SAFETY DATA SHEET

SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1. **Product identifier:**
Bond

1.2. **Relevant identified uses of the substance or mixture and uses advised against:**
Adhesive for professional use. For industrial and professional use.
Quantity: 3 ml, 40 ml

1.3. **Details of the supplier of the safety data sheet:**

Information about the manufacturer:
Invicon Chemical Solutions GmbH
Schweizerstrasse 96
A-6830 Rankweil
Tel: +43-(0)5522-45301
E-mail: office@invicon.at

1.3.1. Responsible person: -
E-mail: office@invicon.at

1.4. **Emergency telephone number:** +43-(0)5522-45301 (during business hours)

SECTION 2: HAZARDS IDENTIFICATION

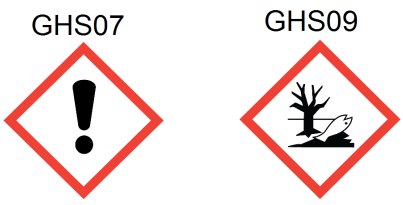
2.1. **Classification of the substance or mixture:**

Classification according to Regulation (EC) No 1272/2008 (CLP):
Skin corrosion/irritation, Hazard Category 2 – H315
Serious eye damage/eye irritation, Hazard Category 2 – H319
Sensitisation - Skin, hazard category 1A – H317
Hazardous to the aquatic environment – Chronic Hazard, Category 2 – H411

Hazard statements:
H315 – Causes skin irritation.
H317 – May cause an allergic skin reaction.
H319 – Causes serious eye irritation.
H411 – Toxic to aquatic life with long lasting effects.

2.2. **Label elements:**

Components that define the hazards: 1,3-Propanediol, 2-ethyl-2-(hydroxymethyl)-, polymer with oxirane, 4-(dimethylamino)-benzoate; Ethyl phenyl(2,4,6-trimethylbenzoyl)phosphinate; Propylidyne-trimethanol, ethoxylated, esters with acrylic acid, reaction products with diethylamine; (5-Ethyl-1,3-dioxan-5-yl)methyl acrylate; 2-Ethyl-2-[[(1-oxoallyl)oxy]-methyl]-1,3-propanediyl diacrylate; 7,7,9(or 7,9,9)-trimethyl-4,13-dioxo-3,14-dioxa-5,12-diazahexadecane-1,16-diyl bismethacrylate



WARNING

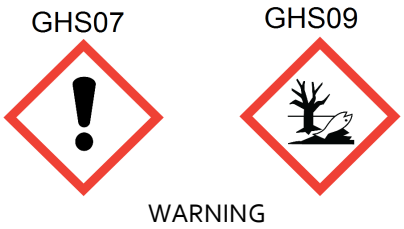
Hazard statements:

H315 – Causes skin irritation.
H317 – May cause an allergic skin reaction.
H319 – Causes serious eye irritation.
H411 – Toxic to aquatic life with long lasting effects.

Precautionary statements:
P264 – Wash hands thoroughly after handling.
P273 – Avoid release to the environment.
P280 – Wear protective gloves/eye protection/face protection.
P302 + **P352** – IF ON SKIN: Wash with plenty of water.
P333 + **P313** – If skin irritation or rash occurs: Get medical advice/ attention.
P305 + **P351** + **P338** – IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P337 + P313 – If eye irritation persists: Get medical advice/ attention.
P501 – Dispose of contents/container in accordance with local/national regulations.

Labelling of packages where the contents do not exceed 125 ml

Components that define the hazards: 1,3-Propanediol, 2-ethyl-2-(hydroxymethyl)-, polymer with oxirane, 4-(dimethylamino)-benzoate; Ethyl phenyl(2,4,6-trimethylbenzoyl)phosphinate; Propylidyne-trimethanol, ethoxylated, esters with acrylic acid, reaction products with diethylamine; (5-Ethyl-1,3-dioxan-5-yl)methyl acrylate; 2-Ethyl-2-[[(1-oxoallyl)oxy]-methyl]-1,3-propanediyl diacrylate; 7,7,9(or 7,9,9)-trimethyl-4,13-dioxo-3,14-dioxa-5,12-diazahexadecane-1,16-diyl bismethacrylate



Hazard statements:
H317 – May cause an allergic skin reaction.

Precautionary statements:
P280 – Wear protective gloves/eye protection/face protection.
P302 + **P352** – IF ON SKIN: Wash with plenty of water.
P333 + **P313** – If skin irritation or rash occurs: Get medical advice/ attention.

2.3. **Other hazards:**
The product has no other known specific hazards for human or environment.
Results of PBT and vPvB assessment: Based on available data, the product does not contain ingredients that meet the criteria for PBT or vPvB substances.
Other information:
2-(2H-Benzotriazol-2-yl)-p-cresol (CAS: 2440-22-4) - Under assessment as Persistent, Bioaccumulative and Toxic
Endocrine disrupting property: Based on available data, does not contain endocrine disruptors.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1. **Substances:**
Not applicable.

3.2. **Mixtures:**

Description	CAS number	EC number / ECHA list number	REACH registration number	Conc. (%)	Classification according to Regulation (EC) No 1272/2008 (CLP)		
					Pictogram, signal word code(s)	Hazard class and category code(s)	Hazard statement code(s)
1,3-Propanediol, 2-ethyl-2-(hydroxymethyl)-, polymer with oxirane, 4-(dimethylamino)-benzoate*	2067275-86-7	862-976-1	-	0.1 – 1	GHS07 Warning	Skin Sens. 1B Aquatic Chronic 4	H317 H413
2-(2H-Benzotriazol-2-yl)-p-cresol*	2440-22-4	219-470-5	-	0.01 – 0.1	GHS07 GHS09 Warning	Skin Sens. 1B Aquatic Chronic 1	H317 H410
Ethyl phenyl(2,4,6-trimethylbenzoyl)-phosphinate*	84434-11-7	282-810-6	01-2119987994-10	0.1 – 2	GHS07 GHS09 Warning	Skin Sens. 1B Aquatic Chronic 2	H317 H411
Exo-1,7,7-trimethylbicyclo[2.2.1]hept-2-yl methacrylate*	7534-94-3	231-403-1	01-2119886505-27	10 – 20	GHS07 Warning	Skin Irrit. 2 Eye Irrit. 2 STOT SE 3 Aquatic Chronic 3	H315 H319 H335 H412
Pentaerythritol, ethoxylated, esters with acrylic acid*	51728-26-8	500-111-9	01-2119969962-19	5 – 10	GHS07 GHS09 Warning	Skin Irrit. 2 Eye Irrit. 2 Aquatic Chronic 2	H315 H319 H411
Propylidyne-trimethanol, ethoxylated, esters with acrylic acid, reaction products with diethylamine*	159034-91-0	500-425-6	01-2119976593-23	2 – 7.5	GHS07 Warning	Skin Sens. 1A Eye Irrit. 2	H317 H319
Aliphatic Urethane Methacrylate*	82339-26-2	817-894-0	-	20 – 30	GHS07 Warning	Skin Irrit. 2 Eye Irrit. 2	H315 H319
(5-Ethyl-1,3-dioxan-5-yl)methyl acrylate*	66492-51-1	266-380-7	01-2119976303-36	5 – 20	GHS07 GHS09 Warning	Skin Irrit. 2 Skin Sens. 1 Aquatic Chronic 2	H315 H317 H411
2-Ethyl-2-[[(1-oxoallyl)oxy]-methyl]-1,3-propanediyl diacrylate Index number: 607-111-00-9	15625-89-5	239-701-3	01-2119489896-11	0.1 – 1	GHS08 GHS07 GHS09 Warning	Carc. 2 Skin Irrit. 2 Eye Irrit. 2 Skin Sens. 1 Aquatic Acute 1 M = 1 Aquatic Chronic 1 M = 1	H351 H315 H319 H317 H400 H410
7,7,9(or 7,9,9)-trimethyl-4,13-dioxo-3,14-dioxa-5,12-diazahexadecane-1,16-diyl-bismethacrylate*	72869-86-4	276-957-5	01-2120751202-68	10 – 20	GHS07 GHS09 Warning	Skin Sens. 1B Aquatic Chronic 2	H317 H411

*: Classification specified by the manufacturer; the substance is not listed in Annex VI of the Regulation (EC) No 1272/2008.

It does not contain any other substance considered to be hazardous to health or to the environment, which is classified as a PBT or vPvB substance, which has a workplace exposure limit value, or its concentration does not reach the level specified in the relevant legislation and therefore it does not need to be included in the safety data sheet.

For the full text of hazard statements, see Section 16.

