Plant-Based Resin

Safety Data Sheet

according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878
Issue date: 1/18/2024 Revision date: 1/18/2024 Version: 1.0 SDS number: P2024010206

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

1.1. Product identifier

Product form : Mixture
Product name : Plant-Based Resin

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

1.2.1. Relevant identified uses

Resin Usage：Photosensitive resin, commonly known as ultraviolet curing shadowless glue, or UV resin (glue), is mainly composed of polymer monomers and prepolymers, with a photo (ultraviolet light) initiator added, or photosensitizer. Under the irradiation of ultraviolet light of a certain wavelength (250~405nm), the polymerization reaction will immediately occur and the solid-state conversion will be completed .
In the past two years, photosensitive resins are being used in the emerging industry of 3D printing, and are favored and valued by the industry because of their excellent characteristics.

1.2.2. Uses advised against

No additional information available

1.3. Details of the supplier of the safety data sheet

Supplier 1	Supplier 2	Importer 1	Importer 2
Zhuhai Sunlu Industrial Co., Ltd No.38 Yongtian Road, Trade Logistics Centre Phase Two, Qianshan, Xiangzhou District, Zhuhai, Guangdong，China. T 0086-13716053087 / 0086-13865873027 pc61@sunlu.com	Sunlu（Guangdong）Technology Co., Ltd. Room 202, Building B, No. 10, Shuguang Road, Tanzhou Town, Zhongshan Guangdong China T 0086-13716053087 / 0086-13865873027 pc61@sunlu.com	Sea&Mew Consulting GmbH ittenhuber Straße 4, 92318 Neumarkt T +4915224685061 Compliance.EU@outlook.com	Sea&Mew Accounting Ltd Electric Avenue Vision 25, London, Enfield EN3 7GD T +447399648608 info@seamew.net

1.4. Emergency telephone number

No additional information available

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

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

Skin corrosion/irritation, Category 2	H315
Serious eye damage/eye irritation, Category 1	H318
Skin sensitisation, Category 1	H317
Specific target organ toxicity – Single exposure, Category 3, Respiratory tract irritation	H335
Specific target organ toxicity – Repeated exposure, Category 2	H373

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

Adverse physicochemical, human health and environmental effects

May cause damage to organs through prolonged or repeated exposure. May cause respiratory irritation. Causes skin irritation. May cause an allergic skin reaction. Causes serious eye damage.

2.2. Label elements

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

Hazard pictograms (CLP) :

GHS05 GHS07 GHS08

Signal word (CLP)	:	Danger
Hazard statements (CLP)	:	H315 - Causes skin irritation. H317 - May cause an allergic skin reaction. H318 - Causes serious eye damage. H335 - May cause respiratory irritation. H373 - May cause damage to organs through prolonged or repeated exposure.
Precautionary statements (CLP)	:	P260 - Do not breathe dust/fume/gas/mist/vapours/spray. P264 - Wash hands, forearms and face thoroughly after handling. P271 - Use only outdoors or in a well-ventilated area. P272 - Contaminated work clothing should not be allowed out of the workplace. P280 - Wear protective gloves/protective clothing/eye protection/face protection/hearing protection. P302+P352 - If on skin: Wash with plenty of water.

2.3. Other hazards

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

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 is 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

