

**Promolux Monomer / Promolux HI Monomer**

Revision date: 20.09.2022

Product code: D251\_M

Page 1 of 11

**1. Identification**

**Product identifier**

Promolux Monomer / Promolux HI Monomer

**Further trade names**

- Promolux Monomer Liquid
- Promolux High Impact Monomer
- Promolux High Impact Liquid

**Relevant identified uses of the substance or mixture and uses advised against**

**Use of the substance/mixture**

Material for the manufacture of dental medical devices.

**Details of the supplier of the safety data sheet**

Company name:	Merz Dental GmbH	
Street:	Kieferweg 1	
Place:	D-24321 Luetjenburg (GERMANY)	
Telephone:	+49-(0)4381-403-0	Telefax: +49-(0)4381-403-100
e-mail:	info@merz-dental.de	
Contact person:	Dipl. Chem Dr. Thomas Panther	Telephone: +49-(0)4381-403-448
e-mail:	Thomas.Panther@merz-dental.de	
Internet:	www.merz-dental.de	
Responsible Department:	Qualitaetssicherung (Quality Assurance)	

**Emergency telephone number:** +49-(0)551-19240 (Giftinformationszentrum-Nord)

**2. Hazard identification**

**Classification of the substance or mixture**

**Regulation (EC) No 1272/2008**

Flam. Liq. 2; H225  
Skin Irrit. 2; H315  
Skin Sens. 1; H317  
STOT SE 3; H335

Full text of hazard statements: see SECTION 16.

**Label elements**

**Regulation (EC) No 1272/2008**

**Hazard components for labelling**

methyl 2-methylprop-2-enoate; methyl 2-methylpropenoate; methyl methacrylate  
1,4-butanediol dimethacrylate, Tetramethylene dimethacrylate

**Signal word:** Danger

**Pictograms:**



**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**

P261 Avoid breathing dust/fume/gas/mist/vapours/spray.

**Safety Data Sheet****Promolux Monomer / Promolux HI Monomer**

Revision date: 20.09.2022

Product code: D251\_M

Page 2 of 11

P280	Wear protective gloves and eye/face protection.
P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P333+P313	If skin irritation or rash occurs: Get medical advice/attention.
P403+P235	Store in a well-ventilated place. Keep cool.

**Other hazards**

No information available.

**3. Composition/information on ingredients****Mixtures****Chemical characterization**

Acrylate

**Hazardous components**

CAS No	Chemical name			Quantity
	EC No	Index No	REACH No	
	Classification (Regulation (EC) No 1272/2008)			
80-62-6	methyl 2-methylprop-2-enoate; methyl 2-methylpropenoate; methyl methacrylate			50 - < 100 %
	201-297-1	607-035-00-6	01-2119452498-28	
	Flam. Liq. 2, Skin Irrit. 2, Skin Sens. 1, STOT SE 3; H225 H315 H317 H335			
2082-81-7	1,4-butanediol dimethacrylate, Tetramethylene dimethacrylate			1 - < 5 %
	Skin Sens. 1B; H317			

Full text of H statements: 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 2-methylprop-2-enoate; methyl 2-methylpropenoate; methyl methacrylate	50 - < 100 %
		inhalation: LC50 = 29,8 mg/l (vapours); dermal: LD50 = > 5000 mg/kg; oral: LD50 = 7872 mg/kg	
2082-81-7		1,4-butanediol dimethacrylate, Tetramethylene dimethacrylate	1 - < 5 %
		dermal: LD50 = > 3000 mg/kg; oral: LD50 = 10066 mg/kg	

**4. First-aid measures****Description of first aid measures****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 plenty of water and soap. 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. In case of contact with eyes flush immediately with plenty of flowing water for 10 to 15 minutes holding eyelids apart and consult an ophthalmologist.

**After ingestion**

Observe risk of aspiration if vomiting occurs. Rinse mouth immediately and drink 1 glass of water.

**Most important symptoms and effects, whether acute or delayed**

Headache, Dizziness, Causes skin and eye irritation. Skin sensitisation.

**Indication of immediate medical attention and special treatment needed**

Treat symptomatically. When in doubt or if symptoms are observed, get medical advice.