SECTION 4: FIRST AID MEASURES

4.1. **Description of first aid measures:**

General information: Remove contaminated and soaked clothing immediately and dispose of it safely.

INGESTION:

Measures:

- Rinse mouth with water.
- Give the victim plenty of water to drink.
- Obtain immediate medical attention.

INHALATION:

Measures:

- Take the victim into fresh air, loosen his clothes and let him rest.
- In case of complaints, obtain medical help.

SKIN CONTACT:

Measures:

- Wash the skin with plenty of water and soap.
- If skin irritation or rash occurs: Get medical advice/attention.

EYE CONTACT:

Measures:

- In case of contact with eyes flush with water holding eyelids apart and moving the eyeballs.
- If eye irritation persists, consult a specialist.

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

Causes skin irritation.
May cause an allergic skin reaction.
Causes serious eye irritation.

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

No special treatment needed; treat symptomatically.

SECTION 5: FIREFIGHTING MEASURES

5.1. **Extinguishing media:**

5.1.1. **Suitable extinguishing media:**

Water fog, foam, dry chemical, carbon dioxide.
Choose extinguishing media depending on surrounding fire.

5.1.2. **Unsuitable extinguishing media:**

No unsuitable extinguishing media known.

5.2. **Special hazards arising from the substance or mixture:**

The formation of dangerous decomposition products greatly depends on the circumstances of the combustion. A complex mixture of airborne solid, liquid and gas substances may occur, such as carbon monoxide, carbon dioxide and unidentified compounds.
The inhalation of such combustion products can have serious adverse effects on health.

5.3. **Advice for firefighters:**

Wear full protective clothing and self-contained breathing apparatus.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1. **Personal precautions, protective equipment and emergency procedures:**

6.1.1. **For non-emergency personnel:**

Allow only well-trained experts wearing suitable protective clothing to abide in the field of accident.

6.1.2. **For emergency responders:**

Avoid contact with skin, eyes and clothing.
Wear appropriate personal protective equipment.

6.2. Environmental precautions:

Dispose of the spillage and the resulting waste according to the applicable environmental regulations. Do not allow the product and the resulting waste to enter sewers/soil/surface or ground water. Notify the respective authorities in accordance with local law in the case of environmental pollution immediately.

6.3. Methods and material for containment and cleaning up:

Collect the spilled product with absorbent (sawdust, diatomaceous earth, universal binder), then place into a suitable, closed, properly labelled chemical waste container for removal/disposal.
Dispose of the collected waste as described in Section 13.

6.4. Reference to other sections:

For further and detailed information see Sections 8 and 13.

SECTION 7: HANDLING AND STORAGE

7.1. Precautions for safe handling:

Observe conventional hygiene precautions.
Avoid contact with skin, eyes and clothing.
Do not eat, drink, or smoke when using this product.
Wash hands thoroughly after the use of this product.
Take off contaminated clothing and wash it before reuse.
Avoid release to the environment.
Observe the pertinent regulations on industrial safety and basic hygiene rules.

Technical measures:
No special measures required.

Precautions against fire and explosion:
General measures of preventive fire protection.

7.2. Conditions for safe storage, including any incompatibilities:

Technical measures and storage condition:
Keep in the original, closed and appropriately labelled container.
Opened containers should be carefully closed and stored in a vertical position to avoid any leakage.
Keep away from food, drink and animal feed.
Storage temperature: Store at room temperature.
Incompatible materials: See Section 10.5.
Packaging material: No special prescriptions.

7.3. Specific end use(s):

No specific instructions available.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control parameters:

Occupational exposure limit values (Commission Directive (EC) No 2000/39 of 8 June 2000):
The components of the mixture are not regulated with exposure limit value.

Exo-1,7,7-trimethylbicyclo[2.2.1]hept-2-yl methacrylate (CAS: 7534-94-3):

DNEL values		Oral exposure		Dermal exposure		Inhalative exposure	
		Short term (acute)	Long term (chronic)	Short term (acute)	Long term (chronic)	Short term (acute)	Long term (chronic)
Consumer	Local	no data	no data	no data	no data	no data	no data
	Systemic	no data	no data	no data	0.625 mg/kg	no data	no data
Worker	Local	no data	no data	no data	no data	no data	no data
	Systemic	no data	no data	no data	1.04 mg/kg	no data	no data

PNEC values		
Compartment	Value	Note(s)
Freshwater	4.66 µg/l	no notes
Marine water	0.466 µg/l	no notes
Freshwater sediment	0.604 mg/kg dw	no notes

Marine water sediment	0.06 mg/kg dw	no notes
Sewage Treatment Plant (STP)	2.45 mg/l	no notes
Intermittent release	17.9 µg/l	no notes
Secondary poisoning	no data	no notes
Soil	0.118 mg/kg dw	no notes

(5-Ethyl-1,3-dioxan-5-yl)methyl acrylate (CAS: 66492-51-1):

PNEC values		
Compartment	Value	Note(s)
Freshwater	4 µg/l	no notes
Marine water	19 µg/l	no notes
Freshwater sediment	2 µg/kg	no notes
Marine water sediment	no data	no notes
Sewage Treatment Plant (STP)	30 mg/l	no notes
Intermittent release	no data	no notes
Secondary poisoning	no data	no notes
Soil	1 µg/kg	no notes

7,7,9 (or 7,9,9)-Trimethyl-4,13-dioxo-3,14-dioxa-5,12-diazahexadecane-1,16-diyl-bismethacrylate (CAS: 72869-86-4):

DNEL values	
Oral	0.3 mg/kg bw/day
Dermal	0.7 mg/kg bw/day
Inhalation	0.6 mg/m³

PNEC values		
Compartment	Value	Note(s)
Freshwater	0.01 mg/l	no notes
Marine water	0.001 mg/l	no notes
Freshwater sediment	4.56 mg/kg	no notes
Marine water sediment	0.46 mg/kg	no notes
Sewage Treatment Plant (STP)	3.61 mg/l	no notes
Intermittent release	no data	no notes
Secondary poisoning	no data	no notes
Soil	0.91 mg/kg	no notes

8.2. **Exposure controls:**

In case of a hazardous material with no controlled concentration limit it is the employer's duty to keep concentration levels down to a minimum achievable by existing scientific and technological means, where the hazardous substance poses no harm to workers.

8.2.1. **Appropriate engineering controls:**

In pursuance of work is proper foresight needed to avoid leaking onto clothes and floors and to avoid contact with eyes and skin.

8.2.2. **Individual protection measures, such as personal protective equipment:**

Observe the general safety regulations when handling chemicals.
Contact with eyes, skin and clothing should be avoided.
Do not eat, drink, or smoke when using this product.
Wash hands and/or face before breaks and immediately after handling the product.
Observe the pertinent regulations on industrial safety and basic hygiene rules.
The information regarding personal protective equipment is only for informative purposes. A complete risk assessment is required before the use of the product for the determination of the appropriate personal protective equipment, taking local circumstances into account.

1. **Eye/face protection:** Use appropriate protective glasses (EN ISO 16321-1:2022; EN 166).
2. **Skin protection:**
    a. **Hand protection:** Use appropriate protective gloves (EN 374).
    For short-term contact or if splashes may occur: Recommended minimum protection index 2, penetration time > 30 minutes, nitrile rubber (NBR), thickness ≥ 0.4 mm.

For direct and prolonged contact: Recommended protection index 6, penetration time > 480 minutes, nitrile rubber (NBR), thickness ≥ 0.4 mm.
The glove material should be impermeable and resistant to the product.
Select glove material based on the penetration time, rates of diffusion and degradation.
The selection of suitable gloves does not only depend on the material, but also on further marks of quality which may vary from manufacturer to manufacturer.
As the product is a mixture of several substances, the resistance of the glove material cannot be calculated in advance and has therefore to be checked before use.
The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

b. **Other:** Use appropriate protective clothing.

3. **Respiratory protection:** In case of normal condition of use and adequate ventilation, not required.
4. **Thermal hazards:** No thermal hazards known.

8.2.3. **Environmental exposure controls:**
Avoid release to the environment.
The requirements detailed in Section 8 assume skilled work under normal conditions and usage of the product for appropriate aims. If conditions differ from normal or work is carried out under extreme conditions, an expert's advice is necessary before deciding upon further protective measures.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. **Information on basic physical and chemical properties:**

	Parameter	Value / Test method / Remarks
1.	Physical state	liquid
2.	Colour	clear and colourless
3.	Odour, odour threshold	specific
4.	Melting point/freezing point	no data*
5.	Boiling point or initial boiling point and boiling range	no data*
6.	Flammability	not flammable
7.	Lower and upper explosion limit	no data*
8.	Flash point	no data*
9.	Auto-ignition temperature	no data*
10.	Decomposition temperature	no data*
11.	pH	no data*
12.	Kinematic viscosity	no data*
13.	Solubility in water in other solvents	no data* no data*
14.	Partition coefficient n-octanol/water (log value)	no data*
15.	Vapour pressure	no data*
16.	Density and/or relative density	no data*
17.	Relative vapour density	no data*
18.	Particle characteristics	no data*

9.2. **Other information:**

9.2.1. **Information with regard to physical hazard classes:**
No further data available or not applicable for the product.

