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

1.1 Product identifier

Trade name Heat Resistant Resin

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

Relevant identified uses. 3D printing resin

1.3 Details of the supplier of the safety data sheet

AprintaPro GmbH
Gutheil Schoder Gasse 17
1230 Wien
Austria

Telephone: +43 1 997809410
e-mail: office@aprintapro.com
Website: https://www.aprintapro.com

e-mail (competent person) office@aprintapro.com

1.4 Emergency telephone number

For 24/7 multilingual advice for a spill, leak, fire, exposure, or accident call CHEMTREC and provide CCN1025279.

Country	Telephone
United Kingdom	+44 20 3807 3798

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification acc. to GHS

Section	Hazard class	Category	Hazard class and category	Hazard statement
3.1O	acute toxicity (oral)	4	Acute Tox. 4	H302
3.3	serious eye damage/eye irritation	1	Eye Dam. 1	H318
3.4S	skin sensitisation	1	Skin Sens. 1	H317
3.9	specific target organ toxicity - repeated exposure	2	STOT RE 2	H373
4.1C	hazardous to the aquatic environment - chronic hazard	2	Aquatic Chronic 2	H411

For full text of abbreviations: see SECTION 16.

The most important adverse physicochemical, human health and environmental effects

Delayed or immediate effects can be expected after short or long-term exposure. Spillage and fire water can cause pollution of watercourses.

2.2 Label elements

Labelling

- Signal word danger
- Pictograms

GHS05, GHS07, GHS08, GHS09

- Hazard statements

H302	Harmful if swallowed.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H373	May cause damage to organs through prolonged or repeated exposure.
H411	Toxic to aquatic life with long lasting effects.

- Precautionary statements

P101	If medical advice is needed, have product container or label at hand.
P102	Keep out of reach of children.
P103	Read carefully and follow all instructions.
P260	Do not breathe spray.
P280	Wear protective gloves/eye protection.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310	Immediately call a POISON CENTER/doctor.
P501	Dispose of contents/container to hazardous or special waste collection point.

Tactile warning of danger: yes

- Hazardous ingredients for labelling: (2,4,6-trioxo-1,3,5-triazine-1,3,5(2H,4H,6H)-triyl)tri-2,1-ethanediyl triacrylate, 4-(1-oxo-2-propenyl)-morpholine, phenyl bis(2,4,6-trimethylbenzoyl)-phosphine oxide, 2-hydroxyethyl methacrylate

2.3 Other hazards

Results of PBT and vPvB assessment

Does not contain a PBT-/vPvB-substance at a concentration of ≥ 0,1%.

Endocrine disrupting properties

Does not contain an endocrine disruptor (ED) at a concentration of ≥ 0,1%.

SECTION 3: Composition/information on ingredients

3.1 Substances

Not relevant (mixture)

3.2 Mixtures

Description of the mixture

Name of substance	Identifier		Wt%	Classification acc. to GHS
(2,4,6-trioxo-1,3,5-triazine-1,3,5(2H,4H,6H)-triyl)tri-2,1-ethanediyl triacrylate	CAS No	40220-08-4	25 – < 50	Eye Dam. 1 / H318 Skin Sens. 1 / H317 Aquatic Chronic 2 / H411
4-(1-oxo-2-propenyl)-morpholine	CAS No	5117-12-4	25 – < 50	Acute Tox. 4 / H302 Eye Dam. 1 / H318 Skin Sens. 1 / H317 STOT RE 2 / H373
phenyl bis(2,4,6-trimethylbenzoyl)-phosphine oxide	CAS No	162881-26-7	2 – < 5	Skin Sens. 1A / H317 Aquatic Acute 1 / H400 Aquatic Chronic 4 / H413
2-hydroxyethyl methacrylate	CAS No	868-77-9	2 – < 5	Skin Irrit. 2 / H315 Eye Irrit. 2 / H319 Skin Sens. 1 / H317