3.1. Substances

Not applicable

3.2. Mixtures

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
2-Oxepanone, polymer with 2-ethyl-2-(hydroxymethyl)-1,3-propanediol and 5-isocyanato-1-(isocyanatomethyl)-1,3,3-trimethylcyclohexane, 2-hydroxyethyl acrylate-terminated	CAS-No.: 68987-79-1	48	Skin Irrit. 2, H315 Eye Dam. 1, H318 Skin Sens. 1, H317 STOT SE 3, H335
Poly[oxy(methyl-1,2-ethanediyl)], .alpha.,.alpha.',.alpha.''-1,2,3-propanetriyltris[.omega.-[(1-oxo-2-propenyl)oxy]-	CAS-No.: 52408-84-1 EC-No.: 500-114-5	30	Eye Irrit. 2, H319 Skin Sens. 1, H317
Ethoxylated trimethylolpropane triacrylate	CAS-No.: 28961-43-5 EC-No.: 500-066-5	11.4	Eye Irrit. 2, H319 Skin Sens. 1B, H317 Aquatic Chronic 3, H412
Morpholine, 4-(1-oxo-2-propenyl)-	CAS-No.: 5117-12-4 EC-No.: 418-140-1 EC Index-No.: 613-222-00-3	10	Acute Tox. 4 (Oral), H302 (ATE=500 mg/kg bodyweight) Eye Dam. 1, H318 Skin Sens. 1, H317 STOT RE 2, H373
Titanium dioxide	CAS-No.: 13463-67-7 EC-No.: 236-675-5 EC Index-No.: 022-006-00-2	0.5	Carc. 2, H351 If in powder form containing 1 % or more of particles with aerodynamic diameter ≤ 10 µm
Carbon black	CAS-No.: 1333-86-4 EC-No.: 215-609-9	0.1	Not classified

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). Call a poison center or a doctor if you feel unwell.

First-aid measures after inhalation : Remove person to fresh air and keep comfortable for breathing. Allow affected person to breathe fresh air. Allow the victim to rest. Call a poison center or a doctor if you feel unwell. Obtain medical attention if breathing difficulty persists.

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. Wash skin with plenty of water. Take off contaminated clothing. If skin irritation or rash occurs: Get medical advice/attention. Seek medical attention if ill effect or irritation develops.

First-aid measures after eye contact : Rinse immediately with plenty of water. Obtain medical attention if pain, blinking or redness persists. Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a physician immediately. Seek medical attention if ill effect or irritation develops.

First-aid measures after ingestion : Rinse mouth. Do NOT induce vomiting. Obtain emergency medical attention. Call a poison center or a doctor if you feel unwell.

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

Symptoms/effects : Causes skin irritation.
May cause an allergic skin reaction.
Causes serious eye damage.
May cause respiratory irritation.
May cause damage to organs through prolonged or repeated exposure.

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

Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media : Foam. Dry powder. Carbon dioxide. Water spray. Sand.

Unsuitable extinguishing media : Do not use a heavy water stream.

5.2. Special hazards arising from the substance or mixture

Hazardous decomposition products in case of fire : Toxic fumes may be released. Thermal decomposition can lead to the release of irritating gases and vapours.

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.

Protective equipment for firefighters : Do not enter fire area without proper protective equipment, including respiratory protection. Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Protective equipment : Wear recommended personal protective equipment. For further information refer to section 8: "Exposure controls/personal protection". Wear suitable protective clothing. For further information refer to section 8: "Exposure controls/personal protection".

Emergency procedures : Ventilate spillage area. Evacuate unnecessary personnel. Do not breathe dust/fume/gas/mist/vapours/spray. Avoid contact with skin and eyes.

6.1.2. For emergency responders

Protective equipment	:	Do not attempt to take action without suitable protective equipment. Equip cleanup crew with proper protection. For further information refer to section 8: "Exposure controls/personal protection".
Emergency procedures	:	Ventilate area.

6.2. Environmental precautions

Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or public waters. Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

For containment	:	Collect spillage.
Methods for cleaning up	:	Take up liquid spill into absorbent material. Soak up spills with inert solids, such as clay or diatomaceous earth as soon as possible. Collect spillage. Store away from other materials.
Other information	:	Dispose of materials or solid residues at an authorized site.

6.4. Reference to other sections

For further information refer to section 8: "Exposure controls/personal protection". For disposal of residues refer to section 13 : "Disposal considerations".