9.2.2. **Other safety characteristics:**
No other characteristics available.

*: The manufacturer did not carry out any tests on this parameter for the product or the results of the tests are not available at the time of publication of the data sheet, or the property is not applicable for the product.

SECTION 10: STABILITY AND REACTIVITY

10.1. **Reactivity:**
No reactivity known.

10.2. **Chemical stability:**
Stable within normal temperature and under general work conditions.

10.3. **Possibility of hazardous reactions:**
No hazardous reactions known.

10.4. **Conditions to avoid:**
No conditions to avoid known.

10.5. **Incompatible materials:**
No incompatible materials known.

10.6. **Hazardous decomposition products:**
No hazardous decomposition products known.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1. **Information on hazard classes as defined in Regulation (EC) No 1272/2008:**
Acute toxicity: Based on available data, the classification criteria are not met.
Skin corrosion/irritation: Causes skin irritation.
Serious eye damage/irritation: Causes serious eye irritation.
Respiratory or skin sensitisation: May cause an allergic skin reaction.
Germ cell mutagenicity: Based on available data, the classification criteria are not met.
Carcinogenicity: Based on available data, the classification criteria are not met.
Reproductive toxicity: Based on available data, the classification criteria are not met.
STOT-single exposure: Based on available data, the classification criteria are not met.
STOT-repeated exposure: Based on available data, the classification criteria are not met.
Aspiration hazard: Based on available data, the classification criteria are not met.

11.1.1. **Summaries of the information derived from the test conducted:**
No data available.

11.1.2. **Relevant toxicological properties:**
No data available about the product.
Information about the components:
Acute toxicity:
1,3-Propanediol, 2-ethyl-2-(hydroxymethyl)-, polymer with oxirane, 4-(dimethylamino)-benzoate (CAS: 2067275-86-7):
LD50 (dermal, rat): >2000 mg/kg bw/24 h (OECD 402)
LD50 (oral, rat): >2000 mg/kg bw (OECD 423)
2-(2H-Benzotriazol-2-yl)-p-cresol (CAS: 2440-22-4):
LD50 (oral, rat): >10,000 mg/l (OECD 423)
LC50 (inhalation, rat): >0.59 mg/l/4 h (OECD 403)
LD50 (dermal, rat): >2000 mg/kg (OECD 402)
Ethyl phenyl(2,4,6-trimethylbenzoyl) phosphinate (CAS: 84434-11-7):
LD50 (oral, rat): >5000 mg/kg
LD50 (dermal, rat): >2000 mg/kg
Exo-1,7,7-trimethylbicyclo[2.2.1]hept-2-yl methacrylate (CAS: 7534-94-3):
LD50 (oral, rat): 3100 – 6700 mg/l
LD50 (dermal, rabbit): >3000 mg/kg
Pentaerythritol, ethoxylated, esters with acrylic acid (CAS: 51728-26-8):
LD50 (oral, rat): >2000 mg/kg bw (OECD 423)
LD50 (dermal, rat): >2000 mg/kg bw/24 h (OECD 402)
Propylidyne-trimethanol, ethoxylated, esters with acrylic acid, reaction products with diethylamine (CAS: 159034-91-0):
LD50 (dermal, rat): >2000 mg/kg bw/24 h (OECD 402)
LD50 (oral, rat): >2000 mg/kg bw (OECD 423)
(5-Ethyl-1,3-dioxan-5-yl)methyl acrylate (CAS: 66492-51-1):
LD50 (oral, rat): 2001 mg/kg
LD50 (dermal, rat): 2001 mg/kg
2-Ethyl-2-[[(1-oxoallyl)oxy]methyl]-1,3-propanediyl diacrylate (CAS: 15625-89-5):
LD50 (oral, rat): >5000 mg/kg
LD50 (dermal, rabbit): >5000 mg/kg/24 h

7,7,9 (or 7,9,9)-Trimethyl-4,13-dioxo-3,14-dioxa-5,12-diazahexadecane-1,16-diyl-bismethacrylate (CAS: 72869-86-4):
LD50 (oral, rat): > 5000 mg/kg (OECD 401)
LD50 (dermal, rat, 24 hours): > 2000 mg/kg (OECD 402)

Skin corrosion/irritation:

1,3-Propanediol, 2-ethyl-2-(hydroxymethyl)-, polymer with oxirane, 4- (dimethylamino)-benzoate (CAS: 2067275-86-7):
Non-irritant (rabbit, 0.5 g/4 h, OECD 404)
2-(2H-Benzotriazol-2-yl)-p-cresol (CAS: 2440-22-4):
Non-irritant (rabbit, OPP 81-5 (EPA-Guideline))
Exo-1,7,7-trimethylbicyclo[2.2.1]hept-2-yl methacrylate (CAS: 7534-94-3):
In animals: Mild skin irritation (OECD 404)
Pentaerythritol, ethoxylated, esters with acrylic acid (CAS: 51728-26-8):
Irritant (in vitro, EPISKIN™, OECD 439)
Propylidyne-trimethanol, ethoxylated, esters with acrylic acid, reaction products with diethylamine (CAS: 159034-91-0):
Mild skin irritant (rabbit, 0.5 ml/24 h, US Federal Register 1973, Vol.38, No.187, Section 1500:41)
Aliphatic Urethane Methacrylate (CAS: 82339-26-2):
Irritating to the skin.
(5-Ethyl-1,3-dioxan-5-yl)methyl acrylate (CAS: 66492-51-1):
Irritating (rabbit, 0.5 ml/4 hours, OECD 404)
2-Ethyl-2-[[(1-oxoallyl)oxy]methyl]-1,3-propanediyl diacrylate (CAS: 15625-89-5):
Irritating (rabbit, 0.5 ml/4 hours, OECD 404)

Serious eye damage/irritation:
1,3-Propanediol, 2-ethyl-2-(hydroxymethyl)-, polymer with oxirane, 4- (dimethylamino)-benzoate (CAS: 2067275-86-7):
Non-irritant (ex vivo, 0.003 ml, OECD 438)
2-(2H-Benzotriazol-2-yl)-p-cresol (CAS: 2440-22-4):
Non-irritant (rabbit, OECD 405)
Exo-1,7,7-trimethylbicyclo[2.2.1]hept-2-yl methacrylate (CAS: 7534-94-3):
Not irritating to the eyes.
Pentaerythritol, ethoxylated, esters with acrylic acid (CAS: 51728-26-8):
Irritant (rabbit, 0.1 ml/24 h, OECD 405)
Propylidyne-trimethanol, ethoxylated, esters with acrylic acid, reaction products with diethylamine (CAS: 159034-91-0):
Irritant (rabbit, 0.1 ml/24 h, OECD 405)
Aliphatic Urethane Methacrylate (CAS: 82339-26-2):
Irritating to the eyes.
(5-Ethyl-1,3-dioxan-5-yl)methyl acrylate (CAS: 66492-51-1):
Irritating (rabbit, OECD 405)
2-Ethyl-2-[[(1-oxoallyl)oxy]methyl]-1,3-propanediyl diacrylate (CAS: 15625-89-5):
Irritating (rabbit, 0.1 ml)

Skin sensitisation:
1,3-Propanediol, 2-ethyl-2-(hydroxymethyl)-, polymer with oxirane, 4- (dimethylamino)-benzoate (CAS: 2067275-86-7):
May cause sensitisation by skin contact (mouse, OECD 429)
2-(2H-Benzotriazol-2-yl)-p-cresol (CAS: 2440-22-4):
Guinea pig maximization test guinea pig: skin sensitizing (OECD Guideline 406)
Ethyl phenyl(2,4,6-trimethylbenzoyl) phosphinate (CAS: 84434-11-7):
Rabbit, skin: Sensitizing (OECD 429: Skin Sensitisation: Local Lymph Node Assay)
Exo-1,7,7-trimethylbicyclo[2.2.1]hept-2-yl methacrylate (CAS: 7534-94-3):
No sensitisation by skin contact
In animals: No skin allergy was observed (OECD 406, Guinea pig)
Pentaerythritol, ethoxylated, esters with acrylic acid (CAS: 51728-26-8):
Not a skin sensitiser (guinea pig, OECD 406)
Propylidyne-trimethanol, ethoxylated, esters with acrylic acid, reaction products with diethylamine (CAS: 159034-91-0):
Sensitising (mouse, OECD 429)
Aliphatic Urethane Methacrylate (CAS: 82339-26-2):
Sensitisation through skin contact possible.
(5-Ethyl-1,3-dioxan-5-yl)methyl acrylate (CAS: 66492-51-1):
Sensitiser (mouse, OECD 429)
2-Ethyl-2-[[(1-oxoallyl)oxy]methyl]-1,3-propanediyl diacrylate (CAS: 15625-89-5):
Sensitiser (human, analogy)
7,7,9 (or 7,9,9)-Trimethyl-4,13-dioxo-3,14-dioxa-5,12-diazahexadecane-1,16-diyl-bismethacrylate (CAS: 72869-86-4):
OECD 429 (Local lymph node test) (dermal, rabbit): Sensitizing.

