SAFETY DATA SHEET

Based upon Regulation (EC) No 1907/2006, as amended by Regulation (EU) No 2015/830

MEGAPLAST MM A

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

1.1. Product identifier

Product name : MEGAPLAST MM A
Registration number REACH : Not applicable (mixture)
Product type REACH : Mixture

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

1.2.1 Relevant identified uses

Resin

1.2.2 Uses advised against

No uses advised against known

1.3. Details of the supplier of the safety data sheet

Supplier of the safety data sheet

Novatio*
Industrielaan 5B
B-2250 Olen
☎ +32 14 25 76 40
🖷 +32 14 22 02 66
info@novatio.be
*NOVATIO is a registered trademark of Novatech International N.V.

Manufacturer of the product

Novatech International N.V.
Industrielaan 5B
B-2250 Olen
☎ +32 14 85 97 37
🖷 +32 14 85 97 38
info@tec7.be

1.4. Emergency telephone number

24h/24h (Telephone advice: English, French, German, Dutch) :
+32 14 58 45 45 (BIG)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classified as dangerous according to the criteria of Regulation (EC) No 1272/2008

Class	Category	Hazard statements
Flam. Liq.	category 2	H225: Highly flammable liquid and vapour.
Skin Sens.	category 1	H317: May cause an allergic skin reaction.
Skin Corr.	category 1B	H314: Causes severe skin burns and eye damage.
Eye Dam.	category 1	H318: Causes serious eye damage.
STOT SE	category 3	H335: May cause respiratory irritation.
Aquatic Chronic	category 3	H412: Harmful to aquatic life with long lasting effects.

2.2. Label elements

Contains: methyl methacrylate; methacrylic acid; maleic acid; colophony.

Signal word Danger

H-statements

H225 Highly flammable liquid and vapour.
H317 May cause an allergic skin reaction.
H314 Causes severe skin burns and eye damage.
H335 May cause respiratory irritation.
H412 Harmful to aquatic life with long lasting effects.

P-statements

P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

P280	Wear protective gloves, protective clothing and eye protection/face protection.
P260	Do not breathe vapours/mist.
P304 + P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P303 + P361 + P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.
P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

2.3. Other hazards

Gas/vapour spreads at floor level: ignition hazard

SECTION 3: Composition/information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Name REACH Registration No	CAS No EC No	Conc. (C)	Classification according to CLP	Note	Remark
methyl methacrylate 01-2119452498-28	80-62-6 201-297-1	50%<C<75%	Flam. Liq. 2; H225 Skin Sens. 1; H317 Skin Irrit. 2; H315 STOT SE 3; H335	(1)(2)(10)	Constituent
methacrylic acid 01-2119463884-26	79-41-4 201-204-4	C<10%	Acute Tox. 3; H311 Acute Tox. 4; H332 Acute Tox. 4; H302 Skin Corr. 1A; H314 Eye Dam. 1; H318 STOT SE 3; H335	(1)(2)(8)(10)	Constituent
maleic acid 01-2119488705-25	110-16-7 203-742-5	C<3%	Skin Sens. 1; H317 Acute Tox. 4; H302 Skin Irrit. 2; H315 Eye Irrit. 2; H319 STOT SE 3; H335	(1)(8)	Constituent
colophony 01-2119480418-32	8050-09-7 232-475-7	C<3%	Skin Sens. 1; H317	(1)(2)	Constituent
2,6-di-tert-butyl-p-cresol 01-2119565113-46	128-37-0 204-881-4	C<1%	Aquatic Acute 1; H400 Aquatic Chronic 1; H410	(1)(2)(9)	Constituent
α,α-dimethylbenzyl hydroperoxide	80-15-9 201-254-7	C<1%	Org. Perox. E; H242 Acute Tox. 3; H331 Acute Tox. 4; H312 Acute Tox. 4; H302 STOT RE 2; H373 Skin Corr. 1B; H314 Eye Dam. 1; H318 Aquatic Chronic 2; H411	(1)(8)(10)	Constituent

(1) For H-statements in full: see heading 16
(2) Substance with a Community workplace exposure limit
(8) Specific concentration limits, see heading 16
(9) M-factor, see heading 16
(10) Subject to restrictions of Annex XVII of Regulation (EC) No. 1907/2006

SECTION 4: First aid measures

4.1. Description of first aid measures

General:

Check the vital functions. Unconscious: maintain adequate airway and respiration. Respiratory arrest: artificial respiration or oxygen. Cardiac arrest: perform resuscitation. Victim conscious with laboured breathing: half-seated. Victim in shock: on his back with legs slightly raised. Vomiting: prevent asphyxia/aspiration pneumonia. Prevent cooling by covering the victim (no warming up). Keep watching the victim. Give psychological aid. Keep the victim calm, avoid physical strain. Depending on the victim's condition: doctor/hospital.

After inhalation:

Remove the victim into fresh air. Respiratory problems: consult a doctor/medical service. Respiratory problems: consult a doctor/medical service.

After skin contact:

Wash immediately with lots of water (15 minutes)/shower. Remove clothing while washing. Do not apply (chemical) neutralizing agents without medical advice. Do not remove clothing if it sticks to the skin. Cover wounds with sterile bandage. Consult a doctor/medical service. If burned surface > 10%: take victim to hospital.

After eye contact:

Rinse immediately with plenty of water for 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Do not apply (chemical) neutralizing agents without medical advice. Take victim to an ophthalmologist.

After ingestion:

Rinse mouth with water. Immediately after ingestion: give lots of water to drink. Do not induce vomiting. Do not apply (chemical) neutralizing agents without medical advice. Immediately consult a doctor/medical service.

4.2. Most important symptoms and effects, both acute and delayed

4.2.1 Acute symptoms

After inhalation:

Irritation of the respiratory tract. Irritation of the nasal mucous membranes.

After skin contact:

Caustic burns/corrosion of the skin.

After eye contact:

Corrosion of the eye tissue.

After ingestion:

Burns to the gastric/intestinal mucosa. Possible esophageal perforation.

4.2.2 Delayed symptoms

No effects known.

4.3. Indication of any immediate medical attention and special treatment needed

If applicable and available it will be listed below.

SECTION 5: Firefighting measures

5.1. Extinguishing media

5.1.1 Suitable extinguishing media:

Small fire: Quick-acting ABC powder extinguisher, Quick-acting BC powder extinguisher, Quick-acting class B foam extinguisher, Quick-acting CO2 extinguisher.

Major fire: Class B foam (alcohol-resistant), Water spray if puddle cannot expand.

5.1.2 Unsuitable extinguishing media:

Small fire: Water (quick-acting extinguisher, reel); risk of puddle expansion.

Major fire: Water; risk of puddle expansion.

5.2. Special hazards arising from the substance or mixture

Upon combustion: CO and CO2 are formed.

5.3. Advice for firefighters

5.3.1 Instructions:

If exposed to fire cool the closed containers by spraying with water. Do not move the load if exposed to heat. Take account of toxic fire-fighting water. Use water moderately and if possible collect or contain it.

5.3.2 Special protective equipment for fire-fighters:

Protective goggles (EN 166). Corrosion-proof suit (EN 14605).

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Stop engines and no smoking. No naked flames or sparks. Spark- and explosionproof appliances and lighting equipment.

6.1.1 Protective equipment for non-emergency personnel

See heading 8.2

6.1.2 Protective equipment for emergency responders

Protective goggles (EN 166). Corrosion-proof suit (EN 14605).

Suitable protective clothing

See heading 8.2

6.2. Environmental precautions

Contain released product. Dam up the liquid spill. Try to reduce evaporation. Take account of toxic/corrosive precipitation water. Prevent soil and water pollution. Prevent spreading in sewers.

6.3. Methods and material for containment and cleaning up

Take up liquid spill into absorbent material, e.g.: sand, earth, vermiculite. Scoop absorbed substance into closing containers. Carefully collect the spill/leftovers. Clean contaminated surfaces with an excess of water. Take collected spill to manufacturer/competent authority. Wash clothing and equipment after handling.

6.4. Reference to other sections

See heading 13.

SECTION 7: Handling and storage

The information in this section is a general description. If applicable and available, exposure scenarios are attached in annex. Always use the relevant exposure scenarios that correspond to your identified use.

7.1. Precautions for safe handling

Keep away from naked flames/heat. Insufficient ventilation: keep naked flames/sparks away. Insufficient ventilation: use spark-/explosionproof appliances and lighting system. Insufficient ventilation: take precautions against electrostatic charges. Gas/vapour heavier than air at 20°C. Observe very strict hygiene - avoid contact. Remove contaminated clothing immediately. Keep container tightly closed. Do not discharge the waste into the drain.

7.2. Conditions for safe storage, including any incompatibilities

7.2.1 Safe storage requirements:

Store in a dry area. Keep out of direct sunlight. Keep container in a well-ventilated place. Fireproof storeroom. Keep only in the original container. Meet the legal requirements.