## Promolux Monomer / Promolux HI Monomer

Revision date: 20.09.2022

Product code: D251\_M

Page 3 of 11

### 5. Fire-fighting measures

#### Extinguishing media

##### **Suitable extinguishing media**

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

##### **Unsuitable extinguishing media**

Water.

#### Specific hazards arising from the hazardous product

Highly flammable. Vapours can form explosive mixtures with air.

#### Special protective equipment and precautions for fire-fighters

Wear a self-contained breathing apparatus and chemical protective clothing. Full protection suit. Use water spray jet to protect personnel and to cool endangered containers.

#### **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.

Use non-sparking tools.

Do not allow to enter into surface water or drains.

### 6. Accidental release measures

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

##### **General advice**

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. Avoid contact with skin, eyes and clothes. Wear protective gloves/protective clothing and eye/face protection.

#### Environmental precautions

Do not allow uncontrolled discharge of product into the environment. Explosion risk.

Do not allow to enter into surface water or drains.

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

##### **For cleaning up**

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.

##### **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.

#### Reference to other sections

Safe handling: see section 7

Personal protection equipment: see section 8

Disposal: see section 13

### 7. Handling and storage

#### 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. Keep container tightly closed. Ensure adequate ventilation of the storage area.

##### **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. Keep away from sources of ignition - No smoking.

## Promolux Monomer / Promolux HI Monomer

Revision date: 20.09.2022

Product code: D251\_M

Page 4 of 11

### Advice on general occupational hygiene

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, drink, smoke, sniff. Remove contaminated, saturated clothing immediately. Draw up and observe skin protection programme.

### Further information on handling

Put lids on containers immediately after use. Always close containers tightly after the removal of product. Keep cool. Protect from sunlight.

### Conditions for safe storage, including any incompatibilities

#### Requirements for storage rooms and vessels

Keep container tightly closed. Keep locked up. Store in a place accessible by authorized persons only. Provide adequate ventilation as well as local exhaust at critical locations. Keep in a cool, well-ventilated place. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Store in a cool dry place. Protect from sunlight.

#### Hints on joint storage

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

### Specific end use(s)

Material for the manufacture of dental medical devices.

## 8. Exposure controls/Personal protection

### Control parameters

#### DNEL/DMEL values

CAS No	Chemical name			
DNEL type		Exposure route	Effect	Value
80-62-6	methyl 2-methylprop-2-enoate; methyl 2-methylpropenoate; methyl methacrylate			
Worker DNEL, long-term		inhalation	local	210 mg/m³
Worker DNEL, long-term		dermal	systemic	13,67 mg/kg bw/day

#### PNEC values

CAS No	Chemical name		
Environmental compartment	Value		
80-62-6	methyl 2-methylprop-2-enoate; methyl 2-methylpropenoate; methyl methacrylate		
Freshwater	< 0,94 mg/l		
Marine water	< 0,94 mg/l		
Soil	-----		
Air	-----		

### Exposure controls



### Appropriate engineering controls

If handled uncovered, arrangements with local exhaust ventilation have to be used. Do not breathe gas/fumes/vapour/spray.

### Individual protection measures, such as personal protective equipment

**Promolux Monomer / Promolux HI Monomer**

Revision date: 20.09.2022

Product code: D251\_M

Page 5 of 11

**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.

General information:

**Skin protection**

Wear anti-static footwear and clothing

**Respiratory protection**

In case of inadequate ventilation wear respiratory protection. Respiratory protection necessary at: high concentrations (air limit values) (Methyl methacrylate)

**Thermal hazards**

Flame-retardant protective clothing. Wear anti-static footwear and clothing

**Environmental exposure controls**

Do not allow to enter into surface water or drains.

Do not allow to enter into soil/subsoil.

**9. Physical and chemical properties****Information on basic physical and chemical properties**

Physical state:	Liquid
Colour:	colourless
Odour:	characteristic

**Test method****Changes in the physical state**

Melting point/freezing point:	not applicable
Boiling point or initial boiling point and boiling range:	100 °C calculated.
Flash point:	10 °C calculated.

**Flammability**

Solid/liquid:	not applicable
Gas:	not applicable

**Explosive properties**

The product is not: Explosive.