Germ cell mutagenicity:
1,3-Propanediol, 2-ethyl-2-(hydroxymethyl)-, polymer with oxirane, 4- (dimethylamino)-benzoate (CAS: 2067275-86-7):
Not mutagenic (in vitro, OECD 476)
Mutagenic (in vitro, OECD 473)
Not mutagenic (in vitro, OECD 471)
2-(2H-Benzotriazol-2-yl)-p-cresol (CAS: 2440-22-4):

Mutagenicity tests revealed no genotoxic potential.
Exo-1,7,7-trimethylbicyclo[2.2.1]hept-2-yl methacrylate (CAS: 7534-94-3):
Ames test in vitro: No effect (OECD 471)
Chromosome aberration test in vitro: No effect (OECD 473)
- In vitro mutation tests with mammalian cells: No effect (OECD 476)
Pentaerythritol, ethoxylated, esters with acrylic acid (CAS: 51728-26-8):
Not mutagenic (in vitro, OECD 471)
Not mutagenic (mouse, OECD 474)
Propylidyne-trimethanol, ethoxylated, esters with acrylic acid, reaction products with diethylamine (CAS: 159034-91-0):
Mutagenic (in vitro, OECD 476)
Mutagenic (in vitro, OECD 471)
Not mutagenic (in vitro, OECD 487)
Not mutagenic (rat, OECD 489)

Carcinogenicity:
2-(2H-Benzotriazol-2-yl)-p-cresol (CAS: 2440-22-4):
In long-term studies in rats and mice in which the substance was given by feed, a carcinogenic effect was not observed.

Reproductive toxicity:
2-(2H-Benzotriazol-2-yl)-p-cresol (CAS: 2440-22-4):
Repeated oral uptake of the substance did not cause damage to the reproductive organs.
In animal studies the substance did not cause malformations.
Ethyl phenyl(2,4,6-trimethylbenzoyl) phosphinate (CAS: 84434-11-7):
NOAEL (oral, rat): 300 mg/kg bw/day (OECD 414: Prenatal Developmental Toxicity Study)
Exo-1,7,7-trimethylbicyclo[2.2.1]hept-2-yl methacrylate (CAS: 7534-94-3):
No toxic effects on fertility
NOAEL (parental toxicity): 25 mg/kg bw/day
NOAEL (fertility): 500 mg/kg bw/day
(Method: OECD Test Guideline 421, Rat, Oral)
Pentaerythritol, ethoxylated, esters with acrylic acid (CAS: 51728-26-8):
NOAEL (oral, rat): 200 mg/kg bw/day (max. 47 days, OECD 422)
NOAEL (oral, rabbit): 75 mg/kg bw/day (29 days, OECD 414)
Propylidyne-trimethanol, ethoxylated, esters with acrylic acid, reaction products with diethylamine (CAS: 159034-91-0):
NOAEL (oral, rat): 300 mg/kg bw/day (max. 47 days, OECD 421)
NOAEL (oral, rat): 600 mg/kg bw/day (max. 47 days, OECD 421)
7,7,9 (or 7,9,9)-Trimethyl-4,13-dioxo-3,14-dioxa-5,12-diazahexadecane-1,16-diyl-bismethacrylate (CAS: 72869-86-4):
NOAEL (oral, rat, 64 days): 300 mg/kg bw/day (OECD 422, Combined Repeated Dose Toxicity Study with the Reproduction/Developmental Toxicity Screening Test)

11.1.3. Information on likely routes of exposure:
Ingestion, inhalation, skin contact, eye contact.

11.1.4. Symptoms related to the physical, chemical and toxicological characteristics:
No data available.

11.1.5. Delayed and immediate effects as well as chronic effects from short and long-term exposure:
Causes skin irritation.
May cause an allergic skin reaction.
Causes serious eye irritation.

11.1.6. Interactive effects:
No data available.

11.1.7. Absence of specific data:
No information.

11.2. Information on other hazards:
Endocrine disrupting properties:
Endocrine disrupting property: Based on available data, does not contain endocrine disruptors.
Other information:
There are no toxicological tests available for this product. Classification is based on the properties of relevant components.

SECTION 12: ECOLOGICAL INFORMATION

12.1. Toxicity:
Toxic to aquatic life with long lasting effects.
Information about the components:

2-(2H-Benzotriazol-2-yl)-p-cresol (CAS: 2440-22-4):
LC50 (Oncorhynchus mykiss): >0.17 mg/l/96 h (OECD 203)
EC50 (Daphnia magna): >1000 mg/l/24 h (OECD 202)
EC50 (Desmodesmus subspicatus): >100 mg/l/72 h (Directive 88/302/EEC, part C, p. 89)
NOEC (Desmodesmus subspicatus) : 33 mg/l/72 h (OECD 201)
EC20 (activated sludge): >100 mg/l/3 h (OECD 209)
NOEC (Daphnia magna): 0.013 mg/l/21 d (OECD 211)
Ethyl phenyl(2,4,6-trimethylbenzoyl) phosphinate (CAS: 84434-11-7):
EC50 (algae/aquatic plant): 1.01 mg/l/72 h (OECD 201)
LC50 (fish, Danio rerio): 1.89 mg/l/96h
LC50 (crustaceans): 2.26 mg/l/48h (OECD 202)
Exo-1,7,7-trimethylbicyclo[2.2.1]hept-2-yl methacrylate (CAS: 7534-94-3):
LC50 (Danior rerio): 1.79 mg/l/96 h (OECD 203)
ErC50 (Pseudokirchneriella subcapitata): 2.28 mg/l/72 h (OECD 201)
NOEC (Daphnia magna): 0.233 mg/l/21 days (OECD 211)
ErC10 (Pseudokirchneriella subcapitata): 0.751 mg/l/72 h (OECD 201)
Pentaerythritol, ethoxylated, esters with acrylic acid (CAS: 51728-26-8):
EC50 (algae/aquatic plants): >100 mg/l/72 h (OECD 201)
LC50 (Danio rerio): 1.76 mg/l/96 h (OECD 203)
EC50 (microorganisms): >100 mg/l (OECD 209)
EC50 (crustacea): >90.94 mg/l/48 h (OECD 202)
Propylidyne-trimethanol, ethoxylated, esters with acrylic acid, reaction products with diethylamine (CAS: 159034-91-0):
EC50 (algae/aquatic plants): 47 mg/l/72 h (OECD 201)
LC50 (fish): >100 mg/l/96 h (OECD 203)
EC50 (microorganisms): >100 mg/l/3 h (OECD 209)
EC50 (microorganisms): 22 mg/l/3 h (OECD 209)
EC50 (crustacea): >100 mg/l/48 h (OECD 202)
(5-Ethyl-1,3-dioxan-5-yl)methyl acrylate (CAS: 66492-51-1):
EC50 (algae/aquatic plants): 34 mg/l/72 (OECD 201)
LC50 (Oncorhynchus mykiss): 4 mg/l/96 h
EC50 (crustacea): 20 mg/l/48 h (OECD 202)
2-Ethyl-2-[[(1-oxoallyl)oxy]methyl]-1,3-propanediyl diacrylate (CAS: 15625-89-5):
EC50 (algae/aquatic plants): 4.9 mg/l/72 (OECD 201)
LC50 (fish): 1.47 mg/l/96 h (OECD 203)
EC50 (microorganisms): 625 mg/l (OECD 209)
EC50 (crustacea): 19.9 mg/l/48 h (OECD 202)
7,7,9 (or 7,9,9)-Trimethyl-4,13-dioxo-3,14-dioxa-5,12-diazahexadecane-1,16-diyl-bismethacrylate (CAS: 72869-86-4):
EC50 (algae): > 0.68 mg/l/72h (OECD 201, Freshwater Alga and Cyanobacteria, Growth Inhibition Test)
EC50 (Daphnia magna): > 1.2 mg/l/48h (OECD 202, Daphnia sp. Acute Immobilisation Test)
EC50 (fish): 10.1 mg/l/96h (OECD 203, Fish, Acute Toxicity Test)