7.2.2 Keep away from:
Heat sources, ignition sources, oxidizing agents.

7.2.3 Suitable packaging material:
No data available

7.2.4 Non suitable packaging material:
No data available

7.3. Specific end use(s)

If applicable and available, exposure scenarios are attached in annex. See information supplied by the manufacturer.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

8.1.1 Occupational exposure

a) Occupational exposure limit values

If limit values are applicable and available these will be listed below.

EU

Methyl methacrylate	Time-weighted average exposure limit 8 h (Indicative occupational exposure limit value)	50 ppm
	Short time value (Indicative occupational exposure limit value)	100 ppm

Belgium

2,6-Di-tert-butyl-p-crésol (vapeur et aérosol)	Time-weighted average exposure limit 8 h	2 mg/m³
Acide méthacrylique	Time-weighted average exposure limit 8 h	20 ppm
	Time-weighted average exposure limit 8 h	71 mg/m³
Méthacrylate de méthyle	Time-weighted average exposure limit 8 h	50 ppm
	Time-weighted average exposure limit 8 h	208 mg/m³
	Short time value	100 ppm
	Short time value	416 mg/m³

The Netherlands

Methylmethacrylaat	Time-weighted average exposure limit 8 h (Public occupational exposure limit value)	49.2 ppm
	Time-weighted average exposure limit 8 h (Public occupational exposure limit value)	205 mg/m³
	Short time value (Public occupational exposure limit value)	98.4 ppm
	Short time value (Public occupational exposure limit value)	410 mg/m³

France

2,6-Di-tert-butyl-p-crésol	Time-weighted average exposure limit 8 h (VL: Valeur non réglementaire indicative)	10 mg/m³
Acide méthacrylique	Time-weighted average exposure limit 8 h (VL: Valeur non réglementaire indicative)	20 ppm
	Time-weighted average exposure limit 8 h (VL: Valeur non réglementaire indicative)	70 mg/m³
Colophane (produits de décomposition des baguettes de soudure, exprimés en aldéhyde formique)	Time-weighted average exposure limit 8 h (VL: Valeur non réglementaire indicative)	0.1 mg/m³
Méthacrylate de méthyle	Time-weighted average exposure limit 8 h (VRC: Valeur réglementaire contraignante)	50 ppm
	Time-weighted average exposure limit 8 h (VRC: Valeur réglementaire contraignante)	205 mg/m³
	Short time value (VRC: Valeur réglementaire contraignante)	100 ppm
	Short time value (VRC: Valeur réglementaire contraignante)	410 mg/m³

Germany

2,6-Di-tert-butyl-p-kresol	Time-weighted average exposure limit 8 h (TRGS 900)	10 mg/m³
Methacrylsäure	Time-weighted average exposure limit 8 h (TRGS 900)	50 ppm
	Time-weighted average exposure limit 8 h (TRGS 900)	180 mg/m³
Methyl-methacrylat	Time-weighted average exposure limit 8 h (TRGS 900)	50 ppm
	Time-weighted average exposure limit 8 h (TRGS 900)	210 mg/m³

UK

2,6-Di-tert-butyl-p-cresol	Time-weighted average exposure limit 8 h (Workplace exposure limit (EH40/2005))	10 mg/m³
Methacrylic acid	Time-weighted average exposure limit 8 h (Workplace exposure limit (EH40/2005))	20 ppm
	Time-weighted average exposure limit 8 h (Workplace exposure limit (EH40/2005))	72 mg/m³
	Short time value (Workplace exposure limit (EH40/2005))	40 ppm

Methacrylic acid	Short time value (Workplace exposure limit (EH40/2005))	143 mg/m³
Methyl methacrylate	Time-weighted average exposure limit 8 h (Workplace exposure limit (EH40/2005))	50 ppm
	Time-weighted average exposure limit 8 h (Workplace exposure limit (EH40/2005))	208 mg/m³
	Short time value (Workplace exposure limit (EH40/2005))	100 ppm
	Short time value (Workplace exposure limit (EH40/2005))	416 mg/m³
Rosin-based solder flux fume	Time-weighted average exposure limit 8 h (Workplace exposure limit (EH40/2005))	0.05 mg/m³
	Short time value (Workplace exposure limit (EH40/2005))	0.15 mg/m³

USA (TLV-ACGIH)

Butylated hydroxytoluene (BHT)	Time-weighted average exposure limit 8 h (TLV - Adopted Value)	2 mg/m³ (IFV)
Methacrylic acid	Time-weighted average exposure limit 8 h (TLV - Adopted Value)	20 ppm
Methyl methacrylate	Time-weighted average exposure limit 8 h (TLV - Adopted Value)	50 ppm
	Short time value (TLV - Adopted Value)	100 ppm

(IFV): Inhalable fraction and vapor

b) National biological limit values

If limit values are applicable and available these will be listed below.

8.1.2 Sampling methods

Product name	Test	Number
Di-tert-butyl-p-cresol	OSHA	2108
Methacrylic Acid	OSHA	2005
Methyl ester of methacrylic acid	NIOSH	2537
Methyl Methacrylate	NIOSH	2537
Methyl Methacrylate	NON	36
Methyl Methacrylate	OSHA	94

8.1.3 Applicable limit values when using the substance or mixture as intended

If limit values are applicable and available these will be listed below.

8.1.4 Threshold values

DNEL/DMEL - Workers

methyl methacrylate

Effect level (DNEL/DMEL)	Type	Value	Remark
DNEL	Long-term systemic effects inhalation	208 mg/m³	
	Long-term local effects inhalation	208 mg/m³	
	Long-term systemic effects dermal	13.67 mg/kg bw/day	
	Acute systemic effects dermal	1.5 mg/cm²	
	Long-term local effects dermal	1.5 mg/cm²	

methacrylic acid

Effect level (DNEL/DMEL)	Type	Value	Remark
DNEL	Long-term systemic effects inhalation	29.6 mg/m³	
	Long-term local effects inhalation	88 mg/m³	
	Long-term systemic effects dermal	4.25 mg/kg bw/day	

maleic acid

Effect level (DNEL/DMEL)	Type	Value	Remark
DNEL	Long-term systemic effects inhalation	3 mg/m³	
	Acute systemic effects inhalation	3 mg/m³	
	Long-term local effects inhalation	3 mg/m³	
	Acute local effects inhalation	3 mg/m³	

colophony

Effect level (DNEL/DMEL)	Type	Value	Remark
DNEL	Long-term local effects inhalation	10 mg/m³	
	Long-term systemic effects dermal	2.131 mg/kg bw/day	

2,6-di-tert-butyl-p-cresol

Effect level (DNEL/DMEL)	Type	Value	Remark
DNEL	Long-term systemic effects inhalation	3.5 mg/m³	
	Long-term systemic effects dermal	0.5 mg/kg bw/day	

α,α-dimethylbenzyl hydroperoxide

Effect level (DNEL/DMEL)	Type	Value	Remark
DNEL	Long-term systemic effects inhalation	6 mg/m³	

DNEL/DMEL - General population

methyl methacrylate

Effect level (DNEL/DMEL)	Type	Value	Remark
DNEL	Long-term systemic effects inhalation	74.3 mg/m³	
	Long-term local effects inhalation	104 mg/m³	
	Long-term systemic effects dermal	8.2 mg/kg bw/day	
	Long-term local effects dermal	1.5 mg/cm²	
	Acute systemic effects dermal	1.5 mg/cm²	

methacrylic acid

Effect level (DNEL/DMEL)	Type	Value	Remark
DNEL	Long-term systemic effects inhalation	6.3 mg/m³	
	Long-term local effects inhalation	6.55 mg/m³	
	Long-term systemic effects dermal	2.55 mg/kg bw/day	

colophony

Effect level (DNEL/DMEL)	Type	Value	Remark
DNEL	Long-term systemic effects dermal	1.065 mg/kg bw/day	
	Long-term systemic effects oral	1.065 mg/kg bw/day	

2,6-di-tert-butyl-p-cresol

Effect level (DNEL/DMEL)	Type	Value	Remark
DNEL	Long-term systemic effects inhalation	0.86 mg/m³	
	Long-term systemic effects dermal	0.25 mg/kg bw/day	
	Long-term systemic effects oral	0.25 mg/kg bw/day	

PNEC

methyl methacrylate

Compartments	Value	Remark
Fresh water	0.94 mg/l	
Marine water	0.94 mg/l	
Fresh water (intermittent releases)	0.94 mg/l	
STP	10 mg/l	
Fresh water sediment	5.74 mg/kg sediment dw	
Soil	1.47 mg/kg soil dw	

methacrylic acid

Compartments	Value	Remark
Fresh water	0.82 mg/l	
Marine water	0.82 mg/l	
Fresh water (intermittent releases)	0.82 mg/l	
STP	10 mg/l	
Soil	1.2 mg/kg soil dw	

maleic acid

Compartments	Value	Remark
Fresh water	0.1 mg/l	
Marine water	0.01 mg/l	
Fresh water (intermittent releases)	0.428 mg/l	
STP	44.6 mg/l	
Fresh water sediment	0.334 mg/kg sediment dw	
Marine water sediment	0.033 mg/kg sediment dw	
Soil	0.042 mg/kg soil dw	

colophony

Compartments	Value	Remark
Fresh water	0.002 mg/l	
Aqua (intermittent releases)	0.016 mg/l	
STP	1000 mg/l	
Fresh water sediment	0.007 mg/kg sediment dw	
Marine water sediment	0.001 mg/kg sediment dw	