Lower explosive limits:	2,1 vol. %
Upper explosive limits:	12,5 vol. %
Auto-ignition temperature:	430 °C calculated.
Viscosity / dynamic:	ca. 0,6 mPa·s
Water solubility:	ca. 16 g/L

**Solubility in other solvents**

not determined

Partition coefficient n-octanol/water:	not determined
--	----------------

Vapour pressure: (at 20 °C)	37 hPa calculated.
--------------------------------	--------------------



## Safety Data Sheet

Merz Dental GmbH

### Promolux Monomer / Promolux HI Monomer

Revision date: 20.09.2022

Product code: D251\_M

Page 6 of 11

Density: 0,94 g/cm<sup>3</sup> calculated.  
Relative vapour density: not determined

#### Other information

##### Information with regard to physical hazard classes

Sustaining combustion: No data available  
Oxidizing properties  
Not oxidising.

##### Further Information

### 10. Stability and reactivity

#### Reactivity

Highly flammable.

#### Chemical stability

No hazardous reaction when handled and stored according to provisions.

#### Possibility of hazardous reactions

Polymerization with heat evolution may occur in the presence of radical forming substances (e.g. peroxides), reducing substances, and/or heavy metal ions.  
> 125mL:

#### Conditions to avoid

Keep away from sources of heat (e.g. hot surfaces), sparks and open flames. Vapours can form explosive mixtures with air.

#### Incompatible materials

Reducing agent  
Heavy metals

#### Hazardous decomposition products

No known hazardous decomposition products.

### 11. Toxicological information

#### Information on toxicological effects

##### Acute toxicity

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

CAS No	Chemical name				
	Route of exposure	Dose	Species	Source	Method
80-62-6	methyl 2-methylprop-2-enoate; methyl 2-methylpropenoate; methyl methacrylate				
	oral	LD50 7872 mg/kg	Rat	RTECS	
	dermal	LD50 > 5000 mg/kg	Rabbit	REACH Dossier	OECD 402
	inhalation (4 h) vapour	LC50 29,8 mg/l	Rat	REACH Dossier	standard acute metho
2082-81-7	1,4-butanediol dimethacrylate, Tetramethylene dimethacrylate				
	oral	LD50 10066 mg/kg	Rat	REACH Dossier	OECD 401
	dermal	LD50 > 3000 mg/kg	Rabbit	REACH Dossier	not specified

##### Irritation and corrosivity

Causes skin irritation.

Serious eye damage/eye irritation: Based on available data, the classification criteria are not met.

## Promolux Monomer / Promolux HI Monomer

Revision date: 20.09.2022

Product code: D251\_M

Page 7 of 11

### Sensitizing effects

May cause an allergic skin reaction. (methyl 2-methylprop-2-enoate; methyl 2-methylpropenoate; methyl methacrylate; 1,4-butandiol dimethacrylate, Tetramethylene dimethacrylate)

### Carcinogenic/mutagenic/toxic effects for reproduction

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

### STOT-single exposure

May cause respiratory irritation. (methyl 2-methylprop-2-enoate; methyl 2-methylpropenoate; 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.

## 12. Ecological information

### Ecotoxicity

Conclusive data but not sufficient for classification

CAS No	Chemical name					
	Aquatic toxicity	Dose	[h]   [d]	Species	Source	Method
80-62-6	methyl 2-methylprop-2-enoate; methyl 2-methylpropenoate; methyl methacrylate					
	Acute fish toxicity	LC50 191 mg/l	96 h	Lepomis macrochirus (Bluegill)	Merck	
	Acute algae toxicity	ErC50 > 110 mg/l	72 h	Pseudokirchneriella subcapitata	REACH Dossier	OECD 201
	Acute crustacea toxicity	EC50 69 mg/l	48 h	Daphnia magna (Big water flea)	REACH Dossier	EPA OTS 797.1300
2082-81-7	1,4-butandiol dimethacrylate, Tetramethylene dimethacrylate					
	Acute fish toxicity	LC50 5,861 mg/l	96 h	Pimephales promelas (fathead minnow)	EpiSuite QSAR tool	Quantitative structure-activity relationship (QSAR)

### Persistence and degradability

The product has not been tested.