12.2. **Persistence and degradability:**
Information about the components:
1,3-Propanediol, 2-ethyl-2-(hydroxymethyl)-, polymer with oxirane, 4- (dimethylamino)-benzoate (CAS: 2067275-86-7):
Not readily biodegradable.
5.1 % / 28 days (OECD 301 B)
2-(2H-Benzotriazol-2-yl)-p-cresol (CAS: 2440-22-4):
Poorly biodegradable.
0 % / 28 days (OECD 301B; ISO 9439; 92/69/EEC, C.4-C)
Exo-1,7,7-trimethylbicyclo[2.2.1]hept-2-yl methacrylate (CAS: 7534-94-3):
Readily biodegradable: 70 % / 28 days (OECD 310)
Pentaerythritol, ethoxylated, esters with acrylic acid (CAS: 51728-26-8):
27 % / 28 day (OECD 301F). Not readily biodegradable.
Propylidyne-trimethanol, ethoxylated, esters with acrylic acid, reaction products with diethylamine (CAS: 159034-91-0):
6 % / 28 day (OECD 301D). Not readily biodegradable.
7,7,9 (or 7,9,9)-Trimethyl-4,13-dioxo-3,14-dioxa-5,12-diazahexadecane-1,16-diyl-bismethacrylate (CAS: 72869-86-4):
Not easily biodegradable.

12.3. **Bioaccumulative potential:**
No data available about the product.
Information about the components:
2-(2H-Benzotriazol-2-yl)-p-cresol (CAS: 2440-22-4):
May be accumulated in organisms.

BCF (Cyprinus carpio): 548 – 895 (70 days) (OECD 305 C)
BCF (Cyprinus carpio): 44 – 220 (56 days) (OECD 305 C)
Exo-1,7,7-trimethylbicyclo[2.2.1]hept-2-yl methacrylate (CAS: 7534-94-3):
Low potential for bioaccumulation
Partition coefficient: n-octanol/water: log Kow: 5.09 (OECD 117)
Pentaerythritol, ethoxylated, esters with acrylic acid (CAS: 51728-26-8):
log Pow: 2.29
Propylidyne-trimethanol, ethoxylated, esters with acrylic acid, reaction products with diethylamine (CAS: 159034-91-0):
log Pow: 1.86
(5-Ethyl-1,3-dioxan-5-yl)methyl acrylate (CAS: 66492-51-1):
Partition coefficient: 1.9
2-Ethyl-2-[[(1-oxoallyl)oxy]methyl]-1,3-propanediyl diacrylate (CAS: 15625-89-5):
Partition coefficient: 4.35
7,7,9 (or 7,9,9)-Trimethyl-4,13-dioxo-3,14-dioxa-5,12-diazahexadecane-1,16-diyl-bismethacrylate (CAS: 72869-86-4):
Partition coefficient: 3.39

12.4. **Mobility in soil:**
Information about the components:
2-(2H-Benzotriazol-2-yl)-p-cresol (CAS: 2440-22-4):
Volatility: The substance will not evaporate into the atmosphere from the water surface.
Adsorption in soil: Adsorption to solid soil phase is expected.
Exo-1,7,7-trimethylbicyclo[2.2.1]hept-2-yl methacrylate (CAS: 7534-94-3):
Vapour pressure: 0.075 hPa, 20 °C, (OECD 104)
Absorption/ Desorption: log Koc: 3.71 (OECD 121)

12.5. **Results of PBT and vPvB assessment:**
Based on available data, the product does not contain ingredients that meet the criteria for PBT or vPvB substances.
Other information:
2-(2H-Benzotriazol-2-yl)-p-cresol (CAS: 2440-22-4) - Under assessment as Persistent, Bioaccumulative and Toxic

12.6. **Endocrine disrupting properties:**
Endocrine disrupting property: Based on available data, does not contain endocrine disruptors.

12.7. **Other adverse effects:**
The product must not enter sewers, ground water, surface water or soil.

SECTION 13: DISPOSAL CONSIDERATIONS

13.1. **Waste treatment methods:**
Disposal according to the local regulations.

13.1.1. **Information regarding the disposal of the product:**
Product:
Dispose of in accordance with applicable regulations.
No special recommendation from the manufacturer.
Do not dispose of together with household waste. Do not empty into drains.
List of Waste Code:
No waste disposal key according to the List of Waste Code (LoW code) can be determined for this product, as only the purpose of application defined by the user enables an allocation. The LoW code number has to be determined after a discussion with a waste disposal specialist.

13.1.2. **Information regarding the disposal of the packaging:**
Dispose of in accordance with applicable regulations.

13.1.3. **Physical/chemical properties that may affect waste treatment options shall be specified:**
No data available.

13.1.4. **Sewage disposal:**
No data available.

13.1.5. **Special precautions for any recommended waste treatment:**
No data available.

SECTION 14: TRANSPORT INFORMATION

14.1. **UN number or ID number:**
ADR/RID, IMDG, IATA:

UN 3082

14.2. **UN proper shipping name:**

ADR/RID: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
IMDG: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S., MARINE POLLUTANT
IATA: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.

14.3. **Transport hazard class(es):**

9

14.4. **Packing group:**

III

14.5. **Environmental hazards:**

Marine pollutant: Yes.

14.6. **Special precautions for user:**

No relevant information available.

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:**

REGULATION (EC) No 1907/2006 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), establishing a European Chemicals Agency, amending Directive (EC) No 1999/45 and repealing Council Regulation (EEC) No 793/93 and Commission Regulation (EC) No 1488/94 as well as Council Directive (EEC) No 76/769 and Commission Directives (EEC) No 91/155, (EEC) No 93/67, (EC) No 93/105 and (EC) No 2000/21

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 (EEC) No 67/548 and (EC) No 1999/45, and amending Regulation (EC) No 1907/2006

COMMISSION REGULATION (EU) 2020/878 of 18 June 2020 amending Annex II to Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH)

Does not contain any substances listed in Annex XIV of Regulation (EC) 1907/2006 (REACH). (List of substances subject to authorisation).

Does not contain any substances included in the candidate list for Substances of Very High Concern (SVHC) according to Regulation (EC) 1907/2006 (REACH).

15.2. **Chemical safety assessment:** No information.

SECTION 16: OTHER INFORMATION

Information regarding the revision of the safety data sheet: No information.

Literature references / data sources:
Information provided by the manufacturer (composition, safety data sheets of the ingredients).

Methods used for the classification according to Regulation (EC) No 1272/2008:

Classification	Method
Skin corrosion/irritation, Hazard Category 2 – H315	Based on calculation method
Serious eye damage/eye irritation, Hazard Category 2 – H319	Based on calculation method
Sensitisation - Skin, hazard category 1A – H317	Based on calculation method
Hazardous to the aquatic environment – Chronic Hazard, Category 2 – H411	Based on calculation method

Relevant hazard statements (code and full text) of Sections 2 and 3:
H315 – Causes skin irritation.
H317 – May cause an allergic skin reaction.
H319 – Causes serious eye irritation.

H335 – May cause respiratory irritation.
H351 – Suspected of causing cancer <*state route of exposure if it is conclusively proven that no other routs of exposure cause the hazard*>.
H400 – Very toxic to aquatic life.
H410 – Very toxic to aquatic life with long lasting effects.
H411 – Toxic to aquatic life with long lasting effects.
H412 – Harmful to aquatic life with long lasting effects.
H413 – May cause long lasting harmful effects to aquatic life.

Training advice: No data available.

