Vertex Self Curing - Holland Dental Self Curing

Safety Data Sheet

according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878
Issue date: 7/12/2018 Revision date: 9/8/2025 Supersedes version of: 7/12/2018 Version: 2.0

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

1.1. Product identifier

Product form : Mixture
Product name : Vertex Self Curing - Holland Dental Self Curing
UFI : 6502-104X-S00C-M77V
Product group : Trade product

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

Relevant identified uses

Main use category : Professional use
Use of the substance/mixture : Manufacture of 3D-printed applications for the dental industry
Use of the substance/mixture : Dentistry

Title	Life cycle stage	Use descriptors
Vertex Self Curing - Holland Dental Self Curing	Professional	SU20

Full text of use descriptors: see section 16

1.3. Details of the supplier of the safety data sheet

Vertex-Dental
Centurionbaan 190
3769 AV Soesterberg
The Netherlands
T +31 886160400
info@vertex-dental.com, www.vertex-dental.com

1.4. Emergency telephone number

Emergency number : (Only for the purpose of informing medical personnel in cases of accidental intoxications. The emergency phone number is 24 hours/day available.)

Country/Area	Organisation/Company	Address	Emergency number	Comment
United Kingdom	National Poisons Information Service (Birmingham Centre) City Hospital	Dudley Road B18 7QH Birmingham	0344 892 0111	Only for healthcare professionals

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

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

Flammable liquids, Category 2	H225
Skin corrosion/irritation, Category 2	H315
Skin sensitisation, Category 1	H317
Carcinogenicity, Category 1B	H350
Specific target organ toxicity – Single exposure, Category 3, Respiratory tract irritation	H335

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

Adverse physicochemical, human health and environmental effects

No additional information available

2.2. Label elements

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

Hazard pictograms (CLP) :

GHS02 GHS07 GHS08

Signal word (CLP) : Danger

Contains : methyl methacrylate; methyl 2-methylprop-2-enoate; methyl 2-methylpropenoate; ethylene dimethacrylate; 2-(2H-benzotriazol-2-yl)-p-cresol; N,N-dimethyl-p-toluidine

Hazard statements (CLP) : H225 - Highly flammable liquid and vapour.
H315 - Causes skin irritation.
H317 - May cause an allergic skin reaction.
H335 - May cause respiratory irritation.
H350 - May cause cancer (oral).

Precautionary statements (CLP) : P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P261 - Avoid breathing dust/fume/gas/mist/vapours/spray.
P280 - Wear protective gloves, protective clothing, eye protection/face protection.
P308+P313 - IF exposed or concerned: Get medical advice/attention.
P333+P313 - If skin irritation or rash occurs: Get medical advice/attention.
P370+P378 - In case of fire: Use foam, dry extinguishing powder, carbon dioxide (CO2) to extinguish.
P403+P233 - Store in a well-ventilated place. Keep container tightly closed.

Extra phrases : Restricted to professional users.

2.3. Other hazards

Contains no PBT and/or vPvB substances ≥ 0.1% assessed in accordance with REACH Annex XIII

Component	
Substance(s) not meeting the PBT criteria of REACH regulation, in accordance with Annex XIII	2-(2H-benzotriazol-2-yl)-p-cresol (2440-22-4)
Substance(s) not meeting the vPvB criteria of REACH regulation, in accordance with Annex XIII	2-(2H-benzotriazol-2-yl)-p-cresol (2440-22-4)

The mixture does not contain substance(s) included in the list established in accordance with Article 59(1) of REACH for having endocrine disrupting properties, or substance(s) are not identified as having endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at a concentration equal to or greater than 0,1 %

SECTION 3: Composition/information on ingredients

3.2. Mixtures

Product name	Product identifier	% w/w (% w/w)	Classification according to Regulation (EC) No. 1272/2008 [CLP]
methyl methacrylate; methyl 2-methylprop-2-enoate; methyl 2-methylpropenoate substance with national workplace exposure limit(s) (GB); substance with a Community workplace exposure limit (Note D)	CAS-No.: 80-62-6 EC-No.: 201-297-1 EC Index-No.: 607-035-00-6 REACH-no: 01-2119452498-28	≥ 75	Flam. Liq. 2, H225 STOT SE 3, H335 Skin Irrit. 2, H315 Skin Sens. 1, H317

Product name	Product identifier	% w/w (% w/w)	Classification according to Regulation (EC) No. 1272/2008 [CLP]
ethylene dimethacrylate (Note D)	CAS-No.: 97-90-5 EC-No.: 202-617-2 EC Index-No.: 607-114-00-5 REACH-no: 01-2119965172-38	< 10	Skin Sens. 1, H317 STOT SE 3, H335 Aquatic Chronic 3, H412
N,N-dimethyl-p-toluidine	CAS-No.: 99-97-8 EC-No.: 202-805-4 EC Index-No.: 612-296-00-4 REACH-no: 01-2119937766-23	0.1 – 1	Carc. 1B, H350 Acute Tox. 4 (Inhalation:dust,mist), H332 Acute Tox. 3 (Oral), H301 STOT RE 2, H373 Aquatic Chronic 3, H412
2-(2H-benzotriazol-2-yl)-p-cresol	CAS-No.: 2440-22-4 EC-No.: 219-470-5 REACH-no: 01-2119583811-34	< 5	Skin Sens. 1B, H317 Aquatic Chronic 1, H410 (M=1)

Specific concentration limits:		
Product name	**Product identifier**	**Specific concentration limits (% w/w (% w/w))**
ethylene dimethacrylate	CAS-No.: 97-90-5 EC-No.: 202-617-2 EC Index-No.: 607-114-00-5 REACH-no: 01-2119965172-38	(10 ≤ C ≤ 100) STOT SE 3; H335

Note D: Certain substances which are susceptible to spontaneous polymerisation or decomposition are generally placed on the market in a stabilised form. It is in this form that they are listed in Part 3. However, such substances are sometimes placed on the market in a non-stabilised form. In this case, the supplier must state on the label the name of the substance followed by the words 'non-stabilised'.

