

Safety Data Sheet

according to UK REACH Regulation

Megaseal N

Revision date: 28.04.2021

Product code: MEGASEALN

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SECTION 1: Identification of the substance/mixture and of the company/undertaking**1.1. Product identifier**

Megaseal N

Product group: Zulieferprodukt

1.2. Relevant identified uses of the substance or mixture and uses advised against**Use of the substance/mixture**

Megaseal N is a light-curing Nano-concept surface-sealing lacquer.

1.3. Details of the supplier of the safety data sheet

Company name:	MEGADENTA Dentalprodukte GmbH		
Street:	Carl-Eschebach-Str. 1A		
Place:	01454 Radeberg, Germany		
Telephone:	+49-3528 4530	Telefax:	+49-3528 45321
e-mail:	info@megadenta.de		
Internet:	www.megadenta.de		

1.4. Emergency telephone number: +49-3528 453-0 (just during usual office time: GMT+1)

SECTION 2: Hazards identification**2.1. Classification of the substance or mixture****GB CLP Regulation**

Flam. Liq. 2; H225
 Skin Irrit. 2; H315
 Eye Irrit. 2; H319
 Skin Sens. 1; H317
 STOT SE 3; H335
 Aquatic Chronic 3; H412

Full text of hazard statements: see SECTION 16.

2.2. Label elements**GB CLP Regulation****Hazard components for labelling**

Methyl methacrylate
 diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide
 phenyl bis(2,4,6-trimethylbenzoyl)-phosphine oxide

Signal word: Danger**Pictograms:****Hazard statements**

H225	Highly flammable liquid and vapour.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H335	May cause respiratory irritation.
H412	Harmful to aquatic life with long lasting effects.

Precautionary statements

P210	Keep away from heat. No Smoking.
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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.
P403+P235	Store in a well-ventilated place. Keep cool.

Special labelling of certain mixtures

1 - < 5 % of the mixture consists of ingredient(s) of unknown acute toxicity (inhalation).
Contains < 1 % of components with unknown hazards to the aquatic environment.
Restricted to professional users.

2.3. Other hazards

No information available.

SECTION 3: Composition/information on ingredients

3.2. Mixtures

Chemical characterization

Liquid from methyl methacrylate, nanoparticles and various dimethacrylates, photochemical initiators and stabilizers.

Hazardous components

CAS No	Chemical name	Quantity
	EC No	
	Index No	
	REACH No	
	Classification (GB CLP Regulation)	
80-62-6	Methyl methacrylate	50 - < 55 %
	201-297-1	
	01-2119452498-28	
	Flam. Liq. 2, Skin Irrit. 2, Skin Sens. 1, STOT SE 3; H225 H315 H317 H335	
1384855-91-7	Esterification product of acrylic acid and 2,2,2',2'-tetrakis(hydroxymethyl)-3,3'-oxydipropan-1-ol	25 - < 30 %
	800-838-4	
	Eye Irrit. 2, Skin Sens. 1A, Aquatic Chronic 2; H319 H317 H411	
	Suspension of Nanoparticles in acrylic Resin	15 - < 20 %
	Eye Irrit. 2; H319	
75980-60-8	diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide	1 - < 5 %
	278-355-8	
	015-203-00-X	
	Repr. 2; H361f	
162881-26-7	phenyl bis(2,4,6-trimethylbenzoyl)-phosphine oxide	1 - < 5 %
	423-340-5	
	015-189-00-5	
	Skin Sens. 1A, Aquatic Chronic 4; H317 H413	
21245-02-3	2-Ethylhexyl-p-dimethylaminobenzoate	< 1 %
	244-289-3	
	01-2120766649-35	
	Repr. 1B, Aquatic Acute 1; H360 H400	

Full text of H and EUH statements: see section 16.

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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	50 - < 55 %
		dermal: LD50 = >5000 mg/kg; oral: LD50 = 7900 mg/kg	
1384855-91-7	800-838-4	Esterification product of acrylic acid and 2,2,2',2'-tetrakis(hydroxymethyl)-3,3'-oxydipropan-1-ol	25 - < 30 %
		oral: LD50 = >2000 mg/kg	
75980-60-8	278-355-8	diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide	1 - < 5 %
		inhalation: Data lacking (gases); oral: LD50 = >5000 mg/kg	
21245-02-3	244-289-3	2-Ethylhexyl-p-dimethylaminobenzoate	< 1 %
		dermal: LD50 = >2000 mg/kg; oral: LD50 = 14900 mg/kg	

SECTION 4: First aid measures

4.1. Description of first aid measures

General information

Polymerized material is non-hazardous.

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

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

Suitable extinguishing media

Water spray jet, Carbon dioxide (CO₂), Foam, Extinguishing powder.