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling	:	Provide good ventilation in process area to prevent formation of vapour. Do not breathe dust/fume/gas/mist/vapours/spray. Use only outdoors or in a well-ventilated area. Avoid contact with skin and eyes. Wear personal protective equipment.
Hygiene measures	:	Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Wash contaminated clothing before reuse. Contaminated work clothing should not be allowed out of the workplace. Do not eat, drink or smoke when using this product. Always wash hands after handling the product. Handle in accordance with good industrial hygiene and safety procedures.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions	:	Keep container tightly closed in a cool, well-ventilated place. Keep container closed when not in use. Store locked up. Store in a well-ventilated place. Keep container tightly closed. Keep cool.

7.3. Specific end use(s)

No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

8.1.1 National occupational exposure and biological limit values

Titanium dioxide (13463-67-7)	
Austria - Occupational Exposure Limits	
Local name	Titandioxid (Alveolarstaub)
MAK (OEL TWA)	5 mg/m³ (alveolar dust, respirable fraction)
MAK (OEL STEL)	10 mg/m³ (alveolar dust, respirable fraction)
Regulatory reference	BGBl. II Nr. 156/2021
Belgium - Occupational Exposure Limits	
Local name	Titane (dioxyde de) # Titaandioxide

Titanium dioxide (13463-67-7)	
OEL TWA	10 mg/m³
Regulatory reference	Koninklijk besluit/Arrêté royal 11/05/2021
Bulgaria - Occupational Exposure Limits	
Local name	Титанов диоксид
OEL TWA	10 mg/m³ (respirable dust)
Regulatory reference	Наредба № 13 от 30.12.2003 г. за защита на работещите от рискове, свързани с експозиция на химични агенти при работа (изм. и доп. ДВ. бр. 47 от 2021 г., в сила от 04.06.2021 г.)
Croatia - Occupational Exposure Limits	
Local name	Titanov dioksid
GVI (OEL TWA)	10 mg/m³ (total dust, inhalable particles) 4 mg/m³ (respirable dust)
Regulatory reference	Pravilnik o zaštiti radnika od izloženosti opasnim kemikalijama na radu, graničnim vrijednostima izloženosti i biološkim graničnim vrijednostima (NN 1/2021)
Denmark - Occupational Exposure Limits	
Local name	Titandioxid
OEL TWA	6 mg/m³
OEL STEL	12 mg/m³
Remark	K (betyder, at stoffet anses for at kunne være kræftfremkaldende)
Regulatory reference	BEK nr 202 af 21/02/2023
Estonia - Occupational Exposure Limits	
Local name	Titaanoksiid
OEL TWA	5 mg/m³
Regulatory reference	Vabariigi Valitsuse 20. märtsi 2001. a määruse nr 105 (RT I, 21.12.2022, 3)
France - Occupational Exposure Limits	
OEL chemical category	Carcinogen category 2
Germany - Occupational Exposure Limits (TRGS 900)	
AGW (OEL TWA)	1.25 mg/m³ (respirable fraction (dust) 10 mg/m³ (inhalable fraction (dust)
Greece - Occupational Exposure Limits	
Local name	Τιτανίου διοξείδιο
OEL TWA	10 mg/m³ (inhalable fraction) 5 mg/m³ (respirable fraction)
Regulatory reference	Π.Δ. 90/1999 - Προστασία της υγείας των εργαζομένων που εκτίθενται σε ορισμένους χημικούς παράγοντες κατά τη διάρκεια της εργασίας τους
Ireland - Occupational Exposure Limits	
Local name	Titanium dioxide
OEL TWA	10 mg/m³ (total inhalable dust) 4 mg/m³ (respirable dust)
OEL STEL	30 mg/m³ (calculated-respirable dust) 12 mg/m³ (calculated)
Regulatory reference	Chemical Agents Code of Practice 2021