2,6-di-tert-butyl-p-cresol

Compartments	Value	Remark
Fresh water	0.199 µg/l	
Fresh water (intermittent releases)	1.99 µg/l	
Marine water	0.02 µg/l	
STP	0.17 mg/l	
Fresh water sediment	99.6 µg/kg sediment dw	
Marine water sediment	9.96 µg/kg sediment dw	
Soil	47.69 µg/kg soil dw	
Oral	8.33 mg/kg food	

α,α-dimethylbenzyl hydroperoxide

Compartments	Value	Remark
Fresh water	0.003 mg/l	
Marine water	0.0003 mg/l	
Fresh water (intermittent releases)	0.031 mg/l	
STP	0.35 mg/l	
Fresh water sediment	0.023 mg/kg sediment dw	
Marine water sediment	0.002 mg/kg sediment dw	
Soil	0.003 mg/kg soil dw	

8.1.5 Control banding

If applicable and available it will be listed below.

8.2. Exposure controls

The information in this section is a general description. If applicable and available, exposure scenarios are attached in annex. Always use the relevant exposure scenarios that correspond to your identified use.

8.2.1 Appropriate engineering controls

Keep away from naked flames/heat. Insufficient ventilation: keep naked flames/sparks away. Insufficient ventilation: use spark-/explosionproof appliances and lighting system. Insufficient ventilation: take precautions against electrostatic charges. Measure the concentration in the air regularly. Work under local exhaust/ventilation.

8.2.2 Individual protection measures, such as personal protective equipment

Observe very strict hygiene - avoid contact. Do not eat, drink or smoke during work.

a) Respiratory protection:

Full face mask with filter type A at conc. in air > exposure limit. High vapour/gas concentration: compressed air apparatus (EN 136 + EN 137).

b) Hand protection:

Protective gloves against chemicals (EN 374).

Materials	Measured breakthrough time	Remark	Protection index
butyl rubber	> 60 minutes	0.7 mm	Class 3

c) Eye protection:

Protective goggles (EN 166).

d) Skin protection:

Head/neck protection. Corrosion-proof clothing (EN 14605).

8.2.3 Environmental exposure controls:

See headings 6.2, 6.3 and 13

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical form	Liquid
Odour	Characteristic odour
Odour threshold	No data available in the literature
Colour	Black
Particle size	Not applicable (liquid)
Explosion limits	No data available in the literature
Flammability	Highly flammable liquid and vapour.
Log Kow	Not applicable (mixture)
Dynamic viscosity	No data available in the literature
Kinematic viscosity	≥ 40 mm²/s ; 40 °C
Melting point	No data available in the literature
Boiling point	> 35 °C
Evaporation rate	No data available in the literature
Relative vapour density	No data available in the literature
Vapour pressure	No data available in the literature
Solubility	No data available in the literature
Relative density	1 - 1.03
Decomposition temperature	No data available in the literature
Auto-ignition temperature	No data available in the literature
Flash point	11 °C ; Closed cup
Explosive properties	No chemical group associated with explosive properties
Oxidising properties	No chemical group associated with oxidising properties
pH	No data available in the literature

9.2. Other information

Absolute density	1000 kg/m³ - 1030 kg/m³

SECTION 10: Stability and reactivity

10.1. Reactivity

May be ignited by sparks. Gas/vapour spreads at floor level: ignition hazard.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

May polymerize: release of heat.

10.4. Conditions to avoid

Precautionary measures

Keep away from naked flames/heat. Insufficient ventilation: keep naked flames/sparks away. Insufficient ventilation: use spark-/explosionproof appliances and lighting system. Insufficient ventilation: take precautions against electrostatic charges.

10.5. Incompatible materials

Oxidizing agents.

10.6. Hazardous decomposition products

Upon combustion: CO and CO2 are formed.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

11.1.1 Test results

Acute toxicity

MEGAPLAST MM A

No (test)data on the mixture available

Judgement is based on the relevant ingredients

methyl methacrylate

Route of exposure	Parameter	Method	Value	Exposure time	Species	Value determination	Remark
Oral	LD50		9400 mg/kg bw		Rat (male / female)	Experimental value	
Dermal	LD50	Equivalent to OECD 402	> 5000 mg/kg bw	24 h	Rabbit (male)	Experimental value	
Inhalation (vapours)	LC50	Equivalent to OECD 403	29.8 mg/l air	4 h	Rat (male / female)	Experimental value	

methacrylic acid

Route of exposure	Parameter	Method	Value	Exposure time	Species	Value determination	Remark
Oral	LD50	Equivalent to OECD 401	1320 mg/kg bw		Rat (male)	Experimental value	
Dermal	LD50		500 mg/kg bw - 1000 mg/kg bw		Rabbit	Experimental value	
Inhalation (mixture of vapour and aerosol)	LC50	Equivalent to OECD 403	7.1 mg/l air	4 h	Rat (male / female)	Experimental value	

maleic acid

Route of exposure	Parameter	Method	Value	Exposure time	Species	Value determination	Remark
Oral	LD50		708 mg/kg bw			Annex VI	
Skin	LD50		1560 mg/kg bw		Rabbit	Experimental value	
						Annex VI	Not classified

Classification of this substance according to Annex VI is debatable as it does not correspond to the conclusion from the test

colophony

Route of exposure	Parameter	Method	Value	Exposure time	Species	Value determination	Remark
Oral	LD50	Other	2800 mg/kg bw		Rat (male / female)	Experimental value	
Dermal	LD50	OECD 402	> 2000 mg/kg bw	24 h	Rat (male / female)	Experimental value	
Inhalation						Data waiving	

2,6-di-tert-butyl-p-cresol

Route of exposure	Parameter	Method	Value	Exposure time	Species	Value determination	Remark
Oral	LD50	OECD 401	> 6000 mg/kg bw		Rat (male / female)	Experimental value	
Dermal	LD50	OECD 402	> 2000 mg/kg bw	24 h	Rat (male / female)	Experimental value	
Inhalation (vapours)	RD50		59.7 ppm	30 minutes	Mouse (male)	Experimental value	

α,α-dimethylbenzyl hydroperoxide

Route of exposure	Parameter	Method	Value	Exposure time	Species	Value determination	Remark
Oral	LD50		382 mg/kg		Rat (male)	Experimental value	
Dermal	LD50		1200 mg/kg bw - 1520 mg/kg bw		Rat (male / female)	Experimental value	
Inhalation (vapours)	LC50		1.37 mg/l	4 h	Rat (male)	Experimental value	
Inhalation			category 3			Literature study	

Conclusion

Not classified for acute toxicity

Corrosion/irritation

MEGAPLAST MM A

No (test)data on the mixture available

Classification is based on the relevant ingredients

methyl methacrylate

Route of exposure	Result	Method	Exposure time	Time point	Species	Value determination	Remark
Eye	Not irritating			24; 48; 72 hours	Rabbit	Experimental value	Single treatment
Skin	Irritating		4 h	24 hours	Rabbit	Experimental value	
Inhalation	Irritating; STOT SE cat.3					Annex VI	

methacrylic acid

Route of exposure	Result	Method	Exposure time	Time point	Species	Value determination	Remark
Eye	Serious eye damage	Draize Test		1; 24; 48; 72; 168 hours	Rabbit	Experimental value	
Skin	Highly corrosive	OECD 404	3 minutes - 240 minutes	24; 48; 72 hours	Rabbit	Experimental value	
Inhalation	Irritating; STOT SE cat.3					Annex VI	

maleic acid

Route of exposure	Result	Method	Exposure time	Time point	Species	Value determination	Remark
Eye	Serious eye damage	Equivalent to OECD 405		24; 48 hours	Rabbit	Experimental value	Single treatment
Eye	Highly irritating		2 minutes		Rabbit	Experimental value	
Eye	Irritating					Annex VI	
Not applicable (in vitro test)	Corrosive	OECD 435			Reconstructed human epidermis	Experimental value	
	Slightly irritating	OECD 404	24 h		Rabbit	Read-across	
Subcutaneous	Irritating					Annex VI	
Inhalation (dust)	Irritating; STOT SE cat.3					Annex VI	

Classification of this substance according to Annex VI is debatable as it does not correspond to the conclusion from the test

colophony

Route of exposure	Result	Method	Exposure time	Time point	Species	Value determination	Remark
Eye	Not irritating	OECD 405		24; 48; 72 hours	Rabbit	Experimental value	Single treatment
Skin	Not irritating	OECD 404	4 h	24; 48; 72 hours	Rabbit	Experimental value	

2,6-di-tert-butyl-p-cresol

Route of exposure	Result	Method	Exposure time	Time point	Species	Value determination	Remark
Eye	Not irritating	OECD 405		24; 72 hours	Rabbit	Experimental value	
Skin	Not irritating	OECD 404	4 h	24; 72 hours	Rabbit	Experimental value	

α,α-dimethylbenzyl hydroperoxide

Route of exposure	Result	Method	Exposure time	Time point	Species	Value determination	Remark
Eye	Serious eye damage		24 h		Rabbit	Experimental value	
Skin	Corrosive		24 h		Rabbit	Experimental value	
Inhalation	Irritating					Literature	

Conclusion

Causes severe skin burns and eye damage.
May cause respiratory irritation.

