

# Material Safety Data Sheet according to (EC) 1907/2006

for the liquid



Tradename:

**DURASPLINT® monomer**

Status: 28.04.2021

Page: 1 von 9

## SECTION 1: Identification of the substance/preparation and of the company/undertaking

### 1.1. Product identifier

Name of product: **DURASPLINT® monomer**

Product group: Liquid component

UFI:

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

#### Use of the substance/mixture

Creation of dental products.

### 1.3. Details of the supplier of the safety data sheet

#### Manufacturer / distributor

SCHEU DENTAL GmbH

Am Burgberg 20

D-58642 Iserlohn

Tel. +49 (2374) 9288-0

Fax +49 (2374) 9288-90

eMail: [service@SCHEU-DENTAL.com](mailto:service@SCHEU-DENTAL.com)

Internet: [www.SCHEU-DENTAL.com](http://www.SCHEU-DENTAL.com)

**1.4. Emergency telephone number:** +49 (2374) 9288-0

## 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

#### Hazardous components for labelling

Methyl methacrylate

1,4-Butandiol dimethacrylate

Signal word: Danger

Hazard Pictograms: GHS02 GHS07



**Material Safety Data Sheet** according to (EC) 1907/2006

for the liquid



Tradename:

**DURASPLINT® monomer**

Status: 28.04.2021

Page: 2 von 9

**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/sparks/open flames/hot surfaces. – 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.
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 powder to extinguish
P403+P235	Store in a well-ventilated place. Keep cool.
P501	Dispose of contents/container as hazardous waste - in accordance with local and national legislation - to appropriate, approved combustible organic waste incinerator.

**2.3. Other hazards**

No information available.

**SECTION 3: Composition / information on ingredients****3.1. Substances**

not applicable

**3.2. Mixtures****Chemical characterization**

Mixture based on methyl methacrylate.

**Hazardous components**

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. 2, Skin Irrit. 2.; Skin Sens. 1.; STOT SE 3, H225 H315 H317 H335	
2082-81-7	1,4-Butandiol dimethacrylate	5 - < 10 %
	218-218-1	
	01-2119967415-30	
	Skin Sens. 1; H317	

For the wording of the listed H-phrases refer to 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		1,4-Butandiol dimethacrylate	5 - < 10 %
		Dermal: LD50 = > 3000 mg/kg; oral: LD50 = > 10000 mg/kg	

# Material Safety Data Sheet according to (EC) 1907/2006

for the liquid

Tradename:

**DURASPLINT® monomer**



Status: 28.04.2021  
Page: 3 von 9

## 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.
- 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

Causes skin irritation. Can irritate the respiratory tract. 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**

Foam, Extinguishing powder. Carbon dioxide (CO<sub>2</sub>).

#### **Unsuitable extinguishing media**

Full water jet

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

Flammable. Vapours can form explosive mixtures with air.

### 5.3. Advice for firefighters

#### **Special protective equipment for fire fighters:**

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. 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.

# Material Safety Data Sheet according to (EC) 1907/2006

for the liquid



Tradename:

**DURASPLINT® monomer**

Status: 28.04.2021

Page: 4 von 9

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

### Other information

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

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## SECTION 7: Handling and Storage

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### 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.

#### Hints on joint storage

Do not store together with: Oxidising agent. Pyrophoric or self-heating substances.

### 7.3. Specific end use(s)

Creation of dental brace.

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## SECTION 8: Exposure controls / personal protection

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### 8.1. Control parameters

#### Exposure limits (EH40)

CAS-No.	Substance	ppm	mg/m <sup>3</sup>	fibres/ml	Category	Origin
80-62-6	Methyl methacrylate	50	208		TWA (8h)	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 <sup>3</sup>
	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.

**Material Safety Data Sheet** according to (EC) 1907/2006

for the liquid



Tradename:

**DURASPLINT® monomer**

Status: 28.04.2021

Page: 5 von 9

**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**

Wear suitable protective gloves.

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 coordinated with the manufacturer. In the event of contamination or if the Breakthrough time is exceeded, change gloves. Resistance of the glove material: see glove manufacturer information.

**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 available and an exposure is to be expected that exceeds the DNEL (derived exposure level below which the substance does not impair human health). A suitable breathing mask with type A filter (EN141 or EN405) is recommended. A self contained breathing apparatus may be necessary to generate particularly high vapor concentrations.

**SECTION 9: Physical and chemical properties****9.1. Information on basic physical and chemical properties****General Information**

<b>Physical state:</b>	liquid
<b>Colour:</b>	Product labeling
<b>Odour:</b>	characteristic
<b>pH-value:</b>	not determined
<b>Melting point:</b>	-48,2 °C
<b>Initial boiling point and boiling range:</b>	100,3 °C
<b>Flash point:</b>	10 °C
<b>Flammability</b>	
<b>Solid:</b>	not applicable
<b>Gas:</b>	not applicable
<b>Flammable limits (lower)</b>	2,1 vol. %
<b>Flammable limits (upper)</b>	12,5 vol. %
<b>Ignition temperature:</b>	430 °C
<b>Auto-ignition temperature</b>	
<b>Solid:</b>	not applicable
<b>Gas:</b>	not applicable
<b>Decomposition temperature:</b>	not determined
<b>Oxidising properties:</b>	not oxidizing
<b>Vapour pressure:</b>	38,7 hPa at 20 °C
<b>Relative Density:</b>	0.94 g/cm <sup>3</sup>
<b>Water solubility:</b>	15,9 g/L
<b>Solubility in other solvents:</b>	very soluble
<b>Partition coefficient: n-octanol/water</b>	1,38
<b>Viscosity / dynamic: :</b>	0.63 mPa*s
<b>Vapour density:</b>	not determined
<b>Evaporation rate:</b>	not determined