5.2. Special hazards arising from the substance or mixture

Highly 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

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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.

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

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

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.

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 or drink.

Further information on handling

Protect from exposure to the light. Store not above 25°C. Keep container tightly closed.

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: Oxidizing agent. Pyrophoric or self-heating substances.

7.3. Specific end use(s)

Megaseal N is a light-curing Nano-concept surface-sealing lacquer.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Exposure limits (EH40)

CAS No	Substance	ppm	mg/m ³	fibres/ml	Category	Origin
128-37-0	2,6-Di-tert-butyl-p-cresol	-	10		TWA (8 h)	WEL
80-62-6	Methyl methacrylate	50	208		TWA (8 h)	WEL
		100	416		STEL (15 min)	WEL

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DNEL/DMEL values

CAS No	Substance	Exposure route	Effect	Value
1384855-91-7	Esterification product of acrylic acid and 2,2,2',2'-tetrakis(hydroxymethyl)-3,3'-oxydipropan-1-ol			
75980-60-8	diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide			
Worker DNEL, long-term		dermal	systemic	0,233 mg/kg bw/day
Consumer DNEL, long-term		inhalation	systemic	0,145 mg/m ³
Consumer DNEL, long-term		dermal	systemic	0,0833 mg/kg bw/day
Consumer DNEL, long-term		oral	systemic	0,0833 mg/kg bw/day
21245-02-3	2-Ethylhexyl-p-dimethylaminobenzoate			
Worker DNEL, long-term		inhalation	systemic	0,5 mg/m ³
Worker DNEL, long-term		dermal	systemic	6,7 mg/kg bw/day

PNEC values

CAS No	Substance	Value
21245-02-3	2-Ethylhexyl-p-dimethylaminobenzoate	
Freshwater		0 mg/l
Freshwater (intermittent releases)		0 mg/l
Marine water		0 mg/l
Freshwater sediment		0,042 mg/kg
Marine sediment		0,004 mg/kg
Micro-organisms in sewage treatment plants (STP)		100 mg/l
Soil		0,008 mg/kg

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.

Individual protection measures, such as personal protective equipment

Eye/face protection

Suitable eye protection: goggles.

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.

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SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state:	low viscous liquid	
Colour:	yellow	
Odour:	characteristic: like MMA	
Melting point/freezing point:		not determined
Boiling point or initial boiling point and boiling range:		100 °C
Flammability:		not applicable
Lower explosion limits:		not applicable
Upper explosion limits:		not determined
Flash point:		10 °C
Auto-ignition temperature:		400 °C
Decomposition temperature:		not determined
pH-Value:		not determined
Water solubility:		practically insoluble
Solubility in other solvents		not determined
Partition coefficient n-octanol/water:		not determined
Vapour pressure:		37 hPa
(at 20 °C)		
Density (at 20 °C):		1,1 g/cm ³
Relative vapour density:		not determined

9.2. Other information

Information with regard to physical hazard classes

Sustaining combustion:	No data available
Self-ignition temperature	
Solid:	not applicable
Gas:	not applicable
Oxidizing properties	
Not oxidising.	

Other safety characteristics

Evaporation rate:	not determined
Solid content:	4,01 %

SECTION 10: Stability and reactivity

10.1. Reactivity

Highly flammable.

10.2. Chemical stability

The product is stable under storage at normal ambient temperatures.

10.3. Possibility of hazardous reactions

No known hazardous reactions.

10.4. Conditions to avoid

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

10.5. Incompatible materials

No information available.

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10.6. Hazardous decomposition products

With incomplete combustion toxic gases such as carbon monoxide may be generated.

SECTION 11: Toxicological information

11.1. Information on hazard classes as defined in GB CLP Regulation

ATEmix tested

	Dose	Species	Source
LD50, oral	7872 mg/kg	Rat	

Acute toxicity

CAS No	Chemical name				
	Exposure route	Dose	Species	Source	Method
80-62-6	Methyl methacrylate				
	oral	LD50 7900 mg/kg	Rat		
	dermal	LD50 >5000 mg/kg	Rabbit		
1384855-91-7	Esterification product of acrylic acid and 2,2,2',2'-tetrakis(hydroxymethyl)-3,3'-oxydipropan-1-ol				
	oral	LD50 >2000 mg/kg	Rat		OECD 423
75980-60-8	diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide				
	oral	LD50 >5000 mg/kg	Rat		
	inhalation	Data lacking			
21245-02-3	2-Ethylhexyl-p-dimethylaminobenzoate				
	oral	LD50 14900 mg/kg	Rat		
	dermal	LD50 >2000 mg/kg	Rat		

Additional information on tests

The mixture is classified as hazardous according to regulation (EC) No 1272/2008 [CLP].