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

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures general : Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible).

First-aid measures after inhalation : Allow affected person to breathe fresh air. Allow the victim to rest.

First-aid measures after skin contact : Remove affected clothing and wash all exposed skin area with mild soap and water, followed by warm water rinse. If skin irritation or rash occurs: Get medical advice/attention. Wash contaminated clothing before reuse.

First-aid measures after eye contact : Immediately rinse with water for a prolonged period while holding the eyelids wide open. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.

First-aid measures after ingestion : Rinse mouth. Do NOT induce vomiting. Obtain emergency medical attention.

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

Symptoms/effects after inhalation : May cause respiratory irritation.

Symptoms/effects after skin contact : Causes skin irritation.

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

No additional information available

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media : Foam. Dry powder. Carbon dioxide.

Unsuitable extinguishing media : Water.

5.2. Special hazards arising from the substance or mixture

No additional information available

5.3. Advice for firefighters

Firefighting instructions : Use water spray or fog for cooling exposed containers. Exercise caution when fighting any chemical fire. Prevent fire fighting water from entering the environment.

Protection during firefighting : Do not enter fire area without proper protective equipment, including respiratory protection.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures : Remove ignition sources. Use special care to avoid static electric charges. No open flames. No smoking.

For non-emergency personnel

Emergency procedures : Evacuate unnecessary personnel.

For emergency responders

Protective equipment : Equip cleanup crew with proper protection. Avoid breathing dust/fume/gas/mist/vapours/spray.

Emergency procedures : Ventilate area.

6.2. Environmental precautions

Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or public waters.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up : Contain and collect spillages with non-combustible absorbent materials, e.g. Store away from other materials. Keep in suitable, closed containers for disposal.

Other information : Remove all sources of ignition.

6.4. Reference to other sections

Concerning personal protective equipment to use, see section 8. Concerning disposal elimination after cleaning, see section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Additional hazards when processed : Handle empty containers with care because residual vapours are flammable.

Precautions for safe handling : Use only outdoors or in a well-ventilated area. Provide good ventilation in process area to prevent formation of vapour. Avoid breathing vapours, mist. Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. No open flames. No smoking. Use only non-sparking tools.

Hygiene measures : Wash hands thoroughly after handling. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reuse.

7.2. Conditions for safe storage, including any incompatibilities

Technical measures : Proper grounding procedures to avoid static electricity should be followed. Ground/bond container and receiving equipment. Use explosion-proof electrical, ventilating, lighting equipment.

Storage conditions : Keep only in the original container in a cool, well-ventilated place. Keep in fireproof place. Keep container tightly closed.

Incompatible products	:	Strong bases. Strong acids.
Storage temperature	:	< 30 °C
Heat and ignition sources	:	Keep away from : ignition sources. Direct sunlight. heat sources.

7.3. Specific end use(s)

No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

National occupational exposure and biological limit values

methyl methacrylate; methyl 2-methylprop-2-enoate; methyl 2-methylpropenoate (80-62-6)	
EU - Indicative Occupational Exposure Limit (IOEL)	
Local name	Methyl methacrylate
IOEL TWA	50 ppm
IOEL STEL	100 ppm
Regulatory reference	COMMISSION DIRECTIVE 2009/161/EU
United Kingdom - Occupational Exposure Limits	
Local name	Methyl methacrylate
WEL TWA (OEL TWA)	208 mg/m³
	50 ppm
WEL STEL (OEL STEL)	416 mg/m³
	100 ppm
Regulatory reference	EH40/2005 (Fourth edition, 2020). HSE

DNEL and PNEC

methyl methacrylate; methyl 2-methylprop-2-enoate; methyl 2-methylpropenoate (80-62-6)	
DNEL/DMEL (Workers)	
Acute - local effects, dermal	1.5 mg/cm²
Acute - local effects, inhalation	416 mg/m³
Long-term - systemic effects, dermal	13.67 mg/kg bw/day
Long-term - local effects, dermal	1.5 mg/cm²
Long-term - systemic effects, inhalation	348.4 mg/m³
Long-term - local effects, inhalation	208 mg/m³
DNEL/DMEL (General population)	
Acute - local effects, dermal	1.5 mg/cm²
Acute - local effects, inhalation	208 mg/m³
Long-term - systemic effects,oral	8.2 mg/kg bw/day
Long-term - systemic effects, inhalation	74.3 mg/m³
Long-term - systemic effects, dermal	8.2 mg/kg bw/day
Long-term - local effects, dermal	1.5 mg/cm²
Long-term - local effects, inhalation	104 mg/m³

