1. Identification of the substance/preparation and of the company/undertaking

Information on the product

Trade name: **mega-PRESS NV / megaPRESS LV / mega JET X Liquid**

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

Information on the manufacturer

megadental GmbH
Seeweg 20
D-63654 Büdingen
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Quality Management Mr. Murat Büyük

2. Hazards identification

Hazard symbols

Highly Flammable

Highly flammable

Special guidelines concerning dangers to humans and the environment

Highly flammable. Irritating to respiratory system and skin. May cause sensitization by skin contact.

3. Composition/information on ingredients

Chemical characterization

Mixture on the basis of methyl methacrylate

Hazardous ingredients

	Methyl methacrylate
Concentration	60 to 100%
Chemical formula	$C_5 H_8 O_2$
CAS Number.	80-62-6
EINECS Number.	201-297-1
INDEX Number	607-035-00-6
Hazard symbols	F, Xi
R-phrases	11-37/38-43

4. First aid measures

General Information:

Remove soiled, soaked clothing immediately. Medical treatment is necessary if symptoms occur that are obviously caused by skin or eye contact with the product or by inhalation of its vapours.

After inhalation:

In case of inhalation remove casualty to fresh air and allow to rest. Seek medical advice.

After contact with skin:

In case of contact with skin wash off immediately with soap and water. If skin irritation occurs, seek medical advice.

After contact with eyes:

In case of contact with eyes rinse thoroughly with plenty of water while keeping the eyelids apart. If irritation persists seek medical advice.

After ingestion:

Do not induce vomiting. Seek medical advice immediately.

5. Fire-fighting measures

Suitable extinguishing media	foam, dry powder, carbon dioxide
Unsuitable extinguishing media for safety reasons	water
Special protective equipment for fire fighting	Wear self-contained breathing apparatus

6. Accidental related measures

Personal precautionary measures

Assure appropriate air-flow. Wear protective clothing. Keep away sources of ignition. Use breathing apparatus if exposed to vapours/dust/mist/aerosol.

Environmental protection measures

Do not allow to get into drains/surface water/groundwater

Measures for cleaning

Large quantities:	Remove mechanically (hydraulic pump). Assure explosion-safe measures!
smaller quantities:	Pick up with liquid absorbing material (sand, diatomaceous earth, acid absorbent, sawdust or tissues). Dispose of in accordance with regulations.

7. Handling and storage

Instructions on safe handling

Keep container well closed. Assure appropriate air-flow.

Information on fire and explosion protection

Keep away from sources of ignition - No smoking. Take precautionary measures against static discharges. In the event of fire, cool the endangered containers with water. When heated above the flash point and/or during spraying (atomizing), ignitable mixtures may from in air. Use explosion-proof equipment only.

Storage

Requirements for storage areas and containers

Keep only in the original container at a temperature not exceeding 25 °C. Protect from light. Fill the container by approximately 90 % only as oxygen (air) is required for stabilisation. With large storage containers make sure the oxygen (air) supply is sufficient to ensure stability.

Additional Information

If the liquid should cool down to a temperature of lower than 10°C some of the ingredients may crystallize and sink to the bottom. If the materials temperature rises up to room temperature again these crystals dissolve again. The properties of the material will not be affected by this phenomenon.

8. Exposure controls/personal protection

Components or products of decomposition according to point 10, with limit values related to the place of work which require monitoring.

methyl methacrylate	80-62-6		
OES (long-term) 2003		208 mg/m3	50 ppm
OES (short-term) 2003		416 mg/m3	100 ppm

Personal protective equipment

General protective measures:

Do not inhale vapours. Avoid contact with eyes and skin.

Hygiene measures:

Store work clothing separately. Remove soiled or soaked clothing immediately. Follow the usual good standards of occupational hygiene. Clean skin thoroughly after work; apply skin cream.

Respiratory protection:

Breathing apparatus in case of high concentrations, short term: filter appliance, filter A.

Hand protection:

Wear protective gloves made of butyl rubber (0,7mm), break through time 300 min (EN 374). In practice, due to variable exposure conditions, this information can only be an aid to orientation for the selection of a suitable chemical protection glove. In particular, this information does not substitute suitability tests by the user.

Eye protection:	Tightly fitting goggles.
Body protection:	When handling larger quantities wear face shield, apron and chemical resistant boots.
General information:	Gloves should be changed regularly, especially after over excessive contact

with the product. A different type of glove should be considered for each workplace.

9. Physical and chemical properties

Appearance

Form:	Liquid
Colour:	Colourless
Odour:	Ester-like

Changes in physical state (related to the component methyl methacrylate)

Melting temperature:	-48,2 °C
Boiling temperature:	100,3 °C (at 1.013 hPa)
Flash point:	10 °C (DIN 51755)
Ignition temperature:	430 °C (DIN 51794)
Lower explosion limit:	2,1 %(V)
Upper explosion limit:	12,5 % (V)
Vapour pressure:	38,7 hPa (at 20 °C)
Density:	0,94 g/cm3 (at 20 °C)
Relative vapor density related to air:	> 1 (at 20 °C)
Solubility in water:	15,9 g/l (at 20 °C)
Qualitative (quantitative):	miscible with most organic solvents
pH-value:	not applicable
n-Octanol/water partition coefficient	log Pow 1,38 (measured)
Viscosity (dynamic):	0,63 mPa.s (at 20 °C, Brookfield)
Further information	none

10. Stability and reactivity

Thermal decomposition:
No decomposition when used as directed.