Full text of the abbreviations in the safety data sheet:
ADN: European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways.
ADR: Agreement concerning the International Carriage of Dangerous Goods by Road.
ATE: Acute Toxicity Estimate.
AOX: Adsorbable organic halides.
BCF: Bioconcentration factor.
BOD: Biological Oxygen Demand.
CAS number: Chemical Abstract Service number.
CLP: Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures.
CMR effects: Carcinogenic, mutagenic, reprotoxic effects.
COD: Chemical Oxygen Demand.
CSA: Chemical Safety Assessment.
CSR: Chemical Safety Report.
DNEL: Derived-No-Effect-Level.
ECHA: European Chemical Agency.
EC: European Community.
EC number: EINECS and ELINCS numbers (see also EINECS and ELINCS).
EEC: European Economic Community.
EEA: European Economic Area (EU + Iceland, Liechtenstein and Norway).
EINECS: European Inventory of Existing Commercial Chemical Substances.
ELINCS: European List of Notified Chemical Substances.
EN: European Norm.
EU: European Union.
EuPCS: European Product Categorisation System.
EWC: European Waste Catalogue (replaced by LoW – see below).
GHS: Globally Harmonized System of Classification and Labelling of Chemicals.
IATA: International Air Transport Association.
ICAO-TI: Technical Instructions for the Safe Transport of Dangerous Goods by Air.
IMDG: International Maritime Dangerous Goods.
IMO: International Maritime Organization.
IMSBC: International Maritime Solid Bulk Cargoes.
IUCLID: International Uniform Chemical Information Database.
IUPAC: International Union of Pure and Applied Chemistry.
Kow: n-Octanol - Water Partition Coefficient.
LC_{50}: Lethal concentration resulting in 50 % mortality.
LD_{50}: Lethal dose resulting in 50 % mortality (median lethal dose).
LoW: List of Waste.
LOEC: Lowest Observed Effect Concentration.
LOEL: Lowest Observed Effect Level.
NOEC: No Observed Effect Concentration.
NOEL: No Observed Effect Level.
NOAEC: No Observed Adverse Effect Concentration.
NOAEL: No Observed Adverse Effect Level.
OECD: Organization for Economic Cooperation and Development.
OSHA: Occupational Safety and Health Administration.
PBT: Persistent, Bioaccumulative and Toxic.
PNEC: Predicted No Effect Concentration.
QSAR: Quantitative Structure Activity Relationship.
REACH: Regulation 1907/2006/EC concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals.
RID: Regulations Concerning the International Transport of Dangerous Goods by Rail.
SCBA: Self Contained Breathing Apparatus.
SDS: Safety Data Sheet.
STOT: Specific Target Organ Toxicity.

SVHC: Substances of Very High Concern.
UN: United Nations.
UVCB: Chemical Substances of Unknown or Variable Composition, Complex Reaction Products and Biological Materials.
VOC: Volatile Organic Compound.
vPvB: very Persistent and very Bioaccumulative.

This safety data sheet had been prepared on the basis of information provided by the manufacturer/supplier and conform to the relevant regulations.
The information, data and recommendations contained herein are provided in good faith, obtained from reliable sources and believed to be true and accurate as of the date issued; however, no representation is made as to the comprehensiveness of the information.
The SDS shall be used only as a guide for handling the product; in the course of handling and using the product other considerations may arise or be required.
Users are cautioned to determine the appropriateness and applicability of the above information to their particular circumstances and purposes and assume all risk associated with the use of this product.
It is the responsibility of the user to fully comply with local, national and international regulations concerning the use of this product.

Safety data sheet was prepared by:
MSDS-Europe
International branch of ToxInfo Kft.

Professional help regarding the explanation of the safety data sheet:
+36 70 335 8480; info@msds-europe.com
www.msds-europe.com

SAFETY DATA SHEET

SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1. Product identifier:
HyCeram opaque colors / pearl colors / luminex colors / neon colors

In the following colours:
standard (opaque) colors: organic white, deep white, indian yellow, oriental orange, granada red, zircon red, columbia blue, coral blue, vitrol blue, arizona blue, inca turquoise, lotus green, lakota pink, persian violet, platin grey, veneto brown, onyx black, deep black
Silk: beige, blue, yellow, rose, green, moss
Vita: cyan, orange, lavender, kiwi, pink, yellow
Luxe: aubergine, ruby, coral, burgundy, green, forest
pearl colors: pearl white, pearl silver, pearl rose, pearl gold, pearl red, pearl bronze, pearl anthracite, sparkling brown, sparkling black
luminex colors: white, yellow, turquoise, green
neon colors: yellow, orange, pink, green

1.2. Relevant identified uses of the substance or mixture and uses advised against:
Colour material for jewellery and watch components and other accessories, for industrial and professional use.

1.3. Details of the supplier of the safety data sheet:

Information about the manufacturer:
Invicon Chemical Solutions GmbH
Schweizer Strasse 96
A-6830 Rankweil
Tel: +43-(0)5522-45301
E-mail: office@invicon.at

1.3.1. Responsible person: -
E-mail: office@invicon.at

1.4. Emergency telephone number: *+43-(0)5522-45301 (during business hours)*

SECTION 2: HAZARDS IDENTIFICATION

2.1. Classification of the substance or mixture:

Classification according to Regulation (EC) No 1272/2008 (CLP):
Sensitisation - Skin, hazard category 1B – H317
Hazardous to the aquatic environment – Chronic Hazard, Category 3 – H412

Hazard statements:
H317 – May cause an allergic skin reaction.
H412 – Harmful to aquatic life with long lasting effects.

2.2. Label elements:

Components that define the hazards: 7,7,9(or 7,9,9)-trimethyl-4,13-dioxo-3,14-dioxa-5,12-diazahexadecane-1,16-diyl bismethacrylate

Hazard statements:
H317 – May cause an allergic skin reaction.
H412 – Harmful to aquatic life with long lasting effects.

Precautionary statements:
P264 – Wash hands thoroughly after handling.
P273 – Avoid release to the environment.
P280 – Wear protective gloves/protective clothing.
P302 + **P352** – IF ON SKIN: Wash with plenty of water.
P333 + **P313** – If skin irritation or rash occurs: Get medical advice/attention.
P501 – Dispose of contents/container in accordance with local/national regulations.

Additional labelling element for the product pearl anthracite:
EUH 208 – Contains Tricobalt tetraoxide; Cobalt diiron tetraoxide. May produce an allergic reaction.

Additional labelling element for the product pearl white:
EUH 211 – Warning! Hazardous respirable droplets may be formed when sprayed. Do not breathe spray or mist.

2.3. Other hazards:

The product has no other known specific hazards for human or environment.
Results of PBT and vPvB assessment: Based on available data, the product does not contain ingredients that meet the criteria for PBT or vPvB substances.
Endocrine disrupting property: Based on available data, does not contain endocrine disruptors.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1. Substances:

Not applicable.

3.2. Mixtures:

Description: Mixture of substances listed below with non-hazardous additives and miscellaneous pigments.
It does not contain any other substance considered to be hazardous to health or to the environment, which is classified as a PBT or vPvB substance, which has a workplace exposure limit value, or its concentration does not reach the level specified in the relevant legislation and therefore it does not need to be included in the safety data sheet.

Description	CAS number	EC number / ECHA list number	REACH registration number	Conc. (%)	Classification according to Regulation (EC) No 1272/2008 (CLP)		
					Pictogram, signal word code(s)	Hazard class and category code(s)	Hazard statement code(s)
7,7,9(or 7,9,9)-trimethyl-4,13-dioxo-3,14-dioxa-5,12-diazahexadecane-1,16-diyl bismethacrylate*	72869-86-4	276-957-5	01-2120751202-68	>10-<22	GHS07 GHS09 Warning	Skin Sens. 1B Aquatic Chronic 2	H317 H411

1,1,2,2-Tetraphenylethane-1,2-diol / Benzopinacol*	464-72-2	207-356-8	-	>0.2 - <0.5	GHS09 Warning	Aquatic Acute 1 Aquatic Chronic 1	H400 H410
product in pearl anthracite colour							
Cobalt diiron tetraoxide*	12052-28-7	234-992-3	-	>0.1 - <1	GHS08 Warning	Resp. Sens. 1 Skin Sens. 1	H334 H317
Tricobalt tetraoxide*	1308-06-1	215-157-2	-	>0.1 - <1	GHS08 Warning	Resp. Sens. 1 Skin Sens. 1	H334 H317
Mica*	12001-26-2	310-127-6	-	>1 - < 5	GHS07 Warning	STOT SE 3	H335
product in pearl white colour							
Titanium dioxide Index number: 022-006-00-2 Note V, W, 10	13463-67-7	236-675-5	-	> 0.5 - < 2	GHS08 Warning	Carc. 2	H351 (in-halation)

*: Classification specified by the manufacturer; the substance is not listed in Annex VI of the Regulation (EC) No 1272/2008.

Note V:
If the substance is to be placed on the market as fibres (with diameter < 3 µm, length > 5 µm and aspect ratio ≥ 3:1) or particles of the substance fulfilling the WHO fibre criteria or as particles with modified surface chemistry, their hazardous properties must be evaluated in accordance with Title II of this Regulation, to assess whether a higher category (Carc. 1B or 1A) and/or additional routes of exposure (oral or dermal) should be applied.