methyl methacrylate; methyl 2-methylprop-2-enoate; methyl 2-methylpropenoate (80-62-6)	
PNEC (Water)	
PNEC aqua (freshwater)	0.94 mg/l
PNEC aqua (marine water)	0.094 mg/l
PNEC aqua (intermittent, freshwater)	0.69 mg/l
PNEC aqua (intermittent, marine water)	0.94 mg/l
PNEC (Sediment)	
PNEC sediment (freshwater)	10.2 mg/kg dwt
PNEC sediment (marine water)	1.02 mg/kg dwt
PNEC (Soil)	
PNEC soil	1.48 mg/kg dwt
PNEC (STP)	
PNEC sewage treatment plant	10 mg/l

ethylene dimethacrylate (97-90-5)	
DNEL/DMEL (Workers)	
Long-term - systemic effects, dermal	1.3 mg/kg bodyweight/day
Long-term - systemic effects, inhalation	2.45 mg/m³
DNEL/DMEL (General population)	
Long-term - systemic effects,oral	0.83 mg/kg bodyweight/day
Long-term - systemic effects, inhalation	1.45 mg/m³
Long-term - systemic effects, dermal	0.83 mg/kg bodyweight/day
PNEC (Water)	
PNEC aqua (freshwater)	0.139 mg/l
PNEC aqua (marine water)	0.0139 mg/l
PNEC aqua (intermittent, freshwater)	0.15 mg/l
PNEC (Sediment)	
PNEC sediment (freshwater)	1.6 mg/kg dwt
PNEC sediment (marine water)	0.16 mg/kg dwt
PNEC (Soil)	
PNEC soil	0.239 mg/kg dwt
PNEC (STP)	
PNEC sewage treatment plant	57 mg/l

2-(2H-benzotriazol-2-yl)-p-cresol (2440-22-4)	
DNEL/DMEL (Workers)	
Acute - systemic effects, inhalation	1 mg/m³
Acute - local effects, inhalation	1 mg/m³
Long-term - systemic effects, dermal	2.5 mg/kg bodyweight/day
Long-term - systemic effects, inhalation	1 mg/m³

2-(2H-benzotriazol-2-yl)-p-cresol (2440-22-4)	
DNEL/DMEL (General population)	
Long-term - systemic effects,oral	1.2 mg/kg bodyweight/day
Long-term - systemic effects, dermal	1.2 mg/kg bodyweight/day
PNEC (Water)	
PNEC aqua (freshwater)	0.00026 mg/l
PNEC aqua (marine water)	0.000026 mg/l
PNEC aqua (intermittent, freshwater)	0.000822 mg/l
PNEC (Sediment)	
PNEC sediment (freshwater)	0.136 mg/kg dwt
PNEC sediment (marine water)	0.0136 mg/kg dwt
PNEC (Soil)	
PNEC soil	100 mg/kg dwt
PNEC (STP)	
PNEC sewage treatment plant	1 mg/l

N,N-dimethyl-p-toluidine (99-97-8)	
DNEL/DMEL (Workers)	
Long-term - systemic effects, dermal	0.694167 mg/kg bodyweight/day
Long-term - systemic effects, inhalation	1.224 mg/m³
DNEL/DMEL (General population)	
Long-term - systemic effects,oral	0.173542 mg/kg bodyweight/day
Long-term - systemic effects, inhalation	0.301812 mg/m³
Long-term - systemic effects, dermal	0.292522 mg/kg bodyweight/day
PNEC (Water)	
PNEC aqua (freshwater)	0.0137 – 0.15259 mg/l
PNEC aqua (marine water)	0.00137 – 0.015259 mg/l
PNEC aqua (intermittent, freshwater)	0.0137 – 0.15259 mg/l
PNEC (Sediment)	
PNEC sediment (freshwater)	45.378 – 48.245 mg/kg dwt
PNEC sediment (marine water)	45.378 – 48.245 mg/kg dwt
PNEC (Soil)	
PNEC soil	18.677 – 20.365 mg/kg dwt
PNEC (STP)	
PNEC sewage treatment plant	1.36 – 4.286 mg/l

8.2. Exposure controls

Appropriate engineering controls

Appropriate engineering controls:

Ensure that there is a suitable ventilation system.

Personal protection equipment

Personal protective equipment symbol(s):

Eye and face protection

Eye protection:
Wear safety glasses with side shields (EN 166)

Skin protection

Skin and body protection:
Wear suitable protective clothing. EN 13034

Hand protection:
Protective gloves. Wear suitable gloves resistant to chemical penetration. The protective gloves to be used must comply with the specifications of the regulation 2016/425 and the resultant standard ISO 374-1. Suitable material: butyl rubber. penetration time (maximum wearing period): 60 m. Layer thickness : 0.3 mm . Choosing the proper glove is a decision that depends not only on the type of material, but also on other quality features, which differ for each manufacturer. The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed. Gloves must be replaced after each use and whenever signs of wear or perforation appear

Respiratory protection

Respiratory protection:
In case of insufficient ventilation, wear suitable respiratory equipment. In the event of exposure to high concentrations : Combination filtering device (DIN EN 141). High gas/vapour concentration: gas mask with filter type A