Name of substance	Specific Conc. Limits	M-Factors	ATE	Exposure route
4-(1-oxo-2-propenyl)-morpholine	-	-	588 $^{mg}/_{kg}$	oral
phenyl bis(2,4,6-trimethylbenzoyl)-phosphine oxide	-	M-factor (acute) = 10	-	

Remarks

For full text of abbreviations: see SECTION 16

SECTION 4: First aid measures

4.1 Description of first aid measures

General notes

Do not leave affected person unattended. Remove victim out of the danger area. Keep affected person warm, still and covered. Take off immediately all contaminated clothing. In all cases of doubt, or when symptoms persist, seek medical advice. In case of unconsciousness place person in the recovery position. Never give anything by mouth.

Following inhalation

If breathing is irregular or stopped, immediately seek medical assistance and start first aid actions. Provide fresh air.

Following skin contact

Wash with plenty of soap and water.

Following eye contact

Remove contact lenses, if present and easy to do. Continue rinsing. Irrigate copiously with clean, fresh water for at least 10 minutes, holding the eyelids apart.

Following ingestion

Rinse mouth with water (only if the person is conscious). Do NOT induce vomiting.

4.2 Most important symptoms and effects, both acute and delayed

Symptoms and effects are not known to date.

4.3 Indication of any immediate medical attention and special treatment needed

none

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media

Water spray, BC-powder, Carbon dioxide (CO2)

Unsuitable extinguishing media

Water jet

5.2 Special hazards arising from the substance or mixture

Hazardous combustion products

Nitrogen oxides (NOx), Carbon monoxide (CO), Carbon dioxide (CO2)

5.3 Advice for firefighters

In case of fire and/or explosion do not breathe fumes. Co-ordinate firefighting measures to the fire surroundings. Do not allow firefighting water to enter drains or water courses. Collect contaminated firefighting water separately. Fight fire with normal precautions from a reasonable distance.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

For non-emergency personnel

Remove persons to safety.

For emergency responders

Wear breathing apparatus if exposed to vapours/dust/spray/gases.

6.2 Environmental precautions

Keep away from drains, surface and ground water. Retain contaminated washing water and dispose of it. If substance has entered a water course or sewer, inform the responsible authority.

6.3 Methods and material for containment and cleaning up

Advice on how to contain a spill

Covering of drains

Advice on how to clean up a spill

Wipe up with absorbent material (e.g. cloth, fleece). Collect spillage: sawdust, kieselgur (diatomite), sand, universal binder

Appropriate containment techniques

Use of adsorbent materials.

Other information relating to spills and releases

Place in appropriate containers for disposal. Ventilate affected area.

6.4 Reference to other sections

Hazardous combustion products: see section 5. Personal protective equipment: see section 8. Incompatible materials: see section 10. Disposal considerations: see section 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Recommendations

- Measures to prevent fire as well as aerosol and dust generation

Use local and general ventilation. Use only in well-ventilated areas.

Advice on general occupational hygiene

Wash hands after use. Do not eat, drink and smoke in work areas. Remove contaminated clothing and protective equipment before entering eating areas. Never keep food or drink in the vicinity of chemicals. Never place chemicals in containers that are normally used for food or drink. Keep away from food, drink and animal feedingstuffs.

7.2 Conditions for safe storage, including any incompatibilities

- Packaging compatibilities

Only packagings which are approved (e.g. acc. to ADR) may be used.