Titanium dioxide (13463-67-7)	
Latvia - Occupational Exposure Limits	
Local name	Titāna dioksīds
OEL TWA	10 mg/m³
Regulatory reference	Ministru kabineta 2007. gada 15. maija noteikumiem Nr. 325 (Grozījumi Ministru kabineta 2011. gada 1. februārī noteikumiem Nr. 92)
Lithuania - Occupational Exposure Limits	
Local name	Titano dioksidas
IPRV (OEL TWA)	5 mg/m³
Regulatory reference	LIETUVOS HIGIENOS NORMA HN 23:2011 (Nr. V-695/A1-272, 2018-06-12)
Netherlands - Occupational Exposure Limits	
TGG-8u (OEL TWA)	10 mg/m³
Poland - Occupational Exposure Limits	
Local name	Ditlenek tytanu
NDS (OEL TWA)	10 mg/m³ (the concentration of the respirable Crystalline silica fraction is determined simultaneously-inhalable fraction)
Remark	Frakcja wdychalna – frakcja aerozolu wnikająca przez nos i usta, która po zdeponowaniu w drogach oddechowych stwarza zagrożenie dla zdrowia. Obowiązuje jednoczesne oznaczanie stężeń frakcji respirabilnej krzemionki krystalicznej.
Regulatory reference	Dz. U. 2018 poz. 1286 wraz z późn. zm.
Portugal - Occupational Exposure Limits	
Local name	Dióxido de titânio
OEL TWA	10 mg/m³
OEL chemical category	A4 - Not Classifiable as a Human Carcinogen
Remark	A4 (Agente não classificável como carcinogénico no Homem)
Regulatory reference	Norma Portuguesa NP 1796:2014
Romania - Occupational Exposure Limits	
Local name	Dioxid de titan
OEL TWA	10 mg/m³
OEL STEL	15 mg/m³
Regulatory reference	Hotărârea Guvernului nr. 1.218/2006 (Hotărârea nr. 53/2021)
Slovakia - Occupational Exposure Limits	
Local name	Oxid titaničitý
NPHV (OEL TWA)	5 mg/m³
Regulatory reference	Nariadenie vlády č. 355/2006 Z. z. (236/2020 Z. z.)
Spain - Occupational Exposure Limits	
Local name	Dióxido de titanio
VLA-ED (OEL TWA)	10 mg/m³
Regulatory reference	Límites de Exposición Profesional para Agentes Químicos en España 2023. INSHT
Sweden - Occupational Exposure Limits	
Local name	Titandioxid

Titanium dioxide (13463-67-7)	
NGV (OEL TWA)	5 mg/m³ (total dust)
Remark	3 (Med totaldamm menas de partiklar (aerosoler) som fastnar på ett filter i den provtagare som beskrivs i Metodserien, Provtagning av totaldamm och respirabelt damm, Metod nr 1010, Arbetarskyddsstyrelsen, numera Arbetsmiljöverket. Filterdiametern är normalt 37 mm, men kan även vara 25 mm. Trots sitt namn provtas inte den totala mängden luftburna partiklar med denna metod)
Regulatory reference	Hygieniska gränsvärden (AFS 2018:1)
United Kingdom - Occupational Exposure Limits	
Local name	Titanium dioxide
WEL TWA (OEL TWA)	10 mg/m³ (total inhalable) 4 mg/m³ (respirable)
WEL STEL (OEL STEL)	30 mg/m³ (calculated-total inhalable) 12 mg/m³ (calculated-respirable)
Regulatory reference	EH40/2005 (Fourth edition, 2020). HSE

Carbon black (1333-86-4)	
Belgium - Occupational Exposure Limits	
Local name	Carbone (noir de) # Koolzwart
OEL TWA	3 mg/m³
Regulatory reference	Koninklijk besluit/Arrêté royal 11/05/2021
Croatia - Occupational Exposure Limits	
Local name	Ugljik-crni
GVI (OEL TWA)	3.5 mg/m³
KGVI (OEL STEL)	7 mg/m³
Regulatory reference	Pravilnik o zaštiti radnika od izloženosti opasnim kemikalijama na radu, graničnim vrijednostima izloženosti i biološkim graničnim vrijednostima (NN 1/2021)
Czech Republic - Occupational Exposure Limits	
Local name	Amorfní uhlík (Carbon Black)
PEL (OEL TWA)	10 mg/m³
Remark	Prachy s převážně nespecifickým účinkem.
Regulatory reference	Nařízení vlády č. 361/2007 Sb. (Předpis 195/2021 Sb.)
Denmark - Occupational Exposure Limits	
Local name	Carbon black
OEL TWA	3.5 mg/m³
OEL STEL	7 mg/m³
Remark	K (betyder, at stoffet anses for at kunne være kræftfremkaldende)
Regulatory reference	BEK nr 202 af 21/02/2023
Estonia - Occupational Exposure Limits	
OEL TWA	3 mg/m³
Finland - Occupational Exposure Limits	
Local name	Nokimusta
HTP (OEL TWA)	3.5 mg/m³