Environmental exposure controls

Other information:
Do not eat, drink or smoke when using this product. Avoid contact with skin and eyes.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	:	Liquid
Colour	:	clear. Colourless.
Odour	:	Ester. characteristic. strong. Acrid.
Odour threshold	:	Not available
Melting point	:	-48 °C
Freezing point	:	Not available
Boiling point	:	100.5 °C
Flammability	:	Highly flammable liquid and vapour.
Explosive properties	:	Not applicable.
Oxidising properties	:	Not applicable.
Lower explosion limit	:	Not available
Upper explosion limit	:	Not available
Flash point	:	10 °C
Auto-ignition temperature	:	421 °C
Decomposition temperature	:	Not available
pH	:	Not applicable
Viscosity, kinematic	:	Not available
Solubility	:	miscible with most organic solvents. Water: 1.6 % slightly soluble Organic solvent:Soluble in organic solvents
Partition coefficient n-octanol/water (Log Kow)	:	Not available
Vapour pressure	:	3.6 Pa @ 20°C
Vapour pressure at 50°C	:	Not available
Density	:	Not available
Relative density	:	0.94 @ 15.5 °C
Relative vapour density at 20°C	:	Not available
Particle characteristics	:	Not applicable

9.2. Other information

Information with regard to physical hazard classes

Explosion limits : 2.1 – 12.5 vol %

Other safety characteristics

VOC content : < 96 %

SECTION 10: Stability and reactivity

10.1. Reactivity

Stable under normal conditions.

10.2. Chemical stability

Highly flammable liquid and vapour. May form flammable/explosive vapour-air mixture. Under normal conditions of storage and use, hazardous decomposition products should not be produced.

10.3. Possibility of hazardous reactions

Exothermic reaction. Keep away from oxidizers, strong acids and strong bases.

10.4. Conditions to avoid

Direct sunlight. Extremely high or low temperatures. Open flame. Water, humidity.

10.5. Incompatible materials

Strong acids. Strong bases.

10.6. Hazardous decomposition products

fume. Carbon monoxide. Carbon dioxide. May release flammable gases.

SECTION 11: Toxicological information

11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

Acute toxicity (oral) : Not classified
Acute toxicity (dermal) : Not classified
Acute toxicity (inhalation) : Not classified

methyl methacrylate; methyl 2-methylprop-2-enoate; methyl 2-methylpropenoate (80-62-6)	
LD50 oral rat	≈ 7900 mg/kg bodyweight
LD50 oral	9400 mg/kg bodyweight rat
LD50 dermal rabbit	> 5000 mg/kg bodyweight 24h. Strain: New Zealand White. male. OECD 402
LC50 Inhalation - Rat	29.8 mg/l/4h
LC50 Inhalation - Rat (Vapours)	29.8 mg/l/4h Strain: Sprague-Dawley. male/female.
ATE vapours	29.8 mg/l/4h
ATE dust/mist	29.8 mg/l/4h

ethylene dimethacrylate (97-90-5)	
LD50 oral rat	8300 ml/kg
LD50 oral	8700 mg/kg
LD50 dermal rat	> 2000 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 402 (Acute Dermal Toxicity), Guideline: EU Method B.3 (Acute Toxicity (Dermal)), Guideline: EPA OPPTS 870.1200 (Acute Dermal Toxicity)

ethylene dimethacrylate (97-90-5)	
LD50 dermal	2500 mg/kg
ATE oral	8300000 mg/kg bodyweight

2-(2H-benzotriazol-2-yl)-p-cresol (2440-22-4)	
LD50 oral rat	10000 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 423 (Acute Oral toxicity - Acute Toxic Class Method)
LD50 dermal rat	> 1000 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 402 (Acute Dermal Toxicity)
LC50 Inhalation - Rat	> 0.59 mg/l air Animal: rat, Guideline: OECD Guideline 403 (Acute Inhalation Toxicity)

N,N-dimethyl-p-toluidine (99-97-8)	
LD50 oral rat	1650 mg/kg
LD50 oral	139 mg/kg bodyweight Animal: mouse, Guideline: other:
LD50 dermal rabbit	> 2000 mg/kg bodyweight Animal: rabbit, Guideline: OECD Guideline 402 (Acute Dermal Toxicity)
LC50 Inhalation - Rat	1.4 mg/l air Animal: rat, Guideline: other:
ATE oral	140 mg/kg bodyweight
ATE vapours	1.4 mg/l/4h
ATE dust/mist	1.4 mg/l

Skin corrosion/irritation : Causes skin irritation.
pH: Not applicable

2-(2H-benzotriazol-2-yl)-p-cresol (2440-22-4)	
pH	6 Temp.: 23 °C

N,N-dimethyl-p-toluidine (99-97-8)	
pH	7.44 Temp.: 25 °C Concentration: 1 vol%

Serious eye damage/irritation : Not classified
pH: Not applicable

2-(2H-benzotriazol-2-yl)-p-cresol (2440-22-4)	
pH	6 Temp.: 23 °C

N,N-dimethyl-p-toluidine (99-97-8)	
pH	7.44 Temp.: 25 °C Concentration: 1 vol%

Respiratory or skin sensitisation : May cause an allergic skin reaction.

Germ cell mutagenicity : Not classified

Additional information : Based on available data, the classification criteria are not met

Carcinogenicity : May cause cancer (oral).

Additional information : Based on available data, the classification criteria are not met

Reproductive toxicity : Not classified

Additional information : Based on available data, the classification criteria are not met

STOT-single exposure : May cause respiratory irritation.