Respiratory or skin sensitisation

MEGAPLAST MM A

No (test)data on the mixture available

Classification is based on the relevant ingredients

methyl methacrylate

Route of exposure	Result	Method	Exposure time	Observation time point	Species	Value determination	Remark
Dermal (on the ears)	Sensitizing	Equivalent to OECD 429			Mouse	Experimental value	

methacrylic acid

Route of exposure	Result	Method	Exposure time	Observation time point	Species	Value determination	Remark
Skin	Not sensitizing	Equivalent to OECD 406			Guinea pig (male)	Experimental value	

maleic acid

Route of exposure	Result	Method	Exposure time	Observation time point	Species	Value determination	Remark
Dermal	Sensitizing	OECD 406			Guinea pig (female)	Experimental value	
Dermal	Sensitizing	EU Method B.6		24; 48 hours	Guinea pig (female)	Experimental value	
Subcutaneous	Sensitizing	OECD 429	3 day(s)		Mouse (female)	Experimental value	

colophony

Route of exposure	Result	Method	Exposure time	Observation time point	Species	Value determination	Remark
Skin	Not sensitizing	Human observation			Human (male / female)	Experimental value	
Skin	Sensitizing; category 1					Annex VI	

Classification of this substance according to Annex VI is debatable as it does not correspond to the conclusion from the test

2,6-di-tert-butyl-p-cresol

Route of exposure	Result	Method	Exposure time	Observation time point	Species	Value determination	Remark
Skin	Not sensitizing	Human observation			Human (male / female)	Experimental value	
Skin	Not sensitizing	Guinea pig maximisation test		24; 48 hours	Guinea pig (male / female)	Experimental value	

α,α-dimethylbenzyl hydroperoxide

Route of exposure	Result	Method	Exposure time	Observation time point	Species	Value determination	Remark
Skin						Data waiving	

Conclusion

May cause an allergic skin reaction.

Not classified as sensitizing for inhalation

Specific target organ toxicity

MEGAPLAST MM A

No (test)data on the mixture available

Judgement is based on the relevant ingredients

methyl methacrylate

Route of exposure	Parameter	Method	Value	Organ	Effect	Exposure time	Species	Value determination
Oral (drinking water)	NOAEL		≥ 124.1 mg/kg bw/day		No effect	104 week(s)	Rat (male)	Experimental value
Inhalation (vapours)	LOAEC local effects	Equivalent to OECD 453	416 mg/m³ air	Nose	Affection of the nasal septum	104 weeks (6h / day, 5 days / week)	Rat (male / female)	Experimental value
Inhalation (vapours)	NOAEC local effects	Equivalent to OECD 453	104 mg/m³ air	Nose	No effect	104 weeks (6h / day, 5 days / week)	Rat (male / female)	Experimental value

methacrylic acid

Route of exposure	Parameter	Method	Value	Organ	Effect	Exposure time	Species	Value determination
Oral (stomach tube)	NOAEL	Subchronic toxicity test	0.05 mg/kg bw/day		No effect	6 month(s)	Rat	Inconclusive, insufficient data
Dermal	NOAEL	Subacute toxicity test	600 mg/kg bw/day		No adverse systemic effects	3 weeks (3 times / week)	Mouse (male)	Experimental value
Inhalation	NOAEC local effects	OECD 413	352 mg/m³		No effect	13 weeks (6h / day, 5 days / week)	Rat (male / female)	Experimental value
Inhalation	NOAEC systemic effects	OECD 413	1232 mg/m³ air		No adverse systemic effects	13 weeks (6h / day, 5 days / week)	Rat (male / female)	Experimental value
Inhalation (vapours)	NOAEC	Subchronic toxicity test	1232 mg/m³ air	Central nervous system	No effect	13 weeks (6h / day, 5 days / week)	Rat (male / female)	Experimental value

maleic acid

Route of exposure	Parameter	Method	Value	Organ	Effect	Exposure time	Species	Value determination
Oral	NOEL	Equivalent to OECD 409	60 mg/kg bw/day			90 day(s)	Dog (male / female)	Experimental value
Oral	LOEL	Equivalent to OECD 452	250 mg/kg bw/day	All major organs	Weight gain	90 day(s)	Rat (male)	Weight of evidence

colophony

Route of exposure	Parameter	Method	Value	Organ	Effect	Exposure time	Species	Value determination
Oral (diet)	NOAEL	Subchronic toxicity test	0.2 %		No effect	90 day(s)	Rat (male / female)	Inconclusive, insufficient data
Dermal								Data waiving
Inhalation								Data waiving

2,6-di-tert-butyl-p-cresol

Route of exposure	Parameter	Method	Value	Organ	Effect	Exposure time	Species	Value determination
Oral (diet)	NOAEL		25 mg/kg bw/day		No effect		Rat (male)	Experimental value
Oral (diet)	LOAEL		100 mg/kg bw/day	Liver	Enlargement/ affection of the liver		Rat (male)	Experimental value
Dermal	Dose level	Subchronic toxicity test	2000 mg/l		No adverse systemic effects	4 weeks (3 times / week)	Rat (male / female)	Experimental value

α,α-dimethylbenzyl hydroperoxide

Route of exposure	Parameter	Method	Value	Organ	Effect	Exposure time	Species	Value determination
Oral (stomach tube)	Dose level	Subchronic toxicity test	19 mg/kg		Mortality	7 weeks (3 times / week)	Rat (male)	Experimental value
Inhalation (aerosol)	NOAEC	Subchronic toxicity test	31 mg/m³ air		No effect	13 weeks (6h / day, 5 days / week)	Rat (male / female)	Experimental value

Conclusion

Not classified for subchronic toxicity

Mutagenicity (in vitro)

MEGAPLAST MM A

No (test)data on the mixture available

Judgement is based on the relevant ingredients

methyl methacrylate

Result	Method	Test substrate	Effect	Value determination	Remark
Negative	Equivalent to OECD 471	Bacteria (S.typhimurium)		Literature study	

methacrylic acid

Result	Method	Test substrate	Effect	Value determination	Remark
Negative	Equivalent to OECD 471	Bacteria (S.typhimurium)	No effect	Experimental value	

maleic acid

Result	Method	Test substrate	Effect	Value determination	Remark
Negative with metabolic activation, negative without metabolic activation	Ames test	Bacteria (S.typhimurium)		Experimental value	
Negative with metabolic activation, negative without metabolic activation	OECD 476	Chinese hamster lung fibroblasts (V79)		Experimental value	

colophony

Result	Method	Test substrate	Effect	Value determination	Remark
Negative with metabolic activation, negative without metabolic activation	OECD 471	Bacteria (S.typhimurium)	No effect	Experimental value	
Negative	OECD 476	Mouse (lymphoma L5178Y cells)	No effect	Experimental value	
Negative	OECD 473	Human lymphocytes	No effect	Experimental value	

2,6-di-tert-butyl-p-cresol

Result	Method	Test substrate	Effect	Value determination	Remark
Negative with metabolic activation, negative without metabolic activation	Ames test	Bacteria (S.typhimurium)		Experimental value	
Negative with metabolic activation, negative without metabolic activation	Equivalent to OECD 473	Chinese hamster ovary (CHO)	No effect	Experimental value	

α,α-dimethylbenzyl hydroperoxide

Result	Method	Test substrate	Effect	Value determination	Remark
Positive	Equivalent to OECD 471	Bacteria (S.typhimurium)		Experimental value	

Mutagenicity (in vivo)

MEGAPLAST MM A

No (test)data on the mixture available

Judgement is based on the relevant ingredients

methyl methacrylate

Result	Method	Exposure time	Test substrate	Organ	Value determination
Ambiguous	Equivalent to OECD 475	5 days (5h / day)	Rat (male)	Bone marrow	Experimental value

methacrylic acid

Result	Method	Exposure time	Test substrate	Organ	Value determination
Ambiguous	Equivalent to OECD 475	5 day(s)	Rat (male)	Bone marrow	Experimental value
Negative	Equivalent to OECD 478	5 days (6h / day)	Mouse (male)		Experimental value