7.3 Specific end use(s)

See section 16 for a general overview.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational exposure limit values (Workplace Exposure Limits)
this information is not available

Relevant DNELs of components					
CAS No	Endpoint	Threshold level	Protection goal, route of exposure	Used in	Exposure time
40220-08-4	DNEL	1.65 mg/m³	human, inhalatory	worker (industry)	chronic - systemic effects
40220-08-4	DNEL	2.3 mg/kg bw/day	human, dermal	worker (industry)	chronic - systemic effects
5117-12-4	DNEL	132.2 mg/m³	human, inhalatory	worker (industry)	chronic - systemic effects
5117-12-4	DNEL	132.2 mg/m³	human, inhalatory	worker (industry)	acute - systemic effects
5117-12-4	DNEL	300 mg/kg bw/day	human, dermal	worker (industry)	chronic - systemic effects
5117-12-4	DNEL	300 mg/kg bw/day	human, dermal	worker (industry)	acute - systemic effects
868-77-9	DNEL	4.9 mg/m³	human, inhalatory	worker (industry)	chronic - systemic effects
868-77-9	DNEL	1.3 mg/kg bw/day	human, dermal	worker (industry)	chronic - systemic effects

Relevant PNECs of components					
CAS No	Endpoint	Threshold level	Organism	Environmental compartment	Exposure time
40220-08-4	PNEC	9.43 µg/l	aquatic organisms	freshwater	short-term (single instance)
40220-08-4	PNEC	0.943 µg/l	aquatic organisms	marine water	short-term (single instance)
40220-08-4	PNEC	10 mg/l	aquatic organisms	sewage treatment plant (STP)	short-term (single instance)
40220-08-4	PNEC	0.62 mg/kg	aquatic organisms	freshwater sediment	short-term (single instance)

Relevant PNECs of components					
CAS No	Endpoint	Threshold level	Organism	Environmental compartment	Exposure time
40220-08-4	PNEC	0.062 $^{mg}/_{kg}$	aquatic organisms	marine sediment	short-term (single instance)
40220-08-4	PNEC	0.118 $^{mg}/_{kg}$	terrestrial organisms	soil	short-term (single instance)
5117-12-4	PNEC	0.012 $^{mg}/_{l}$	aquatic organisms	freshwater	short-term (single instance)
5117-12-4	PNEC	0.009 $^{mg}/_{kg}$	aquatic organisms	freshwater sediment	short-term (single instance)
5117-12-4	PNEC	0.001 $^{mg}/_{kg}$	terrestrial organisms	soil	short-term (single instance)
868-77-9	PNEC	0.482 $^{mg}/_{l}$	aquatic organisms	freshwater	short-term (single instance)
868-77-9	PNEC	0.482 $^{mg}/_{l}$	aquatic organisms	marine water	short-term (single instance)
868-77-9	PNEC	10 $^{mg}/_{l}$	aquatic organisms	sewage treatment plant (STP)	short-term (single instance)
868-77-9	PNEC	3.79 $^{mg}/_{kg}$	aquatic organisms	freshwater sediment	short-term (single instance)
868-77-9	PNEC	3.79 $^{mg}/_{kg}$	aquatic organisms	marine sediment	short-term (single instance)
868-77-9	PNEC	0.476 $^{mg}/_{kg}$	terrestrial organisms	soil	short-term (single instance)

8.2 Exposure controls

Appropriate engineering controls

General ventilation.

Individual protection measures (personal protective equipment)

Eye/face protection

Wear eye/face protection.

Skin protection

- Hand protection

Wear suitable gloves. Chemical protection gloves are suitable, which are tested according to EN 374. Check leak-tightness/impermeability prior to use. In the case of wanting to use the gloves again, clean them before taking off and air them well. For special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves.

- Type of material

NBR: acrylonitrile-butadiene rubber

- Material thickness

≥0,6mm

- Breakthrough times of the glove material

>480 minutes (permeation: level 6)

- Other protection measures

Take recovery periods for skin regeneration. Preventive skin protection (barrier creams/ointments) is recommended. Wash hands thoroughly after handling.

Respiratory protection

In case of inadequate ventilation wear respiratory protection. Filtering half mask (EN 149). P1 (filters at least 80 % of airborne particles, colour code: White).