Additional information : Based on available data, the classification criteria are not met

methyl methacrylate; methyl 2-methylprop-2-enoate; methyl 2-methylpropenoate (80-62-6)	
STOT-single exposure	May cause respiratory irritation.

ethylene dimethacrylate (97-90-5)	
STOT-single exposure	May cause respiratory irritation.

STOT-repeated exposure : Not classified

Additional information : Based on available data, the classification criteria are not met

methyl methacrylate; methyl 2-methylprop-2-enoate; methyl 2-methylpropenoate (80-62-6)	
LOAEC (inhalation, rat, vapour, 90 days)	416 mg/m³ air
NOAEL (oral, rat, 90 days)	124.1 – 164 mg/kg bodyweight/day
NOAEC (inhalation, rat, dust/mist/fume, 90 days)	500 – 1000 ppm

ethylene dimethacrylate (97-90-5)	
LOAEC (inhalation, rat, gas, 90 days)	350 ppm Animal: rat, Guideline: OECD Guideline 413 (Subchronic Inhalation Toxicity: 90-Day Study)
NOAEL (oral, rat, 90 days)	100 – 1500 mg/kg bodyweight/day

2-(2H-benzotriazol-2-yl)-p-cresol (2440-22-4)	
NOAEL (oral, rat, 90 days)	30 mg/kg bodyweight Animal: rat, Animal sex: male, Guideline: OECD Guideline 422 (Combined Repeated Dose Toxicity Study with the Reproduction / Developmental Toxicity Screening Test)

N,N-dimethyl-p-toluidine (99-97-8)	
LOAEL (oral, rat, 90 days)	6 mg/kg bodyweight Animal: rat, Guideline: other:
STOT-repeated exposure	May cause damage to organs (blood system, respiratory tract) through prolonged or repeated exposure.

Aspiration hazard : Not classified

Additional information : Based on available data, the classification criteria are not met

methyl methacrylate; methyl 2-methylprop-2-enoate; methyl 2-methylpropenoate (80-62-6)	
Viscosity, kinematic	0.564 mm²/s 20 °C

ethylene dimethacrylate (97-90-5)	
Viscosity, kinematic	1.95 – 3.06 mm²/s

N,N-dimethyl-p-toluidine (99-97-8)	
Viscosity, kinematic	16.364 mm²/s

11.2. Information on other hazards

No additional information available

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general : Avoid release to the environment.

Hazardous to the aquatic environment, short–term (acute) : Not classified

Hazardous to the aquatic environment, long–term (chronic) : Not classified

methyl methacrylate; methyl 2-methylprop-2-enoate; methyl 2-methylpropenoate (80-62-6)	
LC50 - Fish [1]	> 79 mg/l 96 h. Oncorhynchus mykiss. EPA OTS 797.1400.
LC50 - Fish [2]	33.7 mg/l 35 d. Danio rerio. OECD 210.
EC50 - Crustacea [1]	69 mg/l 48h. Daphnia magna. EPA OTS 797.1300
EC50 72h - Algae [1]	> 110 mg/l Raphidocelis subcapitata. OECD 201.
LOEC (chronic)	68 mg/l Test organisms (species): Daphnia magna Duration: '21 d'
NOEC (acute)	40 mg/l (4 d)

methyl methacrylate; methyl 2-methylprop-2-enoate; methyl 2-methylpropenoate (80-62-6)	
NOEC (chronic)	37 mg/l Test organisms (species): Daphnia magna Duration: '21 d'
NOEC chronic fish	9.4 mg/l 35 d. Danio rerio. OECD 210.
NOEC chronic crustacea	37 mg/l 21 d. Daphnia magna. OECD 211.

ethylene dimethacrylate (97-90-5)	
LC50 - Fish [1]	15.95 mg/l Test organisms (species): Danio rerio (previous name: Brachydanio rerio)
EC50 - Crustacea [1]	44.9 mg/l Test organisms (species): Daphnia magna
EC50 72h - Algae [1]	17.3 mg/l Test organisms (species): Raphidocelis subcapitata (previous names: Pseudokirchneriella subcapitata, Selenastrum capricornutum)
EC50 96h - Algae [1]	19 mg/l Test organisms (species): Raphidocelis subcapitata (previous names: Pseudokirchneriella subcapitata, Selenastrum capricornutum)
EC50 96h - Algae [2]	10.1 mg/l Test organisms (species): Raphidocelis subcapitata (previous names: Pseudokirchneriella subcapitata, Selenastrum capricornutum)
NOEC (chronic)	5.05 mg/l Test organisms (species): Daphnia magna Duration: '21 d'
NOEC chronic fish	5.05 mg/l (21 d)

2-(2H-benzotriazol-2-yl)-p-cresol (2440-22-4)	
LC50 - Fish [1]	> 0.17 mg/l Test organisms (species): Oncorhynchus mykiss (previous name: Salmo gairdneri)
EC50 72h - Algae [1]	100 mg/l
LOEC (chronic)	0.041 mg/l Test organisms (species): Daphnia magna Duration: '21 d'
NOEC (acute)	0.17 mg/l (4 d)
NOEC (chronic)	0.013 mg/l Test organisms (species): Daphnia magna Duration: '21 d'
NOEC chronic crustacea	0.013 mg/l