2,6-di-tert-butyl-p-cresol

Result	Method	Exposure time	Test substrate	Organ	Value determination
Negative (Oral (diet))	Chromosome aberration assay	9 month(s)	Rat (male)	Bone marrow	Experimental value

α,α-dimethylbenzyl hydroperoxide

Result	Method	Exposure time	Test substrate	Organ	Value determination
Negative (Dermal)	Micronucleus test	13 weeks (daily, 5 days / week)	Mouse (male / female)	Blood	Experimental value

Conclusion

Not classified for mutagenic or genotoxic toxicity

Carcinogenicity

MEGAPLAST MM A

No (test)data on the mixture available

Judgement is based on the relevant ingredients

methyl methacrylate

Route of exposure	Parameter	Method	Value	Exposure time	Species	Effect	Organ	Value determination
Inhalation	NOAEC	Equivalent to OECD 451	≥ 4.1 mg/l air	102 weeks (6h / day, 5 days / week)	Rat (male)	No carcinogenic effect		Experimental value
Oral (drinking water)	NOAEL	Carcinogenic toxicity study	≥ 90.3 mg/kg bw/day	104 weeks (daily)	Rat (male)	No carcinogenic effect		Experimental value

methacrylic acid

Route of exposure	Parameter	Method	Value	Exposure time	Species	Effect	Organ	Value determination
Inhalation	NOAEC	Equivalent to OECD 451	≥ 2.05 mg/l air	102 weeks (6h / day, 5 days / week)	Rat (female)	No carcinogenic effect		Experimental value
Inhalation	NOAEC	Equivalent to OECD 451	≥ 4.1 mg/l air	102 weeks (6h / day, 5 days / week)	Rat (male)	No carcinogenic effect		Experimental value
Oral (drinking water)	NOAEL	Carcinogenic toxicity study	≥ 90.3 mg/kg bw/day	104 weeks (daily)	Rat (male)	No carcinogenic effect		Experimental value
Oral (drinking water)	NOAEL	Carcinogenic toxicity study	≥ 193.8 mg/kg bw/day	104 weeks (daily)	Rat (female)	No carcinogenic effect		Experimental value

maleic acid

Route of exposure	Parameter	Method	Value	Exposure time	Species	Effect	Organ	Value determination
Oral (diet)	NOAEL	Equivalent to OECD 451	≥ 100 mg/kg bw/day	104 weeks (7 days / week)	Rat (male / female)	No carcinogenic effect		Experimental value

colophony

Route of exposure	Parameter	Method	Value	Exposure time	Species	Effect	Organ	Value determination
Inhalation								Data waiving
Dermal								Data waiving
Oral								Data waiving

2,6-di-tert-butyl-p-cresol

Route of exposure	Parameter	Method	Value	Exposure time	Species	Effect	Organ	Value determination
Oral (diet)	NOAEL	Carcinogenic toxicity study	25 mg/kg bw/day	98 week(s)	Rat (male)	No carcinogenic effect		Experimental value

Conclusion

Not classified for carcinogenicity

Reproductive toxicity

MEGAPLAST MM A

No (test)data on the mixture available

Judgement is based on the relevant ingredients

methyl methacrylate

	Parameter	Method	Value	Exposure time	Species	Effect	Organ	Value determination
Developmental toxicity	NOAEC	OECD 414	≥ 8.3 mg/l air	10 days (6h / day)	Rat	No effect	Foetus	Experimental value
Maternal toxicity	NOAEC	OECD 414	0.41 mg/l air	10 days (6h / day)	Rat	No effect		Experimental value
Effects on fertility	NOAEL	OECD 416	400 mg/kg bw/day		Rat (male / female)	No effect		Experimental value

methacrylic acid

	Parameter	Method	Value	Exposure time	Species	Effect	Organ	Value determination
Developmental toxicity	NOAEL (F1/F2)	Equivalent to OECD 414	≥ 300 ppm	15 days (6h / day)	Rat (male / female)	No effect		Experimental value
	NOAEL	OECD 414	450 mg/kg bw/day	23 day(s)	Rabbit	No effect	Foetus	Experimental value
Maternal toxicity	NOAEL	OECD 414	50 mg/kg bw/day	23 day(s)	Rabbit	No effect	General	Experimental value
Effects on fertility	NOAEL (P/F1)	OECD 416	400 mg/kg bw/day		Rat (male / female)	No effect		Experimental value

maleic acid

	Parameter	Method	Value	Exposure time	Species	Effect	Organ	Value determination
Effects on fertility (Oral (stomach tube))	LOEL	Equivalent to OECD 416	20 mg/kg bw/day	80 day(s)	Rat (male / female)	No effect		Read-across

colophony

	Parameter	Method	Value	Exposure time	Species	Effect	Organ	Value determination
Developmental toxicity	NOAEL (F1)	OECD 421	3000 ppm	30 day(s) - 45 day(s)	Rat (male / female)	No effect		Experimental value
Effects on fertility	NOAEL (P)	OECD 421	3000 ppm	30 day(s) - 45 day(s)	Rat (male / female)	No effect		Experimental value

2,6-di-tert-butyl-p-cresol

	Parameter	Method	Value	Exposure time	Species	Effect	Organ	Value determination
Developmental toxicity (Oral (diet))	NOAEL	Developmental toxicity study	100 mg/kg bw/day		Rat	No effect		Experimental value
	LOAEL	Developmental toxicity study	500 mg/kg bw/day		Rat	Reduced foetal bodyweights	Foetus	Experimental value
Maternal toxicity (Oral (diet))	NOAEL		100 mg/kg bw/day		Rat (female)	No effect		Experimental value
	LOAEL		500 mg/kg bw/day		Rat (female)	Enlargement/affection of the liver	Liver	Experimental value
Effects on fertility (Oral (diet))	NOAEL (P)		500 mg/kg bw/day		Rat (male / female)	No effect		Experimental value

α,α-dimethylbenzyl hydroperoxide

	Parameter	Method	Value	Exposure time	Species	Effect	Organ	Value determination
Developmental toxicity (Oral (stomach tube))	NOAEL	OECD 414	≥ 100 mg/kg bw/day	14 days (gestation, daily)	Rat	No effect		Experimental value
Maternal toxicity (Oral (stomach tube))	NOAEL systemic effects	OECD 414	100 mg/kg bw/day	14 days (gestation, daily)	Rat	No adverse systemic effects		Experimental value
	NOAEL local effects	OECD 414	15 mg/kg bw/day	14 days (gestation, daily)	Rat	No effect		Experimental value
Effects on fertility		OECD 421						Data waiving

Conclusion

Not classified for reprotoxic or developmental toxicity

Toxicity other effects

MEGAPLAST MM A

No (test)data on the mixture available

Chronic effects from short and long-term exposure

MEGAPLAST MM A

Skin rash/inflammation.

SECTION 12: Ecological information

12.1. Toxicity

MEGAPLAST MM A

No (test)data on the mixture available

Classification is based on the relevant ingredients

methyl methacrylate

	Parameter	Method	Value	Duration	Species	Test design	Fresh/salt water	Value determination
Acute toxicity fishes	LC50		283 mg/l	96 h	Lepomis macrochirus	Static system		Literature study
Acute toxicity crustacea	EC50	EPA OTS 797.1300	69 mg/l	48 h	Daphnia magna	Flow-through system	Fresh water	Experimental value; GLP
Toxicity algae and other aquatic plants	ErC50	OECD 201	> 110 mg/l	72 h	Pseudokirchneriella subcapitata	Static system	Fresh water	Experimental value
	NOEC	OECD 201	110 mg/l	72 h	Pseudokirchneriella subcapitata	Static system	Fresh water	Experimental value; Growth rate
Long-term toxicity fish	NOEC	OECD 210	9.4 mg/l	35 day(s)	Danio rerio	Flow-through system	Fresh water	Experimental value; GLP
Long-term toxicity aquatic crustacea	NOEC	OECD 211	37 mg/l	21 day(s)	Daphnia magna	Flow-through system	Fresh water	Experimental value; GLP
Toxicity aquatic micro-organisms	EC50		> 178 mg/l	48 h	Chilomas sp.			Literature study

methacrylic acid

	Parameter	Method	Value	Duration	Species	Test design	Fresh/salt water	Value determination
Acute toxicity fishes	LC50	EPA OTS 797.1400	85 mg/l	96 h	Oncorhynchus mykiss	Flow-through system	Fresh water	Experimental value; GLP
Acute toxicity crustacea	EC50	EPA OTS 797.1300	> 130 mg/l	48 h	Daphnia magna	Flow-through system	Fresh water	Experimental value; GLP
Toxicity algae and other aquatic plants	ErC50	OECD 201	45 mg/l	72 h	Pseudokirchneriella subcapitata	Static system	Fresh water	Experimental value; GLP
	NOEC	OECD 201	8.2 mg/l	72 h	Pseudokirchneriella subcapitata	Static system	Fresh water	Experimental value; Growth rate
Long-term toxicity fish	NOEC	OECD 210	10 mg/l	35 day(s)	Danio rerio	Flow-through system	Fresh water	Experimental value; GLP
Long-term toxicity aquatic crustacea	NOEC	OECD 211	53 mg/l	21 day(s)	Daphnia magna	Flow-through system	Fresh water	Experimental value; GLP
Toxicity aquatic micro-organisms	EC50	DIN 38412-8	270 mg/l	17 h	Pseudomonas putida	Static system	Fresh water	Experimental value; GLP