Environmental exposure controls

Use appropriate container to avoid environmental contamination. Keep away from drains, surface and ground water.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical state	liquid
Colour	black
Odour	characteristic
Melting point/freezing point	not determined
Boiling point or initial boiling point and boiling range	>168 °C at 101.3 kPa

Flammability	this material is combustible, but will not ignite readily
Lower and upper explosion limit	not determined
Flash point	not determined
Auto-ignition temperature	375 °C (auto-ignition temperature (liquids and gases))
Decomposition temperature	not relevant
PH (value)	6 – 8 (in aqueous solution: 100 $^{mg}/_{cm^3}$, 25 °C)
Kinematic viscosity	not determined
Solubility(ies)	not determined
Partition coefficient	
Partition coefficient n-octanol/water (log value)	this information is not available
Vapour pressure	0.08 hPa at 20 °C
Density and/or relative density	
Density	1.1 $^{g}/_{cm^3}$ at 25 °C
Relative vapour density	information on this property is not available
Particle characteristics	not relevant (liquid)

9.2 Other information

Information with regard to physical hazard classes	hazard classes acc. to GHS (physical hazards): not relevant
Other safety characteristics	there is no additional information

SECTION 10: Stability and reactivity

10.1 Reactivity

Concerning incompatibility: see below "Conditions to avoid" and "Incompatible materials".

10.2 Chemical stability

See below "Conditions to avoid".

10.3 Possibility of hazardous reactions

No known hazardous reactions.

10.4 Conditions to avoid

UV-radiation/sunlight.

10.5 Incompatible materials

Oxidisers

10.6 Hazardous decomposition products

Reasonably anticipated hazardous decomposition products produced as a result of use, storage, spill and heating are not known.
Hazardous combustion products: see section 5.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Test data are not available for the complete mixture.

Classification procedure

The method for classification of the mixture is based on ingredients of the mixture (additivity formula).

Classification acc. to GHS

Acute toxicity

Harmful if swallowed.
GHS of the United Nations, annex 4: May be harmful in contact with skin.

- Acute toxicity estimate (ATE)
Oral 1,544 $^{mg}/_{kg}$

Acute toxicity estimate (ATE) of components			
Name of substance	CAS No	Exposure route	ATE
4-(1-oxo-2-propenyl)-morpholine	5117-12-4	oral	588 $^{mg}/_{kg}$

Skin corrosion/irritation
Shall not be classified as corrosive/irritant to skin.

Serious eye damage/eye irritation
Causes serious eye damage.

Respiratory or skin sensitisation
May cause an allergic skin reaction.

Germ cell mutagenicity
Shall not be classified as germ cell mutagenic.

Carcinogenicity
Shall not be classified as carcinogenic.

Reproductive toxicity
Shall not be classified as a reproductive toxicant.

Specific target organ toxicity - single exposure
Shall not be classified as a specific target organ toxicant (single exposure).

Specific target organ toxicity - repeated exposure
May cause damage to organs through prolonged or repeated exposure.

Aspiration hazard
Shall not be classified as presenting an aspiration hazard.

11.2 Information on other hazards
There is no additional information.

SECTION 12: Ecological information

12.1 Toxicity
Toxic to aquatic life with long lasting effects.

Aquatic toxicity (chronic) of components				
CAS No	Endpoint	Value	Species	Exposure time
162881-26-7	EC50	>100 $^{mg}/_{l}$	microorganisms	3 h
868-77-9	EC50	90.1 $^{mg}/_{l}$	aquatic invertebrates	21 d
868-77-9	LC50	>100 $^{mg}/_{l}$	aquatic invertebrates	21 d

12.2 Persistence and degradability

Degradability of components					
CAS No	Process	Degradation rate	Time	Method	Source
40220-08-4	oxygen depletion	19.7 %	28 d		ECHA
162881-26-7	carbon dioxide generation	1 %	29 d		ECHA

12.3 Bioaccumulative potential
Data are not available.

Bioaccumulative potential of components			
CAS No	BCF	Log KOW	BOD5/COD
40220-08-4		1.09 (pH value: 6.8, 25 °C)	
5117-12-4		-0.46 (21 °C)	
162881-26-7	<5	5.8 (pH value: 8.3, 22 °C)	
868-77-9		0.42 (25 °C)	

12.4 Mobility in soil

Data are not available.