N,N-dimethyl-p-toluidine (99-97-8)	
LC50 - Fish [1]	46 mg/l Test organisms (species): Pimephales promelas
EC50 - Crustacea [1]	8.48 mg/l Test organisms (species): Daphnia magna
EC50 - Other aquatic organisms [1]	42.864 mg/l microorganisms
EC50 72h - Algae [1]	23.69 mg/l Test organisms (species): Raphidocelis subcapitata (previous names: Pseudokirchneriella subcapitata, Selenastrum capricornutum)

12.2. Persistence and degradability

Vertex Self Curing - Holland Dental Self Curing	
Persistence and degradability	Rapidly degradable

methyl methacrylate; methyl 2-methylprop-2-enoate; methyl 2-methylpropenoate (80-62-6)	
Persistence and degradability	Rapidly degradable
Biodegradation	94 % 14 d. OECD 301C

ethylene dimethacrylate (97-90-5)	
Persistence and degradability	Not rapidly degradable

2-(2H-benzotriazol-2-yl)-p-cresol (2440-22-4)	
Persistence and degradability	Rapidly degradable

N,N-dimethyl-p-toluidine (99-97-8)	
Persistence and degradability	Rapidly degradable

12.3. Bioaccumulative potential

Vertex Self Curing - Holland Dental Self Curing	
Bioaccumulative potential	Not established.

methyl methacrylate; methyl 2-methylprop-2-enoate; methyl 2-methylpropenoate (80-62-6)	
Partition coefficient n-octanol/water (Log Pow)	≈ 1.38 20 °C. pH ca. 7. OECD 107

ethylene dimethacrylate (97-90-5)	
Bioconcentration factor (BCF REACH)	21.9
Partition coefficient n-octanol/water (Log Pow)	2.4

2-(2H-benzotriazol-2-yl)-p-cresol (2440-22-4)	
Partition coefficient n-octanol/water (Log Pow)	4.2 @ 25 °C and pH 6.3

N,N-dimethyl-p-toluidine (99-97-8)	
Partition coefficient n-octanol/water (Log Pow)	1.729 @ 35 °C and pH 5.6

12.4. Mobility in soil

No additional information available

12.5. Results of PBT and vPvB assessment

Component	
Substance(s) not meeting the PBT criteria of REACH regulation, in accordance with Annex XIII	2-(2H-benzotriazol-2-yl)-p-cresol (2440-22-4)
Substance(s) not meeting the vPvB criteria of REACH regulation, in accordance with Annex XIII	2-(2H-benzotriazol-2-yl)-p-cresol (2440-22-4)

12.6. Endocrine disrupting properties

No additional information available

12.7. Other adverse effects

Vertex Self Curing - Holland Dental Self Curing	
Other information	Avoid release to the environment.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Regional waste regulation : Disposal must be done according to official regulations.
Product/Packaging disposal recommendations : Dispose in a safe manner in accordance with local/national regulations.
Additional information : Handle empty containers with care because residual vapours are flammable.
Ecological waste information : Avoid release to the environment.
European List of Waste (LoW, EC 2000/532) : 07 02 08* - other still bottoms and reaction residues

HP Code : HP3 - “Flammable:”
– flammable liquid waste: liquid waste having a flash point below 60 °C or waste gas oil, diesel and light heating oils having a flash point > 55 °C and ≤ 75 °C;
– flammable pyrophoric liquid and solid waste: solid or liquid waste which, even in small quantities, is liable to ignite within five minutes after coming into contact with air;
– flammable solid waste: solid waste which is readily combustible or may cause or contribute to fire through friction;
– flammable gaseous waste: gaseous waste which is flammable in air at 20 °C and a standard pressure of 101.3 kPa;
– water reactive waste: waste which, in contact with water, emits flammable gases in dangerous quantities;
– other flammable waste: flammable aerosols, flammable self-heating waste, flammable organic peroxides and flammable self-reactive waste.
HP5 - “Specific Target Organ Toxicity (STOT)/Aspiration Toxicity:” waste which can cause specific target organ toxicity either from a single or repeated exposure, or which cause acute toxic effects following aspiration.
HP7 - “Carcinogenic:” waste which induces cancer or increases its incidence
HP4 - “Irritant – skin irritation and eye damage:” waste which on application can cause skin irritation or damage to the eye.
HP13 - “Sensitising:” waste which contains one or more substances known to cause sensitising effects to the skin or the respiratory organs.

SECTION 14: Transport information

In accordance with ADR / IMDG / IATA / ADN / RID

ADR	IMDG	IATA	ADN	RID
14.1. UN number or ID number				
UN 1247	UN 1247	UN 1247	UN 1247	UN 1247
14.2. UN proper shipping name				
METHYL METHACRYLATE MONOMER, STABILIZED	METHYL METHACRYLATE MONOMER, STABILIZED	Methyl methacrylate monomer, stabilized	METHYL METHACRYLATE MONOMER, STABILIZED	METHYL METHACRYLATE MONOMER, STABILIZED
Transport document description				
UN 1247 METHYL METHACRYLATE MONOMER, STABILIZED, 3, II, (D/E)	UN 1247 METHYL METHACRYLATE MONOMER, STABILIZED, 3, II (8°C c.c.)	UN 1247 Methyl methacrylate monomer, stabilized, 3, II	UN 1247 METHYL METHACRYLATE MONOMER, STABILIZED, 3, II	UN 1247 METHYL METHACRYLATE MONOMER, STABILIZED, 3, II
14.3. Transport hazard class(es)				
3	3	3	3	3
				
14.4. Packing group				
II	II	II	II	II
14.5. Environmental hazards				
Dangerous for the environment: No	Dangerous for the environment: No Marine pollutant: No EmS-No. (Fire): F-E EmS-No. (Spillage): S-D	Dangerous for the environment: No	Dangerous for the environment: No	Dangerous for the environment: No
No supplementary information available.				