maleic acid

	Parameter	Method	Value	Duration	Species	Test design	Fresh/salt water	Value determination
Acute toxicity fishes	LC50	DIN 38412-15	106 mg/l	48 h	Leuciscus idus		Fresh water	Weight of evidence; Lethal
Acute toxicity crustacea	EC50	OECD 202	42.81 mg/l	48 h	Daphnia magna	Static system	Fresh water	Experimental value; GLP
Toxicity algae and other aquatic plants	ErC50	OECD 201	74.35 mg/l	72 h	Pseudokirchneriella subcapitata	Static system	Fresh water	Experimental value; Growth rate
	EC10	OECD 201	11.8 mg/l	72 h	Pseudokirchneriella subcapitata	Static system	Fresh water	Experimental value; Growth rate
Long-term toxicity aquatic crustacea	NOEC		10 mg/l	21 day(s)	Daphnia magna		Fresh water	Read-across; Reproduction
Toxicity aquatic micro-organisms	EC10	DIN 38412-8	44.6 mg/l	18 h	Pseudomonas putida	Static system	Fresh water	Experimental value; Growth inhibition

colophony

	Parameter	Method	Value	Duration	Species	Test design	Fresh/salt water	Value determination
Acute toxicity fishes	LC50	OECD 203	1 mg/l - 10 mg/l	96 h	Brachydanio rerio	Semi-static system	Fresh water	Experimental value; GLP
Acute toxicity crustacea	EC50	OECD 202	911 mg/l	48 h	Daphnia magna	Static system	Fresh water	Experimental value; GLP
Toxicity algae and other aquatic plants	ErC50	OECD 201	> 1000 mg/l	72 h	Selenastrum capricornutum	Static system	Fresh water	Experimental value; GLP
Toxicity aquatic micro-organisms	EC50	OECD 209	> 10000 mg/l	3 h	Activated sludge	Static system	Fresh water	Experimental value; GLP

2,6-di-tert-butyl-p-cresol

	Parameter	Method	Value	Duration	Species	Test design	Fresh/salt water	Value determination
Acute toxicity fishes	LC50	ECOSAR v1.00	0.199 mg/l	96 h	Pisces			QSAR; Lethal
Acute toxicity crustacea	EC50	OECD 202	0.48 mg/l	48 h	Daphnia magna	Static system	Fresh water	Experimental value; GLP
Toxicity algae and other aquatic plants	EC50	OECD 201	> 0.24 mg/l	72 h	Pseudokirchneriella subcapitata	Static system	Fresh water	Experimental value; Growth rate
	NOEC	OECD 201	0.24 mg/l	72 h	Pseudokirchneriella subcapitata	Static system	Fresh water	Experimental value; Growth rate
Long-term toxicity fish	NOEC	OECD 210	0.053 mg/l	30 day(s)	Oryzias latipes			Experimental value; GLP
Long-term toxicity aquatic crustacea	NOEC	OECD 211	0.069 mg/l	21 day(s)	Daphnia magna		Fresh water	Experimental value; GLP
Toxicity aquatic micro-organisms	EC50		> 50 mg/l	36 h	Pseudomonas fluorescens	Static system	Fresh water	Experimental value

α,α-dimethylbenzyl hydroperoxide

	Parameter	Method	Value	Duration	Species	Test design	Fresh/salt water	Value determination
Acute toxicity fishes	LC50	OECD 203	3.9 mg/l	96 h	Oncorhynchus mykiss	Semi-static system	Fresh water	Experimental value; GLP
Acute toxicity crustacea	EC50	OECD 202	18.84 mg/l	48 h	Daphnia magna	Static system	Fresh water	Experimental value; GLP
Toxicity algae and other aquatic plants	ErC50	OECD 201	3.1 mg/l	72 h	Desmodesmus subspicatus	Static system	Fresh water	Experimental value; GLP
	NOEC	OECD 201	1 mg/l	72 h	Desmodesmus subspicatus	Static system	Fresh water	Experimental value; GLP
Toxicity aquatic micro-organisms	Toxicity threshold		> 50 mg/l	16 h	Pseudomonas putida	Static system	Fresh water	Experimental value; Growth inhibition

Conclusion

Harmful to aquatic life with long lasting effects.

12.2. Persistence and degradability

methyl methacrylate

Biodegradation water

Method	Value	Duration	Value determination
OECD 301C: Modified MITI Test (I)	94 %; Oxygen consumption	14 day(s)	Experimental value

Phototransformation air (DT50 air)

Method	Value	Conc. OH-radicals	Value determination
AOPWIN v1.92	6.997 h	1.5E6 /cm³	QSAR

Half-life water (t1/2 water)

Method	Value	Primary degradation/mineralisation	Value determination
	53 month(s); pH = 7		Experimental value

methacrylic acid

Biodegradation water

Method	Value	Duration	Value determination
OECD 301D: Closed Bottle Test	86 %; Oxygen consumption	28 day(s)	Experimental value

Phototransformation air (DT50 air)

Method	Value	Conc. OH-radicals	Value determination
AOPWIN v1.92	20.65 h	0.5E6 /cm³	Calculated value

maleic acid

Biodegradation water

Method	Value	Duration	Value determination
OECD 301B: CO2 Evolution Test	97.08 %; GLP	28 day(s)	Experimental value

colophony

Biodegradation water

Method	Value	Duration	Value determination
OECD 301D: Closed Bottle Test	71 %; GLP	28 day(s)	Experimental value

2,6-di-tert-butyl-p-cresol

Biodegradation water

Method	Value	Duration	Value determination
	4.7 %	28 day(s)	Experimental value

Phototransformation air (DT50 air)

Method	Value	Conc. OH-radicals	Value determination
AOPWIN v1.92	7.018 h	1.5E6 /cm³	Calculated value

Biodegradation soil

Method	Value	Duration	Value determination
Equivalent or similar to OECD 304A	63 % - 82 %	1 day(s)	Experimental value

α,α-dimethylbenzyl hydroperoxide

Biodegradation water

Method	Value	Duration	Value determination
OECD 301B: CO2 Evolution Test	3 %; GLP	28 day(s)	Experimental value

Phototransformation air (DT50 air)

Method	Value	Conc. OH-radicals	Value determination
AOPWIN v1.92	44.6 h	500000 /cm³	Calculated value

Conclusion

Contains non readily biodegradable component(s)

12.3. Bioaccumulative potential

MEGAPLAST MM A

Log Kow

Method	Remark	Value	Temperature	Value determination

	Not applicable (mixture)			

methyl methacrylate

BCF fishes

Parameter	Method	Value	Duration	Species	Value determination
BCF		2.97 - 3.5		Pisces	QSAR

Log Kow

Method	Remark	Value	Temperature	Value determination
Equivalent to OECD 107		1.38	20 °C	Experimental value

methacrylic acid

Log Kow

Method	Remark	Value	Temperature	Value determination
Equivalent to OECD 107		0.93	22 °C	Experimental value

maleic acid

Log Kow

Method	Remark	Value	Temperature	Value determination
OECD 107		-1.3	20 °C	Experimental value

colophony

BCF other aquatic organisms

Parameter	Method	Value	Duration	Species	Value determination
BCF	BCFBAF v3.00	56.2			QSAR

Log Kow

Method	Remark	Value	Temperature	Value determination
OECD 117		1.9		Experimental value

2,6-di-tert-butyl-p-cresol

BCF fishes

Parameter	Method	Value	Duration	Species	Value determination
BCF	OECD 305	230 - 2500	56 day(s)	Cyprinus carpio	Experimental value

Log Kow

Method	Remark	Value	Temperature	Value determination
		4.17	37 °C	Experimental value

α,α-dimethylbenzyl hydroperoxide

BCF other aquatic organisms

Parameter	Method	Value	Duration	Species	Value determination
BCF	BCFWIN	9			Calculated value

Log Kow

Method	Remark	Value	Temperature	Value determination
OECD 117		1.6	25 °C	Experimental value

Conclusion

Contains bioaccumulative component(s)

12.4. Mobility in soil

methyl methacrylate

(log) Koc

Parameter	Method	Value	Value determination
log Koc	EPA OTS 796.2750	0.94 - 1.86	Experimental value

maleic acid

(log) Koc

Parameter	Method	Value	Value determination
log Koc		1.63	Calculated value

Volatility (Henry's Law constant H)