**9.2. Other information**

Solid content:  
none

not determined

# Material Safety Data Sheet according to (EC) 1907/2006

for the liquid

Tradename:

**DURASPLINT® monomer**



Status: 28.04.2021  
Page: 6 von 9

## SECTION 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

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.

Polymerization with heat evolution may occur in the presence of radical forming substances (e.g. peroxides), reducing substances, and/or heavy metal ions.

## SECTION 11: Toxicological Information

### 11.1. Information on toxicological effects

#### Acute toxicity

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

CAS-No.	Chemical name	Exposure routes	Method	Dose	Species	Source
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	OECD 401
		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)

#### CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)

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

#### STOT-single exposure

May cause respiratory irritation. (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.

# Material Safety Data Sheet according to (EC) 1907/2006

for the liquid

Tradename:

**DURASPLINT® monomer**



Status: 28.04.2021  
Page: 7 von 9

## Additional toxicological information:

This mixture is classified as hazardous according to Directive 1999/45/EC

## SECTION 12: Ecological Information

### 12.1. Toxicity

The product is not: Ecotoxic.

CAS-No.	Chemical name		Method	Dose	[h]	[d]	Species	Source
80-62-6	Methylmethacrylat							
	Acute fish toxicity	LD50	>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 water flea)	OECD 202
2082-81-7	1,4-Butandiol dimethacrylate							
	Acute fish toxicity	LD50	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

The product has not been tested.

### 12.3. Bioaccumulative potential

The product has not been tested.

### 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

The product has not been tested.

### 12.5. Results of PBT and vPvB assessment

The product has not been tested.

### 12.6. Endocrine disrupting properties

No further relevant information available.

### 12.7. Other adverse effects

No further relevant information available.

### Further information

Avoid release to the environment.

## SECTION 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.

**Material Safety Data Sheet** according to (EC) 1907/2006

for the liquid

Tradename:

**DURASPLINT® monomer**


Status: 28.04.2021

Page: 8 von 9

**Contaminated packaging:**


Wash with plenty of water. Completely emptied packages can be recycled.

**SECTION 14: Transport Information****Land transport (ADR/RID)**

14.1. UN number:	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	
<b>Other applicable information (land transport)</b>		


SAPT: &gt; 60 °C

**Inland waterways transport (ADN)**

14.1. UN number:	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	
<b>Other applicable information</b>		


SAPT: &gt; 60 °C

**Marine transport (IMDG)**

14.1. UN number:	1247	
14.2. UN proper shipping name:	METHYL METHACRYLATE MONOMER, STABILIZED	
14.3. Transport hazard class(es):	3	
14.4. Packaging group:	II	
Hazard label:	3	
Limited quantity:	1 L	
Excepted quantity:	E2	
EmS:	F-E,S-D	
<b>Other applicable information (marine transport):</b>		

SAPT: &gt; 60 °C

**Air transport (ICAO)**

14.1. UN number:	1247	
14.2. UN proper shipping name:	METHYL METHACRYLATE MONOMER, STABILIZED	
14.3. Transport hazard class(es):	3	
14.4. Packaging group:	II	
Hazard label:	3	
Limited quantity Passenger:	1 L	
Excepted quantity:	E2	
IATA-packing instructions - Passenger:	353	
IATA-max. quantity - Passenger:	5 L	
IATA-packing instructions - Cargo:	364	



**Material Safety Data Sheet** according to (EC) 1907/2006

for the liquid



Tradename:

**DURASPLINT® monomer**Status: 28.04.2021  
Page: 9 von 9

IATA-max. quantity - Cargo:	60 L
<b>Other applicable information (air transport)</b>	E2
Passenger-LQ:	Y341

SAPT: &gt; 60 °C

**14.6. Special precautions for user**

Warning: Flammable 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 % (846 g/l)
2004/42/EC (VOC):	90 % (846 g/l)
Information according to 2012/18/EU (SEVESO III)	P5c FLAMMABLE LIQUIDS

**National regulatory informations:**

Employment restrictions:	Observe restrictions to employment for juveniles according to the 'juvenile work protection guideline' (94/33/EC)
Water hazard class (D):	2 – obviously hazardous to water
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****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 (division of the American Chemical Society)
LC50	Lethal concentration, 50 %
LD50	Lethal dose, 50 %

**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

# Material Safety Data Sheet according to (EC) 1907/2006

for the liquid

Tradename:

**DURASPLINT® monomer**



Status: 28.04.2021

Page: 10 von 9

## Relevant H- and EUH-phrases (number and full text)

### Hazard statements

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

### 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.