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.

Hazardous decomposition products:
None when used as directed.

11. Toxicological information

The following information is related to the component methyl methacrylate.

Acute oral toxicity:	>5.000 mg/kg; practically non-toxic if swallowed; LD50 rat, OECD 401
Acute inhalational toxicity:	29,8 mg/l; low toxicity by inhalation; LC50 rat, exposure 4h
Acute dermal toxicity:	>5.000 mg/kg; practically non-toxic in contact with skin; LD50 rabbit
Irritant effect on skin:	not irritating; rabbit; exposure 24h; FDA 1959 Draize, occlusive
Irritant effect on eyes:	not irritating; rabbit; Draize
Sensitization:	In sensitization tests on guinea pigs with and without adjuvant, both positive and negative results were found. In humans various types of allergic reactions have been observed (symptoms: headache, eye irritations, and skin affections).
Toxicity on repeated administration:	NOAEL 25ppm; at said doses no adverse effects were observed. At higher doses adverse effects were observed; rat; inhalative 2 a, 25-400ppm (Findings: damage to mucous membranes in the nose at 400ppm) NOAEL 2000ppm; rat; drinking water 2 a, 6-2000ppm (Findings: no toxic effects)

Mutagenicity: Positive as well as negative results within in vitro mutagenicity / genotoxicity tests. No experimental indication of genotoxicity in vivo available. In summary **not mutagenic** according to internationally accepted criteria.

Carcinogenicity: Non-carcinogenic in inhalation and feeding studies carried out on rats, mice and dogs.

Reprotoxicity / teratogenicity: No indications of toxic effects were observed in reproduction studies in animals.

Additional information: Avoid contact with the skin and eyes and inhalation of the product vapours.

12. Ecological information

Information on elimination (persistence and degradability)

Biodegradability:	readily degradable, ca. 94 % Method: OECD 301 C, 14d
Ecotoxicological effect	
Fish toxicity (LC50):	> 79 mg/l Oncorhynchus mykiss, rainbow trout, OECD 203 GLP, 96h
Daphnia toxicity (EC50):	69 mg/l Daphnia magma, OECD 202, 48h
NOEC	37 mg/l Daphnia magna, OECD 202, 21 d
Algae toxicity (EC3):	37 mg/l Scenedesmus quadricauda, DIN 38412 section 9, 8d
Algae toxicity (EC50)	170 mg/l Selenastrum capricornutum, OECD 201, 96h
Bakteria toxicity (EC0)	100 mg/l Pseudomonas putida

Additional ecological information

Do not allow to enter soil, waterways or waste water.

13. Disposal considerations

Product

Waste in hazardous and therefore particularly to be kept under surveillance. It must be disposed of in accordance with the regulation after consultation of the competent local authorities and the disposal company in a suitable and licensed facility.

Uncleaned packaging

Contaminated packaging should be emptied optimally and after appropriate professional cleansing may be taken for reuse. Packaging that cannot be cleaned should be disposed of professionally. Uncontaminated packaging may be taken for recycling.

Code of waste

07 02 08
Waste from the manufacture, formulation, supply and use (MFSU) of plastics, synthetic rubber and man-made fibres – or still bottoms and reaction residues.
Always check the given waste codes according to the actual conditions of manufacturing, formulation or use in your facilities.

14. Transport information

Overland transport
ADR/RID/GGVSE

Class:	3 flammable liquids
Dangerous cargo number:	339
UN Number:	1247
Packaging group:	II
Label:	3
Declaration of the good	UN 1247 METHYL METHACRYLATE, MONOMER, STABILIZED, 3, II

Inland waterway transport
ADNR

Class:	3 flammable liquids
UN Number:	1247
Packaging group:	II
Label:	3
Declaration of the good	UN 1247 METHYL METHACRYLATE, MONOMER, STABILIZED, 3, II

Shipment by sea
IMDG/GGVSee

Class:	3 Flammable liquids
UN Number	1247
EmS:	F-E, S-D
Marine pollutant:	-
Packing group:	II
Proper Shipping Name:	METHYL METHACRYLATE, MONOMER, STABILIZED

Air transport
ICAO/IATA

Class:	3 Flammable liquids
UN Number	1247
Packing group:	II
Proper Shipping Name:	METHYL METHACRYLATE, MONOMER, STABILIZED

DOT

UN 1247 METHYL METHACRYLATE, MONOMER, STABILIZED

15. Regulatory information

Labelling in accordance to EC directive GefStoffV

requires labelling

Hazardous component for labelling

contains methyl methacrylate

Hazard symbols

F Highly flammable
Xi Irritant

Risk phrases (R-phrases)

11 Highly flammable
37/38 Irritating to respiratory system and skin
43 May cause sensitization by skin contact

Safety phrases (S-phrases)

24 Avoid contact with skin
37 Wear suitable gloves
46 If swallowed, seek medical advice immediately and show container or label

16. Other information

This product is normally supplied in a stabilized form. If the permissible storage period and/or storage temperature is exceeded, the product may polymerize with heat evolution.

References

Relevant manuals and publications
Toxicological and ecotoxicological studies of other manufactures
SIAR
OECD-SIDS
RTK public files

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