Value	Method	Temperature	Remark	Value determination
0 Pa.m³/mol		25 °C		Calculated value

Percent distribution

Method	Fraction air	Fraction biota	Fraction sediment	Fraction soil	Fraction water	Value determination
Mackay level I	0 %	0 %	0 %	0 %	100 %	Calculated value

colophony

(log) Koc

Parameter	Method	Value	Value determination
log Koc	SRC PCKOCWIN v2.0	0.8759	QSAR

2,6-di-tert-butyl-p-cresol

(log) Koc

Parameter	Method	Value	Value determination
log Koc	SRC PCKOCWIN v1.66	4.362	Calculated value

Volatility (Henry's Law constant H)

Value	Method	Temperature	Remark	Value determination
8.92E-5 atm m³/mol	SRC HENRYWIN v3.10			Calculated value

Percent distribution

Method	Fraction air	Fraction biota	Fraction sediment	Fraction soil	Fraction water	Value determination
Mackay level III	0.37 %		30.4 %	58.5 %	10.7 %	Calculated value

α,α-dimethylbenzyl hydroperoxide

(log) Koc

Parameter	Method	Value	Value determination
log Koc	OECD 121	1.6	Experimental value

Volatility (Henry's Law constant H)

Value	Method	Temperature	Remark	Value determination
0.098 Pa.m³/mol	SRC HENRYWIN v3.10	25 °C		Calculated value

Conclusion

Contains component(s) with potential for mobility in the soil
Contains component(s) that adsorb(s) into the soil

12.5. Results of PBT and vPvB assessment

Does not contain component(s) that meet(s) the criteria of PBT and/or vPvB as listed in Annex XIII of Regulation (EC) No 1907/2006.

12.6. Other adverse effects

MEGAPLAST MM A

Greenhouse gases

None of the known components is included in the list of fluorinated greenhouse gases (Regulation (EU) No 517/2014)

Ozone-depleting potential (ODP)

Not classified as dangerous for the ozone layer (Regulation (EC) No 1005/2009)

Groundwater

Groundwater pollutant

methacrylic acid

Groundwater

Groundwater pollutant

colophony

Groundwater

Groundwater pollutant

SECTION 13: Disposal considerations

The information in this section is a general description. If applicable and available, exposure scenarios are attached in annex. Always use the relevant exposure scenarios that correspond to your identified use.

13.1. Waste treatment methods

13.1.1 Provisions relating to waste

European Union

Hazardous waste according to Directive 2008/98/EC, as amended by Regulation (EU) No 1357/2014 and Regulation (EU) No 2017/997.
Waste material code (Directive 2008/98/EC, Decision 2000/0532/EC).
08 04 09* (wastes from MFSU of adhesives and sealants (including waterproofing products): waste adhesives and sealants containing organic solvents or other hazardous substances). Depending on branch of industry and production process, also other waste codes may be applicable.

13.1.2 Disposal methods

Remove waste in accordance with local and/or national regulations. Hazardous waste shall not be mixed together with other waste. Different types of hazardous waste shall not be mixed together if this may entail a risk of pollution or create problems for the further management of the waste. Hazardous waste shall be managed responsibly. All entities that store, transport or handle hazardous waste shall take the necessary measures to prevent risks of pollution or damage to people or animals. Do not discharge into drains or the environment. Dispose of at authorized waste collection point.

13.1.3 Packaging/Container

European Union

Waste material code packaging (Directive 2008/98/EC).
15 01 10* (packaging containing residues of or contaminated by dangerous substances).

SECTION 14: Transport information

Road (ADR)

14.1. UN number

UN number	2924

14.2. UN proper shipping name

Proper shipping name	Flammable liquid, corrosive, n.o.s. (methyl methacrylate; methacrylic acid)

14.3. Transport hazard class(es)

Hazard identification number	338
Class	3
Classification code	FC

14.4. Packing group

Packing group	II
Labels	3+8

14.5. Environmental hazards

Environmentally hazardous substance mark	no

14.6. Special precautions for user

Special provisions	274
Limited quantities	Combination packagings: not more than 1 liter per inner packaging for liquids. A package shall not weigh more than 30 kg. (gross mass)

Rail (RID)

14.1. UN number

UN number	2924

14.2. UN proper shipping name

Proper shipping name	Flammable liquid, corrosive, n.o.s. (methyl methacrylate; methacrylic acid)

14.3. Transport hazard class(es)

Hazard identification number	338
Class	3
Classification code	FC

14.4. Packing group

Packing group	II
Labels	3+8

14.5. Environmental hazards

Environmentally hazardous substance mark	no

14.6. Special precautions for user

Special provisions	274
Limited quantities	Combination packagings: not more than 1 liter per inner packaging for liquids. A package shall not weigh more than 30 kg. (gross mass)

Inland waterways (ADN)

14.1. UN number

UN number	9006

14.2. UN proper shipping name

Proper shipping name	Environmentally hazardous substance, liquid, n.o.s.

14.3. Transport hazard class(es)

Class	9
Classification code	

14.4. Packing group

Packing group	
Labels	

14.5. Environmental hazards

Environmentally hazardous substance mark	no

14.6. Special precautions for user

Special provisions	
Limited quantities	

Sea (IMDG/IMSBC)

14.1. UN number

UN number	2924

14.2. UN proper shipping name

Proper shipping name	flammable liquid, corrosive, n.o.s. (methyl methacrylate; methacrylic acid)

14.3. Transport hazard class(es)

Class	3

14.4. Packing group

Packing group	II
Labels	3+8

14.5. Environmental hazards

Marine pollutant	-
Environmentally hazardous substance mark	no

14.6. Special precautions for user

Special provisions	274
Limited quantities	Combination packagings: not more than 1 liter per inner packaging for liquids. A package shall not weigh more than 30 kg. (gross mass)

14.7. Transport in bulk according to Annex II of Marpol and the IBC Code

Annex II of MARPOL 73/78	Not applicable, based on available data

Air (ICAO-TI/IATA-DGR)

14.1. UN number

UN number	2924

14.2. UN proper shipping name

Proper shipping name	Flammable liquid, corrosive, n.o.s. (methyl methacrylate; methacrylic acid)

14.3. Transport hazard class(es)

Class	3

14.4. Packing group

Packing group	II
Labels	3+8

14.5. Environmental hazards

Environmentally hazardous substance mark	no

14.6. Special precautions for user

Special provisions	A3

Passenger and cargo transport

Limited quantities: maximum net quantity per packaging	0.5 L

SECTION 15: Regulatory information

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

European legislation:

VOC content Directive 2010/75/EU

VOC content	Remark
50 % - 85 %	

REACH Annex XVII - Restriction

Contains component(s) subject to restrictions of Annex XVII of Regulation (EC) No 1907/2006: restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles.

	Designation of the substance, of the group of substances or of the mixture	Conditions of restriction
· methyl methacrylate · methacrylic acid · α,α-dimethylbenzyl hydroperoxide	Liquid substances or mixtures fulfilling the criteria for any of the following hazard classes or categories set out in Annex I to Regulation (EC) No 1272/2008: (a) hazard classes 2.1 to 2.4, 2.6 and 2.7, 2.8 types A and B, 2.9, 2.10, 2.12, 2.13 categories 1 and 2, 2.14 categories 1 and 2, 2.15 types A to F; (b) hazard classes 3.1 to 3.6, 3.7 adverse effects on sexual function and fertility or on development, 3.8 effects other than narcotic effects, 3.9 and 3.10; (c) hazard class 4.1; (d) hazard class 5.1.	1. Shall not be used in: — ornamental articles intended to produce light or colour effects by means of different phases, for example in ornamental lamps and ashtrays, — tricks and jokes, — games for one or more participants, or any article intended to be used as such, even with ornamental aspects, 2. Articles not complying with paragraph 1 shall not be placed on the market. 3. Shall not be placed on the market if they contain a colouring agent, unless required for fiscal reasons, or perfume, or both, if they: — can be used as fuel in decorative oil lamps for supply to the general public, and, — present an aspiration hazard and are labelled with H304, 4. Decorative oil lamps for supply to the general public shall not be placed on the market unless they conform to the European Standard on Decorative oil lamps (EN 14059) adopted by the European Committee for Standardisation (CEN). 5. Without prejudice to the implementation of other Community provisions relating to the classification, packaging and labelling of dangerous substances and mixtures, suppliers shall ensure, before the placing on the market, that the following requirements are met: a) lamp oils, labelled with H304, intended for supply to the general public are visibly, legibly and indelibly marked as follows: “Keep lamps filled with this liquid out of the reach of children”; and, by 1 December 2010, “Just a sip of lamp oil — or even sucking the wick of lamps — may lead to life- threatening lung damage”; b) grill lighter fluids, labelled with H304, intended for supply to the general public are legibly and indelibly marked by 1 December 2010 as follows: “Just a sip of grill lighter may lead to life threatening lung damage”; c) lamp oils and grill lighters, labelled with H304, intended for supply to the general public are packaged in black opaque containers not exceeding 1 litre by 1 December 2010. 6. No later than 1 June 2014, the Commission shall request the European Chemicals Agency to prepare a dossier, in accordance with Article 69 of the present Regulation with a view to ban, if appropriate, grill lighter fluids and fuel for decorative lamps, labelled H304, intended for supply to the general public. 7. Natural or legal persons placing on the market for the first time lamp oils and grill lighter fluids, labelled with H304, shall by 1 December 2011, and annually thereafter, provide data on alternatives to lamp oils and grill lighter fluids labelled H304 to the competent authority in the Member State concerned. Member States shall make those data available to the Commission.'
· methyl methacrylate	Substances classified as flammable gases category 1 or 2, flammable liquids categories 1, 2 or 3, flammable solids category 1 or 2, substances and mixtures which, in contact with water, emit flammable gases, category 1, 2 or 3, pyrophoric liquids category 1 or pyrophoric solids category 1, regardless of whether they appear in Part 3 of Annex VI to that Regulation or not.	1. Shall not be used, as substance or as mixtures in aerosol dispensers where these aerosol dispensers are intended for supply to the general public for entertainment and decorative purposes such as the following: — metallic glitter intended mainly for decoration, — artificial snow and frost, — “whoopee” cushions, — silly string aerosols, — imitation excrement, — horns for parties, — decorative flakes and foams,