Carbon black (1333-86-4)	
HTP (OEL STEL)	7 mg/m³
Regulatory reference	HTP-ARVOT 2020 (Sosiaali- ja terveysministeriö)
France - Occupational Exposure Limits	
Local name	Noir de carbone
VME (OEL TWA)	3.5 mg/m³
Remark	Valeurs recommandées/admises
Regulatory reference	Circulaire du Ministère du travail (réf.: INRS ED 6443, 2022; Outil65)
Greece - Occupational Exposure Limits	
Local name	Αιθάλη
OEL TWA	3.5 mg/m³
OEL STEL	7 mg/m³
Regulatory reference	Π.Δ. 90/1999 - Προστασία της υγείας των εργαζομένων που εκτίθενται σε ορισμένους χημικούς παράγοντες κατά τη διάρκεια της εργασίας τους
Hungary - Occupational Exposure Limits	
Local name	Ipari korom [„Carbon Black”]
AK (OEL TWA)	3 mg/m³ belélegezhető koncentráció
Regulatory reference	5/2020. (II. 6.) ITM rendelet - A kémiai kóroki tényezők hatásának kitett munkavállalók egészségének és biztonságának védelméről
Ireland - Occupational Exposure Limits	
Local name	Carbon black
OEL TWA	3 mg/m³ I (Inhalable Fraction)
OEL STEL	15 mg/m³ (calculated-inhalable fraction)
Regulatory reference	Chemical Agents Code of Practice 2021
Poland - Occupational Exposure Limits	
Local name	Sadza techniczna
NDS (OEL TWA)	4 mg/m³ frakcja wdychalna
Remark	Frakcja wdychalna – frakcja aerozolu wnikająca przez nos i usta, która po zdeponowaniu w drogach oddechowych stwarza zagrożenie dla zdrowia.
Regulatory reference	Dz. U. 2018 poz. 1286 wraz z późn. zm.
Portugal - Occupational Exposure Limits	
Local name	Carbono, preto (Negro de fumo)
OEL TWA	3 mg/m³ I (Fraçao inalável)
OEL chemical category	A3 - Confirmed Animal Carcinogen with Unknown Relevance to Humans
Remark	A3 (Agente carcinogénico confirmado nos animais de laboratorio con relevância desconhecida no Homem)
Regulatory reference	Norma Portuguesa NP 1796:2014
Slovakia - Occupational Exposure Limits	
NPHV (OEL TWA)	2 mg/m³ (respirable fraction, 5% or less fibrogenic component) 10 mg/m³ (respirable fraction, greater than 5% fibrogenic component) 10 mg/m³ (total aerosol)

Carbon black (1333-86-4)	
Spain - Occupational Exposure Limits	
Local name	Negro de humo
VLA-ED (OEL TWA)	3.5 mg/m³
Regulatory reference	Límites de Exposición Profesional para Agentes Químicos en España 2023. INSHT
Sweden - Occupational Exposure Limits	
NGV (OEL TWA)	3 mg/m³ (inhalable fraction)
United Kingdom - Occupational Exposure Limits	
Local name	Carbon black
WEL TWA (OEL TWA)	3.5 mg/m³
WEL STEL (OEL STEL)	7 mg/m³
Regulatory reference	EH40/2005 (Fourth edition, 2020). HSE

8.1.2. Recommended monitoring procedures

No additional information available

8.1.3. Air contaminants formed

No additional information available

8.1.4. DNEL and PNEC

No additional information available

8.1.5. Control banding

No additional information available

8.2. Exposure controls

8.2.1. Appropriate engineering controls

Appropriate engineering controls:
Ensure good ventilation of the work station.

