

- 7.1 Precautions for safe handling:**
Advice on safe handling: When using do not eat, drink, smoke, sniff. Use only in well-ventilated areas. Do not breathe gas/fumes/vapour/spray.
- Advice on protection against fire and explosion:** Keep away from sources of ignition - No smoking. Flammable vapours can accumulate in headspace of closed systems. Take precautionary measures against static discharges. Vapours can form explosive mixtures with air.
- Further information on handling:** Caution! Transport usually takes place at temperatures above the flash point.
- 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. Protect from direct sunlight.
- Advice on storage compatibility:** Do not store together with: Material, oxygen-rich, Oxidising. Pyrophoric or self-heating substances.
- Further information on storage conditions:** Keep away from heat.

SECTION 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 | dermal | | 17 mg/kg bw/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.

according to Regulation (EC) No 1907/2006
 Revision date: 09.07.2021 Revision No: 1,03

Date of printing: 05.07.2022
 Page: 5 / 10

SilaDon Liquid

| | |
|--------------------------------|---|
| Hand protection: | To protect against splashes: butyl; EN 374. To protect against immersion: butyl; 0.7 mm or thicker, EN 374. The suitability of gloves should be agreed with the manufacturer. In the event of contamination or if the Breakthrough time is exceeded, change gloves. Resistance of the glove material: see information from the glove manufacturer. |
| Skin protection: | Flame-retardant protective clothing. Wear anti-static footwear and clothing. |
| Respiratory protection: | Wear suitable respiratory protection if technical measures are inadequate or not in place and exposure is to be expected that exceeds the DNEL (derived exposure level below which the substance does not cause any harm to human health). A suitable breathing mask with filter type A (EN141 or EN405) is recommended. A self-contained breathing apparatus may be necessary if particularly high vapour concentrations are formed. |

SECTION 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 |
| | Boiling point or 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: |
| | (at 20 °C) 36 hPa |
| | Density (at 15,5 °C): 0,949 g/cm ³ |
| | Water solubility: |
| | (at 20 °C) 12,5 g/L |
| | Solubility in other solvents: not determined |
| | Partition coefficient: 1,38 |
| | Viscosity / dynamic (at 20 °C): |
| | 0,53 mPa·s |
| | Vapour density (at 20 °C): 3,5 |
| | Evaporation rate: not determined |
| 9.2 | Other information |
| | Solid content: not determined |

according to Regulation (EC) No 1907/2006
 Revision date: 09.07.2021 Revision No: 1,03

Date of printing: 05.07.2022
 Page: 6 / 10

SilaDon Liquid

SECTION 10: Stability and reactivity

- 10.1 Reactivity:** Highly flammable, Vapours can form explosive mixtures with air.
- 10.2 Chemical stability:** The product is stable under storage at normal ambient temperatures.
- 10.3 Possibility of hazardous reactions:** Can polymerise exothermically if heated, exposed to air, sunlight or by addition of free radical initiators.
- 10.4 Conditions to avoid:** Keep away from sources of heat (e.g. hot surfaces), sparks and open flames. Can polymerise exothermically if heated, exposed to air, sunlight or by addition of free radical initiators. Protect from direct sunlight.
- 10.5 Incompatible materials:** Polymerization with heat evolution may occur in the presence of radical forming substances (e.g. peroxides), reducing substances, and/or heavy metal ions.
- 10.6 Hazardous decomposition products** No known hazardous decomposition products.

SECTION 11: Toxicological information

- 11.1 Information on toxicological effects:**
Acute toxicity: Based on available data, the classification criteria are not met.
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 | Dose | Species | Source | Method |
|-----------|------------------------------|-------------------|-------------------|---------|----------|--------|
| 80-62-6 | Methyl methacrylate | oral | LD50 >5000 mg/kg | Rat | OECD 401 | |
| | | dermal | LD50 >5000 mg/kg | Rabbit | | |
| | | inhalative vapour | LC50 29,8 mg/l | Rat | | |
| 2082-81-7 | 1,4-Butandiol dimethacrylate | oral | LD50 >10000 mg/kg | Rat | | |
| | | dermal | LD50 >3000 mg/kg | Rabbit | | |

Irritation and corrosivity: Causes skin irritation. Serious eye damage/eye irritation: Based on available data, the classification criteria are not met.

Sensitising effects: May cause an allergic skin reaction. (Methyl methacrylate; 1,4-Butandiol dimethacrylate)

Carcinogenic/mutagenic/toxic effects for reproduction: Based on available data, the classification criteria are not met.

STOT-single exposure: May cause respiratory irritation.

according to Regulation (EC) No 1907/2006
 Revision date: 09.07.2021 Revision No: 1,03

Date of printing: 05.07.2022
 Page: 7 / 10

SilaDon Liquid

(Methyl methacrylate)

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.

Additional information on tests: This mixture is classified as hazardous according to regulation (EC) No. 1272/2008 [CLP].

SECTION 12: Ecological information

12.1 Toxicity Acute (short-term) fish toxicity

| CAS No | Chemical name | | Dose | [h] [d] | Species | Source | Method |
|-----------|-------------------------------------|-------|------------|-----------|-------------------------------------|----------|--------|
| 80-62-6 | Methyl methacrylate | | | | | | |
| | Acute fish toxicity | LC50 | > 79mg/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 | |
| 2082-81-7 | 1,4-Butandiol dimethacrylate | | | | | | |
| | Acute fish toxicity | LC50 | 32,5 mg/l | 96 h | Oncorhynchus mykiss (Rainbow trout) | | |
| | Acute crustacea toxicity | EC50 | 7,51 mg/l | 48 h | Daphnia magna (Big water flea) | OECD 211 | |
| | Crustacea toxicity | NOEC | 7,51 mg/l | | Selenastrum capricornutum | | |

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 |
| 2082-81-7 | 1,4-Butandiol dimethacrylate | 3,1 |

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.