14.6. Special precautions for user

Overland transport

Classification code (ADR)	:	F1
Special provisions (ADR)	:	386
Limited quantities (ADR)	:	1l
Excepted quantities (ADR)	:	E2
Packing instructions (ADR)	:	P001, IBC02, R001
Mixed packing provisions (ADR)	:	MP19
Portable tank and bulk container instructions (ADR)	:	T4
Portable tank and bulk container special provisions (ADR)	:	TP1
Tank code (ADR)	:	LGBF
Vehicle for tank carriage	:	FL
Transport category (ADR)	:	2
Special provisions for carriage - Packages (ADR)	:	V8
Special provisions for carriage - Operation (ADR)	:	S2, S4, S20
Hazard identification number (Kemler No.)	:	339
Orange plates	:	
Tunnel restriction code (ADR)	:	D/E
EAC code	:	3YE

Transport by sea

Special provisions (IMDG)	:	386
Limited quantities (IMDG)	:	1 L
Excepted quantities (IMDG)	:	E2
Packing instructions (IMDG)	:	P001
IBC packing instructions (IMDG)	:	IBC02
Tank instructions (IMDG)	:	T4
Tank special provisions (IMDG)	:	TP1
Stowage category (IMDG)	:	C
Stowage and handling (IMDG)	:	SW1, SW2
Flash point (IMDG)	:	8°C c.c.
Properties and observations (IMDG)	:	Colourless, volatile liquid. Flashpoint: 8°C c.c. Explosive limits: 1.5% to 11.6%. Immiscible with water. Irritating to skin, eyes and mucous membranes.

Air transport

PCA Excepted quantities (IATA)	:	E2
PCA Limited quantities (IATA)	:	Y341
PCA limited quantity max net quantity (IATA)	:	1L
PCA packing instructions (IATA)	:	353
PCA max net quantity (IATA)	:	5L
CAO packing instructions (IATA)	:	364
CAO max net quantity (IATA)	:	60L
Special provisions (IATA)	:	A209
ERG code (IATA)	:	3L

Inland waterway transport

Classification code (ADN)	:	F1
Special provisions (ADN)	:	386
Limited quantities (ADN)	:	1 L
Excepted quantities (ADN)	:	E2
Carriage permitted (ADN)	:	T
Equipment required (ADN)	:	PP, EX, A
Ventilation (ADN)	:	VE01
Number of blue cones/lights (ADN)	:	1

Rail transport

Classification code (RID)	:	F1

Special provisions (RID)	:	386
Limited quantities (RID)	:	1L
Excepted quantities (RID)	:	E2
Packing instructions (RID)	:	P001, IBC02, R001
Mixed packing provisions (RID)	:	MP19
Portable tank and bulk container instructions (RID)	:	T4
Portable tank and bulk container special provisions (RID)	:	TP1
Tank codes for RID tanks (RID)	:	LGBF
Transport category (RID)	:	2
Colis express (express parcels) (RID)	:	CE7
Hazard identification number (RID)	:	339

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-Regulations

REACH Annex XVII (Restriction List)

EU restriction list (REACH Annex XVII)

Reference code	Applicable on	Entry title or description
28.	N,N-dimethyl-p-toluidine	Substances which are classified as carcinogen category 1A or 1B in Part 3 of Annex VI to Regulation (EC) No 1272/2008 and are listed in Appendix 1 or Appendix 2, respectively.
3(a)	Vertex Self Curing - Holland Dental Self Curing ; methyl methacrylate; methyl 2-methylprop-2-enoate; methyl 2-methylpropenoate	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: 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
3(b)	Vertex Self Curing - Holland Dental Self Curing ; methyl methacrylate; methyl 2-methylprop-2-enoate; methyl 2-methylpropenoate ; ethylene dimethacrylate ; N,N-dimethyl-p-toluidine	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: 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
3(c)	ethylene dimethacrylate ; N,N-dimethyl-p-toluidine	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: Hazard class 4.1

REACH Annex XIV (Authorisation List)

Contains no substance(s) listed on REACH Annex XIV (Authorisation List)

REACH Candidate List (SVHC)

Contains no substance(s) listed on the REACH Candidate List

PIC Regulation (Prior Informed Consent)

Contains no substance(s) listed on the PIC list (Regulation EU 649/2012 concerning the export and import of hazardous chemicals)

POP Regulation (Persistent Organic Pollutants)

Contains no substance(s) listed on the POP list (Regulation EU 2019/1021 on persistent organic pollutants)

Ozone Regulation (2024/590)

Contains no substance(s) listed on the Ozone Depletion list (Regulation EU 2024/590 on substances that deplete the ozone layer)