8.2.2. Personal protection equipment

Personal protective equipment:
Avoid all unnecessary exposure.

8.2.2.1. Eye and face protection

Eye protection:
Chemical goggles or safety glasses. Use eye protection according to ISO 16321-1. Safety glasses

8.2.2.2. Skin protection

Skin and body protection:
Wear suitable protective clothing

Hand protection:
Wear protective gloves. Wear suitable gloves tested to ISO 374-1. protective gloves

8.2.2.3. Respiratory protection

Respiratory protection:
Wear appropriate mask. Wear suitable respiratory equipment in case of insufficient ventilation

8.2.2.4. Thermal hazards

No additional information available

8.2.3. Environmental exposure controls

Environmental exposure controls:
Avoid release to the environment.

Other information:
Do not eat, drink or smoke during use.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	:	Liquid
Colour	:	Grey.
Odour	:	Not available
Odour threshold	:	Not available
Melting point	:	Not available
Freezing point	:	Not available
Boiling point	:	Not available
Flammability	:	Non flammable.
Lower explosion limit	:	Not available
Upper explosion limit	:	Not available
Flash point	:	Not available
Auto-ignition temperature	:	Not available
Decomposition temperature	:	Not available
pH	:	Not available
Viscosity, kinematic	:	Not available
Solubility	:	Not available
Partition coefficient n-octanol/water (Log Kow)	:	Not available
Vapour pressure	:	Not available
Vapour pressure at 50°C	:	Not available
Density	:	Not available
Relative density	:	Not available
Relative vapour density at 20°C	:	Not available
Particle characteristics	:	Not applicable

9.2. Other information

9.2.1. Information with regard to physical hazard classes

No additional information available

9.2.2. Other safety characteristics

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

The product is non-reactive under normal conditions of use, storage and transport.

10.2. Chemical stability

The product is stable at normal handling and storage conditions.

10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use. Hazardous polymerization will not occur.

10.4. Conditions to avoid

None under recommended storage and handling conditions (see section 7).

10.5. Incompatible materials

No additional information available

10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

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

Poly[oxy(methyl-1,2-ethanediyl)], .alpha.,.alpha.',.alpha.''-1,2,3-propanetriyltris[.omega.-[(1-oxo-2-propenyl)oxy]- (52408-84-1)	
LD50 dermal rabbit	> 2000 mg/kg (Source: ECHA_API)

Ethoxylated trimethylolpropane triacrylate (28961-43-5)	
LD50 oral rat	> 2000 mg/kg
LD50 dermal rabbit	> 13 g/kg

Morpholine, 4-(1-oxo-2-propenyl)- (5117-12-4)	
LD50 dermal rat	> 2000 mg/kg (Source: ECHA_API)
ATE CLP (oral)	500 mg/kg bodyweight

Titanium dioxide (13463-67-7)	
LD50 oral rat	> 10000 mg/kg (Source: IUCLID)
LD50 oral	> 5000 mg/kg bodyweight
LD50 dermal	> 10000 mg/kg bodyweight
LC50 Inhalation - Rat	5.09 mg/l/4h

Carbon black (1333-86-4)	
LD50 oral rat	> 15400 mg/kg (Source: NLM_CIP)

Skin corrosion/irritation : Causes skin irritation.
Serious eye damage/irritation : Causes serious eye damage.
Respiratory or skin sensitisation : May cause an allergic skin reaction.
Germ cell mutagenicity : Not classified
Carcinogenicity : Not classified

Titanium dioxide (13463-67-7)	
IARC group	2B - Possibly carcinogenic to humans

Carbon black (1333-86-4)	
IARC group	2B - Possibly carcinogenic to humans

Reproductive toxicity : Not classified
STOT-single exposure : May cause respiratory irritation.
STOT-repeated exposure : May cause damage to organs through prolonged or repeated exposure.