Further information: Avoid release to the environment.

SECTION 13: Disposal considerations

13.1 Waste treatment methods:
Disposal recommendations: Do not allow to enter into surface water or drains. Dispose of waste according to applicable legislation.

according to Regulation (EC) No 1907/2006
 Revision date: 09.07.2021 Revision No: 1,03

Date of printing: 05.07.2022
 Page: 8 / 10

SilaDon Liquid

List of Wastes Code - residues/unused products:

070208: 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.

SECTION 14: Transport information

Land transport (ADR/RID):

| | | |
|------|---|---|
| 14.1 | UN number: | UN 1247 |
| 14.2 | UN proper shipping name: | METHYL METHACRYLATE MONOMER, STABILIZED |
| 14.3 | Transport hazard class(es): | 3 |
| 14.4 | Packing group: | II |
| | Hazard label: | 3 |
| | Classification code: | F1 |
| | Limited quantity: | 1 L |
| | Excepted quantity: | E2 |
| | Transport category: | 2 |
| | Hazard No: | 339 |
| | Tunnel restriction code: | D/E |
| | Other applicable information (land transport) | SAPT: > 60 °C |

Inland waterways transport (ADN)

| | | |
|------|---|---|
| 14.1 | UN number: | UN 1247 |
| 14.2 | UN proper shipping name: | METHYL METHACRYLATE MONOMER, STABILIZED |
| 14.3 | Transport hazard class(es): | 3 |
| 14.4 | Packing group: | II |
| | Hazard label: | 3 |
| | Classification code: | F1 |
| | Limited quantity: | 1 L |
| | Excepted quantity: | E2 |
| | Other applicable information (inland waterways transport) | SAPT: > 60 °C |

Marine transport (IMDG)

| | | |
|------|---|---|
| 14.1 | UN number: | UN 1247 |
| 14.2 | UN proper shipping name: | METHYL METHACRYLATE MONOMER, STABILIZED |
| 14.3 | Transport hazard class(es): | 3 |
| 14.4 | Packing group: | II |
| | Hazard label: | 3 |
| | Special Provisions: | - |
| | Limited quantity: | 1 L |
| | Excepted quantity: | E2 |
| | EmS: | F-E, S-D |
| | Other applicable information (marine transport) | SAPT: > 60 °C |

Air transport (ICAO-TI/IATA-DGR)

| | | |
|------|-----------------------------|---|
| 14.1 | UN number: | UN 1247 |
| 14.2 | UN proper shipping name: | METHYL METHACRYLATE MONOMER, STABILIZED |
| 14.3 | Transport hazard class(es): | 3 |
| 14.4 | Packing group: | II |

according to Regulation (EC) No 1907/2006
 Revision date: 09.07.2021 Revision No: 1,03

Date of printing: 05.07.2022
 Page: 9 / 10

SilaDon Liquid

| | |
|---|----------------------|
| Hazard label: | 3 |
| Limited quantity Passenger: | 1 L |
| Passenger LQ: | Y-341 |
| Excepted quantity: | E2 |
| IATA-packing instructions - Passenger: | 353 |
| IATA-max. quantity - Passenger: | 5 L |
| IATA-packing instructions - Cargo: | 364 |
| IATA-max. quantity - Cargo: | 60 L |
| Other applicable information (air transport) | SAPT: > 60 °C |
| 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 |

SECTION 15: Regulatory information

| | |
|--|--|
| 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture | |
| EU regulatory information | |
| Restrictions on use (REACH, annex XVII): | Entry 3 |
| 2010/75/EU (VOC): | 90 % (854,1 g/l) |
| 2004/42/EC (VOC): | 90 % (854,1 g/l) |
| Information according to 2012/18/EU (SEVESO III): | P5c FLAMMABLE LIQUIDS |
| National regulatory information | |
| Employment restrictions: | Observe restrictions to employment for juvenils according to the 'juvenile work protection guideline' (94/33/EC). Observe employment restrictions under the Maternity Protection Directive (92/85/EEC) for expectant or nursing mothers. |
| Water contaminating class (D): | 1 - slightly water contaminating |
| Skin resorption/Sensitization: | Causes allergic hypersensitivity reactions. |
| 15.2 Chemical safety assessment | Chemical safety assessments for substances in this mixture were not carried out. |

SECTION 16: Other 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% |

according to Regulation (EC) No 1907/2006
 Revision date: 09.07.2021 Revision No: 1,03

Date of printing: 05.07.2022
 Page: 10 / 10

SilaDon Liquid

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

| Classification | Classification procedure |
|---------------------|--------------------------|
| Flam. Liq. 2; H225 | On basis of test data |
| Skin Irrit. 2; H315 | Calculation method |
| Skin Sens. 1; H317 | Calculation method |
| STOT SE 3; H335 | Calculation method |

Relevant H and EUH statements (number and full text)

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.

(The data for the hazardous ingredients were taken respectively from the last version of the sub-contractor's safetydata sheet.)