

mega Opak LC – Opaker -Liquid
(Light curing opaque liquid)

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

1.1 Product identifier:

Trade name: **mega *Opak LC* Opaker - Liquid**

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

Light-curing opaquer / bonder for non precious metal alloys and denture base Resin (powder component).

1.3 Details of the supplier of the safety data sheet:

Company name: megadental GmbH
Street: Seeweg 20
Place: D-63654 Büdingen
e-mail: info@megadental.de
Internet: www.megadental.de
Contact person: Murat Büyük
Telephone: +49 (0) 6042 9755 0
Telefax: +49 (0) 6042 9755 20

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture:

Classification according to Directive 67/548/EEC or 1999/45/EC

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.
- P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- P302+P350 IF ON SKIN: Gently wash with plenty of soap and water.
- P501 Dispose of contents/container in accordance with local regulation.

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

Hazard statements

- H225 Highly flammable liquid and vapour.
- H302 Harmful if swallowed.
- H315 Causes skin irritation.
- H317 May cause an allergic skin reaction.
- H318 Causes serious eye damage.
- H319 Causes serious eye irritation.
- H335 May cause respiratory irritation.
- H361 Suspected of damaging fertility or the unborn child.
- H411 Toxic to aquatic life with long lasting effects.
- H412 Harmful to aquatic life with long lasting effects.

2.2 Label elements:

Hazardous components which must be listed on the label

Methyl methacrylate
2-Propenoic acid, reaction products with pentaerythritol
Diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide
Signal word: Danger
Pictograms: GHS02-GHS05-GHS07

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2.3 Other hazards:

No information available.

SECTION 3: Composition/information on ingredients

3.2. Chemical characterization:

No information available.

Hazardous components:

EC-No. CAS-No. Index-No. REACH-No.	Chemical name Classification according to Directive 67/548/EEC Classification according to Regulation (EC) No. 1272/2008 (CLP)	Quantity
201-297-1 80-62-6 607-035-00-6 --	Methyl methacrylate F - Highly flammable, Xi - Irritant R11-37/38-43 Flam. Liq. 1, Skin Irrit. 2, Skin Sens. 1, STOT SE 3; H225 H315 H317 H335	20 - < 60 %
-- -- -- --	acrylic resin Xi - Irritant R36 / Eye Irrit. 2; H319	30 - < 50 %
629-850-6 1245638-61-2 -- --	2-Propenoic acid, reaction products with pentaerythritol Xn - Harmful, Xi - Irritant, N - Dangerous for the environment R22- 38-41-43-51-53 Acute Tox. 4, Skin Irrit. 2, Eye Dam. 1, Skin Sens. 1, Aquatic Chronic 2; H302 H315 H318 H317 H411	< 20 %
278-355-8 75980-60-8 015-203-00-X --	Diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide Repr. Cat. 3, N – Dangerous for the environment R62-43-51-53 Repr. 2, Skin Sens. 1, Aquatic Chronic 2; H361 H317 H411	< 3 %

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

SECTION 4: First aid measures

4.1 Description of first aid measures:

General information: Medical treatment is necessary if symptoms occur which are obviously caused by skin or eye contact with the product or by inhalation of its vapours. Take off all contaminated clothing immediately.

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.

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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.

SECTION 5: Firefighting measures

5.1 Extinguishing media:

Carbon dioxide (CO₂), Foam, Extinguishing powder.

Suitable extinguishing media:

Water.

5.2 Special hazards arising from the substance or mixture:

Flammable. 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:

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

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

SECTION 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

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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 prothesis

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

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.

Skin protection: Flame-retardant protective clothing. Wear anti-static footwear and clothing

Respiratory protection: In case of inadequate ventilation wear respiratory protection.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties:

Physical state: liquid
Colour: colourless
Odour: characteristic

Changes in the physical state:

Test method

pH-Value: not determined

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Changes in the physical state

Melting point: -48 °C
Initial boiling point and boiling range: 100 °C
Flash point: 10 °C DIN 51755

Flammability

Solid: not applicable
Gas: not applicable
Lower explosion limits: 2,1 vol. %
Upper explosion limits: 12,5 vol. %
Ignition temperature: 430 °C DIN 51794

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/cm³
Water solubility: 12,5 g/L
(at 20 °C)

Solubility in other solvents:

not determined
Partition coefficient: 1,38
Viscosity / dynamic:
(at 20 °C) 0,53 mPa·s
Vapour density: 3,5
(at 20 °C)
Evaporation rate: not determined

9.2 Other information:

Solid content: not determined

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:** Polymerization with heat evolution may occur in the presence of radical forming substances (e.g. peroxides), reducing substances, and/or heavy metal ions..
- 10.4 Conditions to avoid:** Protect from the action of light. Keep only in the original container at a temperature between 4 -25 °C. Can polymerize with intense heat release.
- 10.5 Incompatible materials:** Oxidising agent, Reducing agent., Heavy metals, Peroxide
- 10.6 Hazardous decomposition products:** No known hazardous decomposition products.

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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	
		dermal	LD50	>5000 mg/kg	Rabbit	
		inhalative vapour	LC50	78 mg/l		RTECS
1245638-61-2	2-Propenoic acid, reaction products with pentaerythritol	Oral	ATE	500 mg/kg		
75980-60-8	Diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide	Oral	LD50	> 5000 mg/kg		RTECS

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].

SECTION 12: Ecological information

12.1. Toxicity:

Acute (short-term) fish toxicity

CAS No	Chemical name	Aquatic toxicity	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	EC50	> 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
75980-60-8	iphenyl(2,4,6-trimethylbenzoyl)phosphine oxide	Crustacea toxicity	EC	3,53 mg/l	48 h	Daphnia magna (Big water flea)	OECD 202

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- 12.2. **Persistence and degradability:** The product has not been tested.
- 12.3. **Bioaccumulative potential:** The product has not been tested.
- 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 **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.

SECTION 13: Ecological information

13.1 **Waste treatment methods:**

Advice on disposal:

Small quantities can be polymerized by light and the cured solid material can be disposed of with the regular garbage. Larger quantities must be disposed of following the regulations of the local authorities. Do not allow to enter into surface water or drains. Do not allow to enter into oil/subsoil. Dispose of waste according to applicable legislation.

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
- Transport category: 2
- Hazard No: 339
- Tunnel restriction code: D/E

Other applicable information (land transport)

E2

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

Other applicable information (inland waterways transport)

E2

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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
Classification code:	F1
Limited quantity:	1 L

Other applicable information (marine transport)

E2

Air transport (ICAO):

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-Passenger:	1 L
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)

Passenger-LQ: E2
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

SECTION 15: Regulatory information

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

National regulatory information

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

Water contaminating class (D): 2 - water contaminating

15.2. **Chemical safety assessment:**
Chemical safety assessments for substances in this mixture were not carried out.

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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
LC50: Lethal concentration, 50%
LD50: Lethal dose, 50%

Relevant P-phrases (Number and full text)

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.
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P302+P350 IF ON SKIN: Gently wash with plenty of soap and water.
P501 Dispose of contents/container in accordance with local regulation.

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

H225 Highly flammable liquid and vapour.
H302 Harmful if swallowed.
H315 Causes skin irritation.
H317 May cause an allergic skin reaction.
H318 Causes serious eye damage.
H319 Causes serious eye irritation.
H335 May cause respiratory irritation.
H361 Suspected of damaging fertility or the unborn child.
H411 Toxic to aquatic life with long lasting effects.
H412 Harmful to aquatic life with long lasting effects.

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 safety data sheet.)