		— artificial cobwebs, — stink bombs. 2. Without prejudice to the application of other Community provisions on the classification, packaging and labelling of substances, suppliers shall ensure before the placing on the market that the packaging of aerosol dispensers referred to above is marked visibly, legibly and indelibly with: "For professional users only". 3. By way of derogation, paragraphs 1 and 2 shall not apply to the aerosol dispensers referred to Article 8 (1a) of Council Directive 75/ 324/EEC. 4. The aerosol dispensers referred to in paragraphs 1 and 2 shall not be placed on the market unless they conform to the requirements indicated.

National legislation Belgium

MEGAPLAST MM A

No data available

National legislation The Netherlands

MEGAPLAST MM A

Waterbezwaarlijkheid	A (3); Algemene Beoordelingsmethodiek (ABM)

National legislation France

MEGAPLAST MM A

No data available

National legislation Germany

MEGAPLAST MM A

WGK	1; Verordnung über Anlagen zum Umgang mit wassergefährdenden Stoffen (AwSV) - 18. April 2017

methyl methacrylate

TA-Luft	5.2.5
TRGS900 - Risiko der Fruchtschädigung	Methyl-methacrylat; Y; Risiko der Fruchtschädigung braucht bei Einhaltung des Arbeitsplatzgrenzwertes und des biologischen Grenzwertes nicht befürchtet zu werden

methacrylic acid

TA-Luft	5.2.5/I
TRGS900 - Risiko der Fruchtschädigung	Methacrylsäure; Y; Risiko der Fruchtschädigung braucht bei Einhaltung des Arbeitsplatzgrenzwertes und des biologischen Grenzwertes nicht befürchtet zu werden

maleic acid

TA-Luft	5.2.1

colophony

TA-Luft	5.2.1

2,6-di-tert-butyl-p-cresol

TA-Luft	5.2.5/I
TRGS900 - Risiko der Fruchtschädigung	2,6-Di-tert-butyl-p-kresol; Y; Risiko der Fruchtschädigung braucht bei Einhaltung des Arbeitsplatzgrenzwertes und des biologischen Grenzwertes nicht befürchtet zu werden

α,α-dimethylbenzyl hydroperoxide

TA-Luft	5.2.5/I

National legislation United Kingdom

MEGAPLAST MM A

No data available

colophony

Skin Sensitisation	Rosin-based solder flux fume; Sen
Respiratory sensitisation	Rosin-based solder flux fume; Sen

Other relevant data

MEGAPLAST MM A

No data available

methyl methacrylate

Skin Sensitisation	Methyl methacrylate; SEN; Sensitization
TLV - Carcinogen	Methyl methacrylate; A4
IARC - classification	3; Methyl methacrylate

colophony

Skin Sensitisation	Rosin core solder thermal decomposition products(colophony); SEN; Sensitization
Respiratory Sensitisation	Rosin core solder thermal decomposition products(colophony); SEN; Sensitization

2,6-di-tert-butyl-p-cresol

IARC - classification	3; Butylated hydroxytoluene (bht)
TLV - Carcinogen	Butylated hydroxytoluene (BHT); A4

15.2. Chemical safety assessment

No chemical safety assessment has been conducted for the mixture.

SECTION 16: Other information

Full text of any H-statements referred to under heading 3:

H225 Highly flammable liquid and vapour.
H242 Heating may cause a fire.
H302 Harmful if swallowed.
H311 Toxic in contact with skin.
H312 Harmful in contact with skin.
H314 Causes severe skin burns and eye damage.
H315 Causes skin irritation.
H317 May cause an allergic skin reaction.
H318 Causes serious eye damage.
H319 Causes serious eye irritation.
H331 Toxic if inhaled.
H332 Harmful if inhaled.
H335 May cause respiratory irritation.
H373 May cause damage to organs (lungs) through prolonged or repeated exposure if inhaled.
H400 Very toxic to aquatic life.
H410 Very toxic to aquatic life with long lasting effects.
H411 Toxic to aquatic life with long lasting effects.
H412 Harmful to aquatic life with long lasting effects.

(*)	INTERNAL CLASSIFICATION BY BIG
ADI	Acceptable daily intake
AOEL	Acceptable operator exposure level
CLP (EU-GHS)	Classification, labelling and packaging (Globally Harmonised System in Europe)
DMEL	Derived Minimal Effect Level
DNEL	Derived No Effect Level
EC50	Effect Concentration 50 %
ErC50	EC50 in terms of reduction of growth rate
LC50	Lethal Concentration 50 %
LD50	Lethal Dose 50 %
NOAEL	No Observed Adverse Effect Level
NOEC	No Observed Effect Concentration
OECD	Organisation for Economic Co-operation and Development
PBT	Persistent, Bioaccumulative & Toxic
PNEC	Predicted No Effect Concentration
STP	Sludge Treatment Process
vPvB	very Persistent & very Bioaccumulative

M-factor

2,6-di-tert-butyl-p-cresol	1	Chronic	ECHA (registration dossier)

Specific concentration limits CLP

methacrylic acid	C ≥ 1 %	STOT SE 3; H335	ECHA
	1 % ≤ C < 3 %	Eye Irrit. 2; H319	ECHA
	3 % ≤ C < 10 %	Eye Dam. 1; H318	ECHA
	C ≥ 10 %	Skin Corr. 1A; H314	ECHA
	C ≥ 10 %	Skin Corr. 1B; H314	ECHA
	C ≥ 10 %	Skin Corr. 1C; H314	ECHA
	1 % ≤ C < 10 %	Skin Irrit. 2; H315	ECHA
	10 % ≤ C < 25 %	Acute Tox. 4; H312	ECHA
	C ≥ 25 %	Acute Tox. 3; H311	ECHA
maleic acid	C ≥ 0.1 %	Skin Sens. 1; H317	CLP Annex VI (ATP 1)
α,α-dimethylbenzyl hydroperoxide	C ≥ 10 %	Skin Corr. 1B; H314	CLP Annex VI (ATP 0)
	3 % ≤ C < 10 %	Eye Dam. 1; H318	CLP Annex VI (ATP 0)
	3 % ≤ C < 10 %	Skin Irrit. 2; H315	CLP Annex VI (ATP 0)
	1% ≤ C < 3%	Eye Irrit. 2; H319	CLP Annex VI (ATP 0)
	C < 10 %	STOT SE 3; H335	CLP Annex VI (ATP 0)

The information in this safety data sheet is based on data and samples provided to BIG. The sheet was written to the best of our ability and according to the state of knowledge at that time. The safety data sheet only constitutes a guideline for the safe handling, use, consumption, storage, transport and disposal of the substances/preparations/mixtures mentioned under point 1. New safety data sheets are written from time to time. Only the most recent versions may be used. Unless indicated otherwise word for word on the safety data sheet, the information does not apply to substances/preparations/mixtures in purer form, mixed with other substances or in processes. The safety data sheet offers no quality specification for the substances/preparations/mixtures in question. Compliance with the instructions in this safety data sheet does not release the user from the obligation to take all measures dictated by common sense, regulations and recommendations or which are necessary and/or useful based on the real applicable circumstances. BIG does not guarantee the accuracy or exhaustiveness of the information provided and cannot be held liable for any changes by third parties. This safety data sheet is only to be used within the European Union, Switzerland, Iceland, Norway and Liechtenstein. Any use outside of this area is at your own risk. Use of this safety data sheet is subject to the licence and liability limiting conditions as stated in your BIG licence agreement or when this is failing the general conditions of