Morpholine, 4-(1-oxo-2-propenyl)- (5117-12-4)	
STOT-repeated exposure	May cause damage to organs through prolonged or repeated exposure.

Aspiration hazard : Not classified

11.2. Information on other hazards

11.2.1. Endocrine disrupting properties

No additional information available

11.2.2. Other information

Other information : Likely routes of exposure: ingestion, inhalation, skin and eye

SECTION 12: Ecological information

12.1. Toxicity

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

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

Ethoxylated trimethylolpropane triacrylate (28961-43-5)	
LC50 - Fish [1]	1.95 mg/l (Exposure time: 96 h - Species: Danio rerio [static] Source: ECHA)
EC50 - Crustacea [1]	70.7 mg/l
EC50 72h - Algae [1]	2.2 mg/l

Titanium dioxide (13463-67-7)	
LC50 - Fish [1]	155 mg/l Test organisms (species): other:Japanese Medaka
EC50 - Other aquatic organisms [1]	> 100 mg/l Test organisms (species):
EC50 - Other aquatic organisms [2]	> 10000 mg/l
EC50 72h - Algae [1]	> 100 mg/l Test organisms (species): Pseudokirchneriella subcapitata (previous names: Raphidocelis subcapitata, Selenastrum capricornutum)

Carbon black (1333-86-4)	
EC50 72h - Algae [1]	> 10000 mg/l Test organisms (species): Desmodesmus subspicatus (previous name: Scenedesmus subspicatus)
EC50 72h - Algae [2]	> 10000 mg/l Test organisms (species):
ErC50 algae	> 10000 mg/l 72 hours OECD 201

12.2. Persistence and degradability

Plant-Based Resin	
Persistence and degradability	Not established.

Morpholine, 4-(1-oxo-2-propenyl)- (5117-12-4)	
Persistence and degradability	Not Rapidly degradable

12.3. Bioaccumulative potential

Plant-Based Resin	
Bioaccumulative potential	Not established.

Poly[oxy(methyl-1,2-ethanediyl)], .alpha.,.alpha.',.alpha.''-1,2,3-propanetriyltris[.omega.-[(1-oxo-2-propenyl)oxy]- (52408-84-1)	
Partition coefficient n-octanol/water (Log Pow)	2.52 (at 23 °C (at pH 8.1)

Ethoxylated trimethylolpropane triacrylate (28961-43-5)	
Partition coefficient n-octanol/water (Log Pow)	2.89 (at 23 °C (at pH 8.1)

Morpholine, 4-(1-oxo-2-propenyl)- (5117-12-4)	
Partition coefficient n-octanol/water (Log Pow)	-0.46 (at 21 °C)

12.4. Mobility in soil

No additional information available

12.5. Results of PBT and vPvB assessment

No additional information available

12.6. Endocrine disrupting properties

No additional information available

12.7. Other adverse effects

Additional information : Avoid release to the environment.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste treatment methods : Dispose of contents/container in accordance with licensed collector's sorting instructions.
Product/Packaging disposal recommendations : Dispose of in a safe manner in accordance with local/national regulations.
Ecological information : Avoid release to the environment.

SECTION 14: Transport information

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

ADR	IMDG	IATA	ADN	RID
14.1. UN number or ID number				
Not regulated for transport				
14.2. UN proper shipping name				
Not regulated	Not regulated	Not regulated	Not regulated	Not regulated
14.3. Transport hazard class(es)				
Not regulated	Not regulated	Not regulated	Not regulated	Not regulated
14.4. Packing group				
Not regulated	Not regulated	Not regulated	Not regulated	Not regulated
14.5. Environmental hazards				
Not regulated	Not regulated	Not regulated	Not regulated	Not regulated
No supplementary information available				

14.6. Special precautions for user

Overland transport
Not regulated

Transport by sea
Not regulated

Air transport
Not regulated

Inland waterway transport
Not regulated

Rail transport
Not regulated

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

15.1.1. EU-Regulations

REACH Annex XVII (Restriction List)

Contains no substance(s) listed on REACH Annex XVII (Restriction Conditions)

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 (1005/2009)

Contains no substance(s) listed on the Ozone Depletion list (Regulation EU 1005/2009 on substances that deplete the ozone layer)

Dual-Use Regulation (428/2009)

Contains no substance subject to the COUNCIL REGULATION (EC) No 428/2009 of 5 May 2009 setting up a Community regime for the control of exports, transfer, brokering and transit of dual-use items.