Note W:
It has been observed that the carcinogenic hazard of this substance arises when respirable dust is inhaled in quantities leading to significant impairment of particle clearance mechanisms in the lung. This note aims to describe the particular toxicity of the substance; it does not constitute a criterion for classification according to this Regulation.

Note 10:
The classification as a carcinogen by inhalation applies only to mixtures in powder form containing 1 % or more of titanium dioxide which is in the form of or incorporated in particles with aerodynamic diameter ≤ 10 µm.

For the full text of hazard statements, see Section 16.

SECTION 4: FIRST AID MEASURES

4.1. **Description of first aid measures:**

General information: Remove contaminated and soaked clothing immediately.

INGESTION:

Measures:

- Do not induce vomiting.
- Obtain immediate medical attention.
- In case of vomiting, if the victim is laying on their back, turn them on their side.

INHALATION:

Measures:

- Take the victim into fresh air.
- In case of complaints, obtain medical help.
- In case of unconsciousness, place the victim in stable recovery position for transport.

SKIN CONTACT:

Measures:

- Immediately wash the skin with water and soap then rinse thoroughly.
- If skin irritation or rash occurs: Get medical advice/attention.

EYE CONTACT:

Measures:

- In case of contact with eyes flush with water holding eyelids apart and moving the eyeballs for several minutes.
- If eye irritation persists, consult a specialist.

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

May cause an allergic skin reaction.

4.3. **Indication of any immediate medical attention and special treatment needed:**
No special treatment needed; treat symptomatically.

SECTION 5: FIREFIGHTING MEASURES

5.1. **Extinguishing media:**
5.1.1. **Suitable extinguishing media:**
Foam, powder, carbon dioxide.
5.1.2. **Unsuitable extinguishing media:**
Water.
5.2. **Special hazards arising from the substance or mixture:**
In case of fire, smoke and other combustion products may be formed; the inhalation of such combustion products can have serious adverse effects on health.
5.3. **Advice for firefighters:**
Wear full protective clothing and self-contained breathing apparatus.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1. **Personal precautions, protective equipment and emergency procedures:**
6.1.1. **For non-emergency personnel:**
Allow only well-trained experts wearing suitable protective clothing to abide in the field of accident.
6.1.2. **For emergency responders:**
Ensure adequate ventilation.
Use respiratory protective equipment against fumes/dust/aerosols.
Avoid contact with skin and eyes.
Wear appropriate personal protective equipment.
6.2. **Environmental precautions:**
Dispose of the spillage and the resulting waste according to the applicable environmental regulations. Do not allow the product and the resulting waste to enter sewers/soil/surface or ground water. Notify the respective authorities in accordance with local law in the case of environmental pollution immediately.
6.3. **Methods and material for containment and cleaning up:**
Collect the spilled product with absorbent (sand, tripoli, acid binder, universal binder, sawdust), then place into a suitable, closed, properly labelled chemical waste container for removal/disposal.
Dispose of the collected waste in accordance with regulations.
6.4. **Reference to other sections:**
For further and detailed information see Sections 8 and 13.

SECTION 7: HANDLING AND STORAGE

7.1. **Precautions for safe handling:**
Observe conventional hygiene precautions.
Avoid contact with skin and eyes.
Wear appropriate personal protective equipment.
Technical measures:
Ensure adequate ventilation.
Precautions against fire and explosion:
General measures of preventive fire protection.
7.2. **Conditions for safe storage, including any incompatibilities:**
Technical measures and storage condition:
Keep away from heat and direct sunlight.
Store in unopened, original container.
Keep away from foodstuffs.
Store in cool, dry places in tightly closed containers.
Store container in a well-ventilated area.
Incompatible materials: See Section 10.5.
Packaging material: No special prescriptions.
7.3. **Specific end use(s):**
No specific instructions available.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. **Control parameters:**

Occupational exposure limit values (Commission Directive (EC) No 2000/39 of 8 June 2000):
The components of the mixture are not regulated with exposure limit value.

7,7,9 (or 7,9,9)-Trimethyl-4,13-dioxo-3,14-dioxa-5,12-diazahexadecane-1,16-diyl-bismethacrylate (CAS: 72869-86-4):

DNEL values	
Oral	0.3 mg/kg bw/day
Dermal	0.7 mg/kg bw/day
Inhalation	0.6 mg/m³

PNEC values		
Compartment	Value	Note(s)
Freshwater	0.01 mg/l	no notes
Marine water	0.001 mg/l	no notes
Freshwater sediment	4.56 mg/kg	no notes
Marine water sediment	0.46 mg/kg	no notes
Sewage Treatment Plant (STP)	3.61 mg/l	no notes
Intermittent release	no data	no notes
Secondary poisoning	no data	no notes
Soil	0.91 mg/kg	no notes

8.2. **Exposure controls:**

In case of a hazardous material with no controlled concentration limit it is the employer's duty to keep concentration levels down to a minimum achievable by existing scientific and technological means, where the hazardous substance poses no harm to workers.

8.2.1. **Appropriate engineering controls:**

In pursuance of work is proper foresight needed to avoid leaking onto clothes and floors and to avoid contact with eyes and skin.

8.2.2. **Individual protection measures, such as personal protective equipment:**

Keep away from food, drink and feed.
Wash skin before breaks and at the end of the work.
The information regarding personal protective equipment is only for informative purposes. A complete risk assessment is required before the use of the product for the determination of the appropriate personal protective equipment, taking local circumstances into account.

1. **Eye/face protection:** The use of appropriate protective goggles is recommended (EN ISO 16321-1:2022; EN 166).
2. **Skin protection:**
    a. **Hand protection:** Use appropriate protective gloves (EN 374).
    For short-term contact or if splashes may occur: Recommended minimum protection index 2, penetration time > 30 minutes, nitrile rubber (NBR), thickness ≥ 0.4 mm.
    For direct and prolonged contact: Recommended protection index 6, penetration time > 480 minutes, nitrile rubber (NBR), thickness ≥ 0.4 mm.
    The glove material should be impermeable and resistant to the product.
    Select glove material based on the penetration time, rates of diffusion and degradation.
    The selection of suitable gloves does not only depend on the material, but also on further marks of quality which may vary from manufacturer to manufacturer.
    As the product is a mixture of several substances, the resistance of the glove material cannot be calculated in advance and has therefore to be checked before use.
    The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.
    b. **Other:** Use appropriate protective clothing.
3. **Respiratory protection:** In case of normal condition of use and adequate ventilation, not required.
4. **Thermal hazards:** No thermal hazards known.

8.2.3. **Environmental exposure controls:**

No specific prescription.

The requirements detailed in Section 8 assume skilled work under normal conditions and usage of the product for appropriate aims. If conditions differ from normal or work is carried out under extreme conditions, an expert's advice is necessary before deciding upon further protective measures.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. **Information on basic physical and chemical properties:**

	Parameter	Value / Test method / Remarks
1.	Physical state	liquid
2.	Colour	colour according to product designation
3.	Odour, odour threshold	no data*
4.	Melting point/freezing point	no data*
5.	Boiling point or initial boiling point and boiling range	> 200 °C
6.	Flammability	not applicable
7.	Lower and upper explosion limit	no data*
8.	Flash point	> 100 °C
9.	Auto-ignition temperature	not self-igniting
10.	Decomposition temperature	no data*
11.	pH	not applicable
12.	Kinematic viscosity	no data*
13.	Solubility in water in other solvents	<1 g/l no data*
14.	Partition coefficient n-octanol/water (log value)	no data*
15.	Vapour pressure	no data*
16.	Density and/or relative density	no data*
17.	Relative vapour density	no data*
18.	Particle characteristics	no data*

9.2. **Other information:**

9.2.1. **Information with regard to physical hazard classes:**
No further data available or not applicable for the product.

9.2.2. **Other safety characteristics:**
No other characteristics available.

*: The manufacturer did not carry out any tests on this parameter for the product or the results of the tests are not available at the time of publication of the data sheet, or the property is not applicable for the product.

SECTION 10: STABILITY AND REACTIVITY

10.1. **Reactivity:**
No reactivity known.

10.2. **Chemical stability:**
Stable within normal temperature and under general work conditions.

10.3. **Possibility of hazardous reactions:**
At temperatures above 110 °C, spontaneous exothermic polymerisation may occur in the CeraPower polymerisation unit. The product is converted into an inert solid substance (application purpose).

10.4. **Conditions to avoid:**
No conditions to avoid known.

10.5. **Incompatible materials:**
No incompatible materials known.