CAS No	Chemical name			
	Method	Value	d	Source
	Evaluation			
80-62-6	methyl 2-methylprop-2-enoate; methyl 2-methylpropenoate; methyl methacrylate			
	OECD 301C/ ISO 9408/ EEC 92/69/V, C.4-F	94 %	14	Publication
	Readily biodegradable (according to OECD criteria).			
	EPA, title 40 Code of Federal Regulations Part 160	> 99 %	2	40 CFR 160
	Readily biodegradable (according to OECD criteria).			
2082-81-7	1,4-butandiol dimethacrylate, Tetramethylene dimethacrylate			
	OECD 310 (Headspace Test)	76 - 92 %	28	REACH Dossier
	Biodegradable.			

### Bioaccumulative potential

The product has not been tested.

**Safety Data Sheet****Promolux Monomer / Promolux HI Monomer**

Revision date: 20.09.2022

Product code: D251\_M

Page 8 of 11

**Partition coefficient n-octanol/water**

CAS No	Chemical name	Log Pow
80-62-6	methyl 2-methylprop-2-enoate; methyl 2-methylpropenoate; methyl methacrylate	1,38
2082-81-7	1,4-butanediol dimethacrylate, Tetramethylene dimethacrylate	3,1

**BCF**

CAS No	Chemical name	BCF	Species	Source
80-62-6	methyl 2-methylprop-2-enoate; methyl 2-methylpropenoate; methyl methacrylate	2,97 - 3,5	Pisces	SDB HIT-ICE, B
2082-81-7	1,4-butanediol dimethacrylate, Tetramethylene dimethacrylate	59,21	n/n	EpiSuite QSAR tool

**Mobility in soil**

The product has not been tested. On the basis of existing data about the elimination/degradation and bioaccumulation potential longer term damage to the environment cannot be ruled out. If product enters soil, it will be mobile and may contaminate groundwater.

**Results of PBT and vPvB assessment**

The substances in the mixture do not meet the PBT/vPvB criteria according to REACH, annex XIII.

The product has not been tested.

**Endocrine disrupting properties**

This product does not contain a substance that has endocrine disrupting properties with respect to non-target organisms as no components meets the criteria.

**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****Waste treatment methods****Disposal recommendations**

Do not allow to enter into surface water or drains. Do not allow to enter into soil/subsoil. Dispose of waste according to applicable legislation.

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

160508 WASTES NOT OTHERWISE SPECIFIED IN THE LIST; gases in pressure containers and discarded chemicals; discarded organic chemicals consisting of or containing hazardous substances; hazardous waste

**List of Wastes Code - used product**

160508 WASTES NOT OTHERWISE SPECIFIED IN THE LIST; gases in pressure containers and discarded chemicals; discarded organic chemicals consisting of or containing hazardous substances; hazardous waste

**Contaminated packaging**

Non-contaminated packages may be recycled. Handle contaminated packages in the same way as the substance itself. Contaminated packages must be completely emptied and can be re-used following proper cleaning. Non-contaminated packages may be recycled. Packing which cannot be properly cleaned must be disposed of.

**14. Transport information****Land transport (ADR/RID)****UN number or ID number:**

UN 1247



## Promolux Monomer / Promolux HI Monomer

Revision date: 20.09.2022

Product code: D251\_M

Page 9 of 11

### United Nations proper shipping name:

METHYL METHACRYLATE MONOMER, STABILIZED

### Transport hazard class(es):

3

### Packing group:

II

Hazard label:

3



Classification Code:

F1

Special Provisions:

386

Limited quantity:

1 L

Excepted quantity:

E2

Transport category:

2

Hazard No:

339

Tunnel restriction code:

D/E

### Inland waterways transport (ADN)

### UN number or ID number:

UN 1247

### United Nations proper shipping name:

METHYL METHACRYLATE MONOMER, STABILIZED

### Transport hazard class(es):

3

### Packing group:

II

Hazard label:

3



Classification Code:

F1

Special Provisions:

386

Limited quantity:

1 L

Excepted quantity:

E2

### Marine transport (IMDG)

### UN number or ID number:

UN 1247

### United Nations proper shipping name:

METHYL METHACRYLATE MONOMER, STABILIZED

### Transport hazard class(es):

3

### Packing group:

II

Hazard label:

3



Special Provisions:

386

Limited quantity:

1 L

Excepted quantity:

E2

EmS:

F-E, S-D

### Air transport (ICAO-TI/IATA-DGR)

### UN number or ID number:

UN 1247

### United Nations proper shipping name:

METHYL METHACRYLATE MONOMER, STABILIZED

### Transport hazard class(es):

3

### Packing group:

II

Hazard label:

3

## Promolux Monomer / Promolux HI Monomer

Revision date: 20.09.2022

Product code: D251\_M

Page 10 of 11



Special Provisions:	A209	
Limited quantity Passenger:	1 L	
Passenger LQ:	Y341	
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

### Environmental hazards

ENVIRONMENTALLY HAZARDOUS: No

### Special precautions for user

Warning: Combustible liquid.