Explosives Precursors Regulation (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 (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)

15.1.2. National regulations

Germany

Employment restrictions	:	Observe restrictions according Act on the Protection of Working Mothers (MuSchG). Observe restrictions according Act on the Protection of Young People in Employment (JArbSchG).
Water hazard class (WGK)	:	WGK 3, Highly hazardous to water (Classification according to AwSV, Annex 1).
Hazardous Incident Ordinance (12. BImSchV)	:	Is not subject of the Hazardous Incident Ordinance (12. BImSchV)

Netherlands

SZW-lijst van kankerverwekkende stoffen	:	None of the components are listed
SZW-lijst van mutagene stoffen	:	None of the components are listed
SZW-lijst van reprotoxische stoffen – Borstvoeding	:	None of the components are listed
SZW-lijst van reprotoxische stoffen – Vruchtbaarheid	:	None of the components are listed
SZW-lijst van reprotoxische stoffen – Ontwikkeling	:	None of the components are listed

Denmark

Danish National Regulations	:	Young people under 18 years are not allowed to use the product Pregnant/breastfeeding women working with the product must not be in direct contact with it

15.2. Chemical safety assessment

No chemical safety assessment has been carried out

SECTION 16: Other information

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
BCF	Bioconcentration factor
BLV	Biological limit value
BOD	Biochemical oxygen demand (BOD)
COD	Chemical oxygen demand (COD)
DMEL	Derived Minimal Effect level
DNEL	Derived-No Effect Level
EC-No.	European Community number
EC50	Effective concentration for 50 percent of test population (median effective concentration)
EN	European Standard
IARC	International Agency for Research on Cancer
IATA	International Air Transport Association
IMDG	International Maritime Dangerous Goods
LC50	Lethal concentration for 50 percent of test population (median lethal concentration)
LD50	Lethal dose for 50 percent of test population (median lethal dose)
LOAEL	Lowest Observed Adverse Effect Level
NOAEC	No-Observed Adverse Effect Concentration
NOAEL	No-Observed Adverse Effect Level
NOEC	No-Observed Effect Concentration
OECD	Organisation for Economic Co-operation and Development
OEL	Occupational Exposure Limit
PBT	Persistent Bioaccumulative Toxic
PNEC	Predicted No-Effect Concentration
RID	Regulation concerning the International Carriage of Dangerous Goods by Railways
SDS	Safety Data Sheet
STP	Sewage treatment plant
ThOD	Theoretical oxygen demand (ThOD)
TLM	Median Tolerance Limit
VOC	Volatile Organic Compounds
CAS-No.	Chemical Abstract Service number
N.O.S.	Not Otherwise Specified
vPvB	Very Persistent and Very Bioaccumulative
ED	Endocrine disrupting properties

Full text of H- and EUH-statements:	
Acute Tox. 4 (Oral)	Acute toxicity (oral), Category 4

Full text of H- and EUH-statements:	
Aquatic Chronic 3	Hazardous to the aquatic environment – Chronic Hazard, Category 3
Carc. 2	Carcinogenicity, Category 2
Eye Dam. 1	Serious eye damage/eye irritation, Category 1
Eye Irrit. 2	Serious eye damage/eye irritation, Category 2
H302	Harmful if swallowed.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H335	May cause respiratory irritation.
H351	Suspected of causing cancer.
H373	May cause damage to organs through prolonged or repeated exposure.
H412	Harmful to aquatic life with long lasting effects.
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

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.