12.5 Results of PBT and vPvB assessment

Does not contain a PBT-/vPvB-substance at a concentration of ≥ 0,1%.

12.6 Endocrine disrupting properties

Does not contain an endocrine disruptor (ED) at a concentration of ≥ 0,1%.

12.7 Other adverse effects

Data are not available.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Sewage disposal-relevant information

Do not empty into drains. Avoid release to the environment. Refer to special instructions/safety data sheets.

Waste treatment of containers/packagings

It is a dangerous waste; only packagings which are approved (e.g. acc. to ADR) may be used. Completely emptied packages can be recycled. Handle contaminated packages in the same way as the substance itself.

Remarks

Please consider the relevant national or regional provisions. Waste shall be separated into the categories that can be handled separately by the local or national waste management facilities.

SECTION 14: Transport information

14.1 UN number or ID number

ADR/RID/ADN	UN 3082
IMDG-Code	UN 3082
ICAO-TI	UN 3082

14.2 UN proper shipping name

ADR/RID/ADN	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
IMDG-Code	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
ICAO-TI	Environmentally hazardous substance, liquid, n.o.s.
Technical name (hazardous ingredients)	(2,4,6-trioxo-1,3,5-triazine-1,3,5(2H,4H,6H)-triyl)tri-2,1-ethanediyl triacrylate, phenyl bis(2,4,6-trimethylbenzoyl)-phosphine oxide

14.3 Transport hazard class(es)

ADR/RID/ADN	9
IMDG-Code	9
ICAO-TI	9

14.4 Packing group

ADR/RID/ADN	III
IMDG-Code	III

ICAO-TI	III

14.5 Environmental hazards

hazardous to the aquatic environment

Environmentally hazardous substance (aquatic environment)	(2,4,6-trioxo-1,3,5-triazine-1,3,5(2H,4H,6H)-triyl)tri-2,1-ethanediyl triacrylate, phenyl bis(2,4,6-trimethylbenzoyl)-phosphine oxide

14.6 Special precautions for user

Provisions for dangerous goods (ADR) should be complied within the premises.

14.7 Maritime transport in bulk according to IMO instruments

The cargo is not intended to be carried in bulk.

14.8 Information for each of the UN Model Regulations

Agreement concerning the International Carriage of Dangerous Goods by Road (ADR) - Additional information

Classification code	M6
Danger label(s)	9, fish and tree

Environmental hazards	yes (hazardous to the aquatic environment)
Special provisions (SP)	274, 335, 375, 601, 650
Excepted quantities (EQ)	E1
Limited quantities (LQ)	5 L
Transport category (TC)	3
Tunnel restriction code (TRC)	-
Hazard identification No	90
Emergency Action Code	3Z

Regulations concerning the International Carriage of Dangerous Goods by Rail (RID) - Additional information

Classification code	M6
Danger label(s)	9, fish and tree

Environmental hazards	yes (hazardous to water)
Special provisions (SP)	274, 335, 375, 601, 650
Excepted quantities (EQ)	E1
Limited quantities (LQ)	5 L
Transport category (TC)	3
Hazard identification No	90

International Maritime Dangerous Goods Code (IMDG) - Additional information

Marine pollutant	yes (hazardous to the aquatic environment) ((2,4,6-trioxo-1,3,5-triazine-1,3,5(2H,4H,6H)-triyl)tri-2,1-ethanediyl triacrylate)
Danger label(s)	9, fish and tree

Special provisions (SP)	274, 335, 375, 969
Excepted quantities (EQ)	E1
Limited quantities (LQ)	5 L
EmS	F-A, S-F
Stowage category	A

International Civil Aviation Organization (ICAO-IATA/DGR) - Additional information