Council Regulation (EC) for the control of dual-use items

Contains no substance subject to the COUNCIL REGULATION (EC) for the control of dual-use items

VOC Directive (2004/42)

VOC content : < 96 %

Explosives Precursors Regulation (EU 2019/1148)

Contains no substance(s) listed on the Explosives Precursors list (Regulation EU 2019/1148 on the marketing and use of explosives precursors)

Drug Precursors Regulation (EC 273/2004)

Contains no substance(s) listed on the Drug Precursors list (Regulation EC 273/2004 on the manufacture and the placing on market of certain substances used in the illicit manufacture of narcotic drugs and psychotropic substances)

15.2. Chemical safety assessment

No chemical safety assessment has been carried out

SECTION 16: Other information

Indication of changes

Section	Changed item	Comments
	Supersedes	**Added**
	Revision date	**Added**
1.1	UFI on SDS 1.1	**Added**
1.1	Name	**Added**
2.1	Classification according to Regulation (EC) No. 1272/2008 [CLP]	**Modified**
2.2	Hazard statements (CLP)	**Modified**
2.2	Extra phrases	**Added**
2.2	Precautionary statements (CLP)	**Modified**
2.2	Hazard pictograms (CLP)	**Modified**
3	Composition/information on ingredients	**Modified**
8.2	Skin and body protection	**Modified**
8.2	Hand protection	**Modified**
8.2	Eye protection	**Modified**
8.2	Respiratory protection	**Modified**
13.1	HP Code	**Added**
15.1	REACH Annex XVII	**Modified**
16	Abbreviations and acronyms	**Modified**

Abbreviations and acronyms:

ADN	European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
ADR	European Agreement concerning the International Carriage of Dangerous Goods by Road
ATE	Acute Toxicity Estimate
CAS-No.	Chemical Abstract Service number

Abbreviations and acronyms:	
CLP	Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008
DMEL	Derived Minimal Effect level
DNEL	Derived-No Effect Level
EC50	Median effective concentration
EC-No.	European Community number
EINECS	European Inventory of Existing Commercial Chemical Substances
IARC	International Agency for Research on Cancer
IATA	International Air Transport Association
ICAO	International Civil Aviation Organization
IMDG	International Maritime Dangerous Goods
LC50	Median lethal concentration
LD50	Median lethal dose
LOAEL	Lowest Observed Adverse Effect Level
Log Kow	Partition coefficient n-octanol/water (Log Kow)
Log Pow	Partition coefficient n-octanol/water (Log Pow)
N.O.S.	Not Otherwise Specified
NOAEL	No-Observed Adverse Effect Level
OEL	Occupational Exposure Limit
PNEC	Predicted No-Effect Concentration
PPE	Personal protection equipment
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals Regulation (EC) No 1907/2006
RID	Regulations concerning the International Carriage of Dangerous Goods by Rail
STP	Sewage treatment plant
UFI	Unique Formula Identifier
SDS	Safety Data Sheet
WGK	Water Hazard Class
vPvB	Very Persistent and Very Bioaccumulative
PBT	Persistent Bioaccumulative Toxic

Data sources : REGULATION (EC) No 1272/2008 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 16 December 2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006.

Other information : DISCLAIMER OF LIABILITY The information in this SDS was obtained from sources which we believe are reliable. However, the information is provided without any warranty, express or implied, regarding its correctness. The conditions or methods of handling, storage, use or disposal of the product are beyond our control and may be beyond our knowledge. For this and other reasons, we do not assume responsibility and expressly disclaim liability for loss, damage or expense arising out of or in any way connected with the handling, storage, use or disposal of the product. This SDS was prepared and is to be used only for this product. If the product is used as a component in another product, this SDS information may not be applicable.

Full text of H- and EUH-statements:	
Acute Tox. 3 (Oral)	Acute toxicity (oral), Category 3
Acute Tox. 4 (Inhalation:dust,mist)	Acute toxicity (inhalation:dust,mist) Category 4
Aquatic Chronic 1	Hazardous to the aquatic environment – Chronic Hazard, Category 1
Aquatic Chronic 3	Hazardous to the aquatic environment – Chronic Hazard, Category 3
Carc. 1B	Carcinogenicity, Category 1B
Flam. Liq. 2	Flammable liquids, Category 2
Skin Irrit. 2	Skin corrosion/irritation, Category 2
Skin Sens. 1	Skin sensitisation, Category 1
Skin Sens. 1B	Skin sensitisation, category 1B
STOT RE 2	Specific target organ toxicity – Repeated exposure, Category 2
STOT SE 3	Specific target organ toxicity – Single exposure, Category 3, Respiratory tract irritation
H225	Highly flammable liquid and vapour.
H301	Toxic if swallowed.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H332	Harmful if inhaled.
H335	May cause respiratory irritation.
H350	May cause cancer (oral).
H373	May cause damage to organs through prolonged or repeated exposure.
H410	Very toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.

Full text of use descriptors	
SU20	Health services

Classification and procedure used to derive the classification for mixtures according to Regulation (EC) 1272/2008 [CLP]:		
Flam. Liq. 2	H225	On basis of test data
Skin Irrit. 2	H315	Calculation method
Skin Sens. 1	H317	Calculation method
Carc. 1B	H350	Calculation method
STOT SE 3	H335	Calculation method

The classification complies with : ATP 12

Safety Data Sheet (SDS), EU

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.