SECTION 12: Ecological information

12.1. Toxicity

Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

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CAS No	Chemical name					
	Aquatic toxicity	Dose	[h] [d]	Species	Source	Method
1384855-91-7	Esterification product of acrylic acid and 2,2,2',2'-tetrakis(hydroxymethyl)-3,3'-oxydipropan-1-ol					
	Acute fish toxicity	LC50 13 mg/l	96 h	Cyprinus carpio (Common Carp)		OECD 203
	Acute algae toxicity	ErC50 >100 mg/l	72 h	Pseudokirchneriella subcapitata		OECD 201
	Acute crustacea toxicity	EC50 35 mg/l	48 h	Daphnia magna (Big water flea)		OECD 202
	Algae toxicity	NOEC 6,6 mg/l	3 d	Pseudokirchneriella subcapitata		OECD 201
75980-60-8	diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide					
	Acute fish toxicity	LC50 6,53 mg/l	96 h	Oryzias latipes		
	Acute algae toxicity	ErC50 2,01 mg/l	72 h	Pseudokirchneriella subcapitata	OECD 201	
	Acute crustacea toxicity	EC50 3,53 mg/l	48 h	Daphnia magna	OECD Guideline 202	
21245-02-3	2-Ethylhexyl-p-dimethylaminobenzoate					
	Acute fish toxicity	LC50 0,235 mg/l	96 h		Manufacturer	
	Acute algae toxicity	ErC50 >0,015 mg/l	72 h	Pseudokirchneriella subcapitata		
	Acute crustacea toxicity	EC50 >0,031 mg/l	48 h	Daphnia magna		
	Acute bacteria toxicity	(EC50 >1000 mg/l)	3 h			

12.2. Persistence and degradability

The product has not been tested.

CAS No	Chemical name				
	Method	Value	d	Source	
	Evaluation				
162881-26-7	phenyl bis(2,4,6-trimethylbenzoyl)-phosphine oxide				
	OECD 301B	1%	29		
	Not readily biodegradable (according to OECD criteria)				

12.3. Bioaccumulative potential

The product has not been tested.

Partition coefficient n-octanol/water

CAS No	Chemical name	Log Pow
75980-60-8	diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide	3,257
162881-26-7	phenyl bis(2,4,6-trimethylbenzoyl)-phosphine oxide	5,8
21245-02-3	2-Ethylhexyl-p-dimethylaminobenzoate	>6,2

12.4. Mobility in soil

The product has not been tested.

12.5. Results of PBT and vPvB assessment

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

The product has not been tested.

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12.6. 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.

12.7. 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: Disposal considerations

13.1. 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

180106 WASTES FROM HUMAN OR ANIMAL HEALTH CARE AND/OR RELATED RESEARCH (EXCEPT KITCHEN AND RESTAURANT WASTES NOT ARISING FROM IMMEDIATE HEALTH CARE); wastes from natal care, diagnosis, treatment or prevention of disease in humans; 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.

SECTION 14: Transport information

Land transport (ADR/RID)

14.1. UN number or ID 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 or ID 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

Marine transport (IMDG)

14.1. UN number or ID 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

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Hazard label: 3
 Special Provisions: -
 Limited quantity: 1 L
 EmS: F-E, S-D

Other applicable information (marine transport)

E2

Air transport (ICAO-TI/IATA-DGR)

14.1. UN number or ID number: UN 1247

14.5. Environmental hazards

ENVIRONMENTALLY HAZARDOUS: Yes
 Danger releasing substance: Methylmethacrylat

14.6. Special precautions for user

Warning: Combustible liquid.

14.7. Maritime transport in bulk according to IMO instruments

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, Entry 40, Entry 75

2010/75/EU (VOC): 66,47 % (731,17 g/l)
 2004/42/EC (VOC): 66,47 % (731,17 g/l)
 Information according to 2012/18/EU (SEVESO III): P5c FLAMMABLE LIQUIDS

National regulatory information

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

Changes

This data sheet contains changes from the previous version in section(s): 2.

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%

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Classification for mixtures and used evaluation method according to GB CLP Regulation

Classification	Classification procedure
Flam. Liq. 2; H225	On basis of test data
Skin Irrit. 2; H315	Calculation method
Eye Irrit. 2; H319	Calculation method
Skin Sens. 1; H317	Calculation method
STOT SE 3; H335	Calculation method
Aquatic Chronic 3; H412	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.
H319	Causes serious eye irritation.
H335	May cause respiratory irritation.
H360	May damage fertility or the unborn child.
H361f	Suspected of damaging fertility.
H400	Very toxic to aquatic life.
H411	Toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.
H413	May cause long lasting harmful effects to aquatic life.

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.)