Environmental hazards	yes (hazardous to the aquatic environment)
Danger label(s)	9, fish and tree

Special provisions (SP)	A97, A158, A197, A215
Excepted quantities (EQ)	E1
Limited quantities (LQ)	30 kg

SECTION 15: Regulatory information

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

Relevant provisions of the European Union (EU)

Seveso Directive

2012/18/EU (Seveso III)				
No	Dangerous substance/hazard categories	Qualifying quantity (tonnes) for the application of lower and upper-tier requirements		Notes
E2	environmental hazards (hazardous to the aquatic environment, cat. 2)	200	500	57)

Notation

57) hazardous to the Aquatic Environment in category Chronic 2

Directive on the restriction of the use of certain hazardous substances in electrical and electronic equipment (RoHS)

none of the ingredients are listed

Water Framework Directive (WFD)

List of pollutants (WFD)			
Name of substance	CAS No	Listed in	Remarks
phenyl bis(2,4,6-trimethylbenzoyl)-phosphine oxide		a)	

Legend

a) Indicative list of the main pollutants

Regulation on persistent organic pollutants (POP)

none of the ingredients are listed

Restrictions of occupation

Directive 94/33/EC on the protection of young people at work / Observe national regulations on protection of young people at work.
Directive 92/85/EEC on the introduction of measures to encourage improvements in the safety and health at work of pregnant workers and workers who have recently given birth or are breastfeeding / Observe national regulations on maternity protection.

National regulations (GB)

List of substances subject to authorisation (GB REACH, Annex 14) / SVHC - candidate list

none of the ingredients are listed

Restrictions according to GB REACH, Annex 17

Dangerous substances with restrictions (GB REACH, Annex 17)			
Name of substance	Name acc. to inventory	CAS No	No
Heat Resistant Resin	this product meets the criteria for classification in accordance with Regulation No 1272/2008/EC		3

National inventories

Country	Inventory	Status
AU	AIIC	not all ingredients are listed
CA	DSL	not all ingredients are listed
CA	NDSL	not all ingredients are listed
CN	IECSC	not all ingredients are listed
EU	ECSI	not all ingredients are listed
EU	REACH Reg.	not all ingredients are listed
JP	CSCL-ENCS	not all ingredients are listed
JP	ISHA-ENCS	not all ingredients are listed
KR	KECI	not all ingredients are listed
MX	INSQ	not all ingredients are listed
NZ	NZIoC	not all ingredients are listed
PH	PICCS	not all ingredients are listed
TR	CICR	not all ingredients are listed
TW	TCSI	not all ingredients are listed
US	TSCA	not all ingredients are listed

Legend

AIIC	Australian Inventory of Industrial Chemicals
CICR	Chemical Inventory and Control Regulation
CSCL-ENCS	List of Existing and New Chemical Substances (CSCL-ENCS)
DSL	Domestic Substances List (DSL)
ECSI	EC Substance Inventory (EINECS, ELINCS, NLP)
IECSC	Inventory of Existing Chemical Substances Produced or Imported in China
INSQ	National Inventory of Chemical Substances
ISHA-ENCS	Inventory of Existing and New Chemical Substances (ISHA-ENCS)
KECI	Korea Existing Chemicals Inventory
NDSL	Non-domestic Substances List (NDSL)
NZIoC	New Zealand Inventory of Chemicals
PICCS	Philippine Inventory of Chemicals and Chemical Substances (PICCS)
REACH Reg.	REACH registered substances
TCSI	Taiwan Chemical Substance Inventory
TSCA	Toxic Substance Control Act

15.2 Chemical safety assessment

Chemical safety assessments for substances in this mixture were not carried out.

SECTION 16: Other information

Indication of changes (revised safety data sheet)

Section	Actual entry (text/value)
15.1	Restrictions of occupation: Directive 94/33/EC on the protection of young people at work / Observe national regulations on protection of young people at work. Directive 92/85/EEC on the introduction of measures to encourage improvements in the safety and health at work of pregnant workers and workers who have recently given birth or are breastfeeding / Observe national regulations on maternity protection.