## 15. Regulatory information

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

#### EU Regulatory information

Restrictions on use (REACH, annex XVII):

Entry 3, Entry 40

Information according to 2012/18/EU (SEVESO III): P5c FLAMMABLE LIQUIDS

#### National regulatory information

Employment restrictions:	Observe employment restrictions for young people.
Water hazard class (D):	1 - slightly hazardous to water
Skin resorption/Sensitization:	Causes allergic hypersensitivity reactions.

#### Additional information

Observe restrictions to employment for juveniles according to the 'juvenile work protection guideline' (94/33/EC). According to directive 94/33/EC, juveniles are only allowed to handle this product as long as all effects of dangerous substances are prevented. Observe employment restrictions under the Maternity Protection Directive (92/85/EEC) for expectant or nursing mothers.

:  
:  
:

## 16. Other information

### Changes

This data sheet contains changes from the previous version in section(s): 1,2,3,4,5,6,7,8,9,10,12,13,14,15,16.

### Abbreviations and acronyms

CLP: Classification, labelling and Packaging  
 REACH: Registration, Evaluation and Authorization of Chemicals  
 GHS: Globally Harmonised System of Classification, Labelling and Packaging of Chemicals  
 UN: United Nations  
 CAS: Chemical Abstracts Service  
 DNEL: Derived No Effect Level  
 DMEL: Derived Minimal Effect Level  
 PNEC: Predicted No Effect Concentration  
 ATE: Acute toxicity estimate  
 LC50: Lethal concentration, 50%  
 LD50: Lethal dose, 50%



## Safety Data Sheet

## Promolux Monomer / Promolux HI Monomer

Revision date: 20.09.2022

Product code: D251\_M

Page 11 of 11

LL50: Lethal loading, 50%  
EL50: Effect loading, 50%  
EC50: Effective Concentration 50%  
ErC50: Effective Concentration 50%, growth rate  
NOEC: No Observed Effect Concentration  
BCF: Bio-concentration factor  
PBT: persistent, bioaccumulative, toxic  
vPvB: very persistent, very bioaccumulative  
ADR: Accord européen sur le transport des marchandises dangereuses par Route  
(European Agreement concerning the International Carriage of Dangerous Goods by Road)  
RID: Regulations concerning the international carriage of dangerous goods by rail  
ADN: European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways  
(Accord européen relatif au transport international des marchandises dangereuses par voies de navigation intérieures)  
IMDG: International Maritime Code for Dangerous Goods  
EmS: Emergency Schedules  
MFAG: Medical First Aid Guide  
IATA: International Air Transport Association  
ICAO: International Civil Aviation Organization  
MARPOL: International Convention for the Prevention of Marine Pollution from Ships  
IBC: Intermediate Bulk Container  
VOC: Volatile Organic Compounds  
SVHC: Substance of Very High Concern  
For abbreviations and acronyms, see: ECHA Guidance on information requirements and chemical safety assessment, chapter R.20 (Table of terms and abbreviations).

**Key literature references and sources for data**

ECHA - REACH Dossier  
TOXNET - Hazardous Substances Data Bank (HSDAB) & ChemIDplus  
Environmental Protection Agency (EPA) - Chemistry Dashboard  
OECD SIDS  
Danish QSAR Database  
Crit Rev Toxicol. 2011 Mar; 41(3): 230–268: Methyl methacrylate and respiratory sensitization: A Critical review

**Classification for mixtures and used evaluation method according to GHS**

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 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.

**Further Information**

The information is based on the present level of our knowledge. It does not, however, give assurance of product properties and establishes no contract legal rights. The receiver of our product is singularly responsible for adhering to existing laws and regulations.

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