Abbreviations and acronyms

Abbr.	Descriptions of used abbreviations
Acute Tox.	Acute toxicity
ADR	Accord relatif au transport international des marchandises dangereuses par route (Agreement concerning the International Carriage of Dangerous Goods by Road)
ADR/RID/ADN	Agreements concerning the International Carriage of Dangerous Goods by Road/Rail/Inland Waterways (ADR/RID/ADN)
Aquatic Acute	Hazardous to the aquatic environment - acute hazard
Aquatic Chronic	Hazardous to the aquatic environment - chronic hazard
ATE	Acute Toxicity Estimate
BCF	Bioconcentration factor
BOD	Biochemical Oxygen Demand
CAS	Chemical Abstracts Service (service that maintains the most comprehensive list of chemical substances)
COD	Chemical oxygen demand
DGR	Dangerous Goods Regulations (see IATA/DGR)
DNEL	Derived No-Effect Level
EC50	Effective Concentration 50 %. The EC50 corresponds to the concentration of a tested substance causing 50 % changes in response (e.g. on growth) during a specified time interval
ED	Endocrine disruptor
EINECS	European Inventory of Existing Commercial Chemical Substances
ELINCS	European List of Notified Chemical Substances
EmS	Emergency Schedule
Eye Dam.	Seriously damaging to the eye
Eye Irrit.	Irritant to the eye
GB REACH	The REACH etc. (Amendment etc.) (EU Exit) Regulations 2019, SI 2019/758 (as amended)
GHS	"Globally Harmonized System of Classification and Labelling of Chemicals" developed by the United Nations
IATA	International Air Transport Association
IATA/DGR	Dangerous Goods Regulations (DGR) for the air transport (IATA)
ICAO	International Civil Aviation Organization
ICAO-TI	Technical instructions for the safe transport of dangerous goods by air
IMDG	International Maritime Dangerous Goods Code
IMDG-Code	International Maritime Dangerous Goods Code
LC50	Lethal Concentration 50%: the LC50 corresponds to the concentration of a tested substance causing 50 % lethality during a specified time interval
log KOW	n-Octanol/water
M-factor	Means a multiplying factor. It is applied to the concentration of a substance classified as hazardous to the aquatic environment acute category 1 or chronic category 1, and is used to derive by the summation method the classification of a mixture in which the substance is present
NLP	No-Longer Polymer
PBT	Persistent, Bioaccumulative and Toxic
PNEC	Predicted No-Effect Concentration
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals
RID	Règlement concernant le transport International ferroviaire des marchandises Dangereuses (Regulations concerning the International carriage of Dangerous goods by Rail)
Skin Corr.	Corrosive to skin
Skin Irrit.	Irritant to skin
Skin Sens.	Skin sensitisation
STOT RE	Specific target organ toxicity - repeated exposure

Abbr.	Descriptions of used abbreviations
vPvB	Very Persistent and very Bioaccumulative

Key literature references and sources for data

Agreement concerning the International Carriage of Dangerous Goods by Road (ADR). Regulations concerning the International Carriage of Dangerous Goods by Rail (RID). International Maritime Dangerous Goods Code (IMDG). Dangerous Goods Regulations (DGR) for the air transport (IATA).

Classification procedure

Physical and chemical properties: The classification is based on tested mixture.
Health hazards, Environmental hazards: The method for classification of the mixture is based on ingredients of the mixture (additivity formula).

List of relevant phrases (code and full text as stated in section 2 and 3)

Code	Text
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.
H373	May cause damage to organs through prolonged or repeated exposure.
H400	Very toxic to aquatic life.
H411	Toxic to aquatic life with long lasting effects.
H413	May cause long lasting harmful effects to aquatic life.

Disclaimer

This information is based upon the present state of our knowledge. This SDS has been compiled and is solely intended for this product.