10.6. **Hazardous decomposition products:**
No hazardous decomposition products known if used and stored according to specification.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1. **Information on hazard classes as defined in Regulation (EC) No 1272/2008:**
Acute toxicity: Based on available data, the classification criteria are not met.
Skin corrosion/irritation: Based on available data, the classification criteria are not met.
Serious eye damage/irritation: Based on available data, the classification criteria are not met.
Respiratory or skin sensitisation: May cause an allergic skin reaction.
Germ cell mutagenicity: Based on available data, the classification criteria are not met.
Carcinogenicity: Based on available data, the classification criteria are not met.

Reproductive toxicity: Based on available data, the classification criteria are not met.
STOT-single exposure: Based on available data, the classification criteria are not met.
STOT-repeated exposure: Based on available data, the classification criteria are not met.
Aspiration hazard: Based on available data, the classification criteria are not met.

11.1.1. Summaries of the information derived from the test conducted:
No data available.

11.1.2. Relevant toxicological properties:
No data available about the product.
Information about the components:
Acute toxicity:
7,7,9 (or 7,9,9)-Trimethyl-4,13-dioxo-3,14-dioxa-5,12-diazahexadecane-1,16-diyl-bismethacrylate (CAS: 72869-86-4):
LD50 (oral, rat): > 5000 mg/kg (OECD 401)
LD50 (dermal, rat, 24 hours): > 2000 mg/kg (OECD 402)
Respiratory or skin sensitisation:
7,7,9 (or 7,9,9)-Trimethyl-4,13-dioxo-3,14-dioxa-5,12-diazahexadecane-1,16-diyl-bismethacrylate (CAS: 72869-86-4):
Skin sensitisation:
OECD 429 (Local lymph node test) (dermal, rabbit): Sensitizing.
Reproductive toxicity:
7,7,9 (or 7,9,9)-Trimethyl-4,13-dioxo-3,14-dioxa-5,12-diazahexadecane-1,16-diyl-bismethacrylate (CAS: 72869-86-4):
NOAEL (oral, rat, 64 days): 300 mg/kg bw/day (OECD 422, Combined toxicity for repeated toxicity with screening test about reproductive and developmental toxicity)

11.1.3. Information on likely routes of exposure:
Ingestion, inhalation, skin contact, eye contact.

11.1.4. Symptoms related to the physical, chemical and toxicological characteristics:
No data available.

11.1.5. Delayed and immediate effects as well as chronic effects from short and long-term exposure:
May cause an allergic skin reaction.

11.1.6. Interactive effects:
No data available.

11.1.7. Absence of specific data:
No information.

11.2. Information on other hazards:
Endocrine disrupting properties:
Endocrine disrupting property: Based on available data, does not contain endocrine disruptors.
Other information:
No data available.

SECTION 12: ECOLOGICAL INFORMATION

12.1. Toxicity:
Harmful to aquatic life with long lasting effects.
The mixture has not been tested ecotoxicologically.
The classification of this mixture was performed based on the calculation method detailed in "General Classification guideline for mixtures of the EU" in the latest valid version.
Information about the components:
7,7,9 (or 7,9,9)-Trimethyl-4,13-dioxo-3,14-dioxa-5,12-diazahexadecane-1,16-diyl-bismethacrylate (CAS: 72869-86-4):
EC50 (algae): > 0.68 mg/l/72h (OECD 201, Growth inhibition test with freshwater algae and cyanobacteria)
EC50 (Daphnia magna): > 1,2 mg/l/48h (OECD 202, Daphnia sp., Acute Immobilisation Test)
EC50 (fish): 10.1 mg/l/96h (OECD 203, Acute toxicity for fish)

12.2. Persistence and degradability:
No data available about the product.
Information about the components:
7,7,9 (or 7,9,9)-Trimethyl-4,13-dioxo-3,14-dioxa-5,12-diazahexadecane-1,16-diyl-bismethacrylate (CAS: 72869-86-4):
Not easily biodegradable.

12.3. Bioaccumulative potential:
No data available about the product.
Information about the components:
7,7,9 (or 7,9,9)-Trimethyl-4,13-dioxo-3,14-dioxa-5,12-diazahexadecane-1,16-diyl-bismethacrylate (CAS: 72869-86-4):
Partition coefficient: 3.39

12.4. Mobility in soil:
No data available.

12.5. **Results of PBT and vPvB assessment:**
Based on available data, the product does not contain ingredients that meet the criteria for PBT or vPvB substances.

12.6. **Endocrine disrupting properties:**
Endocrine disrupting property: Based on available data, does not contain endocrine disruptors.

12.7. **Other adverse effects:**
The product must not enter sewers, ground water, surface water or soil.

SECTION 13: DISPOSAL CONSIDERATIONS

13.1. **Waste treatment methods:**
Disposal according to the local regulations.

13.1.1. **Information regarding the disposal of the product:**
Product:
Hand over to hazardous waste disposers.
Dispose of in accordance with applicable regulations.
List of Waste Code:
No waste disposal key according to the List of Waste Code (LoW code) can be determined for this product, as only the purpose of application defined by the user enables an allocation. The LoW code number has to be determined after a discussion with a waste disposal specialist.

13.1.2. **Information regarding the disposal of the packaging:**
Dispose of in accordance with applicable regulations.

13.1.3. **Physical/chemical properties that may affect waste treatment options shall be specified:**
No data available.

13.1.4. **Sewage disposal:**
No data available.

13.1.5. **Special precautions for any recommended waste treatment:**
No data available.

SECTION 14: TRANSPORT INFORMATION

Not subject to the conventions of carriage of dangerous goods.

14.1. **UN number or ID number:**
No UN or ID number.

14.2. **UN proper shipping name:**
No proper shipping name.

14.3. **Transport hazard class(es):**
No transport hazard classes.

14.4. **Packing group:**
No packing group.

14.5. **Environmental hazards:**
No relevant information available.

14.6. **Special precautions for user:**
No relevant information available.

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:**

REGULATION (EC) No 1907/2006 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), establishing a European Chemicals Agency, amending Directive (EC) No 1999/45 and repealing Council Regulation (EEC) No 793/93 and Commission Regulation (EC) No 1488/94 as well as Council Directive (EEC) No 76/769 and Commission Directives (EEC) No 91/155, (EEC) No 93/67, (EC) No 93/105 and (EC) No 2000/21

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 (EEC) No 67/548 and (EC) No 1999/45, and amending Regulation (EC) No 1907/2006

COMMISSION REGULATION (EU) 2020/878 of 18 June 2020 amending Annex II to Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH)

Luminex Colors green:
The mixture contains an ingredient listed in Annex XVII of Regulation (EC) 1907/2006 and is therefore restricted (< 0.1 %):
Condition of restriction: entry 27 - Nickel and its compounds

Does not contain any substances listed in Annex XIV of Regulation (EC) 1907/2006 (REACH). (List of substances subject to authorisation).

Does not contain any substances included in the candidate list for Substances of Very High Concern (SVHC) according to Regulation (EC) 1907/2006 (REACH).

15.2. **Chemical safety assessment:** No information.

SECTION 16: OTHER INFORMATION

Information regarding the revision of the safety data sheet:
The safety data sheet has been revised according to Regulation (EU) 2020/878 (Section 1-16).
The composition of the mixture was modified compared to the previous version.
The hazard classification of the mixture did not change compared to the previous version.

This safety data sheet supersedes all previous versions according to Annex II of Regulation (EC) No 1907/2006.

Literature references / data sources:
Safety data sheet issued by the manufacturer (15. 09. 2023, version 4, IT)
Previous version of the safety data sheet (17. 04. 2020, version 2),

Methods used for the classification according to Regulation (EC) No 1272/2008:

Classification	Method
Sensitisation - Skin, hazard category 1B – H317	Based on calculation method
Hazardous to the aquatic environment – Chronic Hazard, Category 3 – H412	Based on calculation method

Relevant hazard statements (code and full text) of Sections 2 and 3:
H317 – May cause an allergic skin reaction.
H334 – May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H335 – May cause respiratory irritation.
H351 – Suspected of causing cancer <*state route of exposure if it is conclusively proven that no other routs of exposure cause the hazard*>.
H400 – Very toxic to aquatic life.
H410 – Very toxic to aquatic life with long lasting effects.
H411 – Toxic to aquatic life with long lasting effects.
H412 – Harmful to aquatic life with long lasting effects.
EUH 208 – Contains Tricobalt tetraoxide; Cobalt diiron tetraoxide. May produce an allergic reaction.
EUH 211 – Warning! Hazardous respirable droplets may be formed when sprayed. Do not breathe spray or mist.

Training advice: No data available.

Full text of the abbreviations in the safety data sheet:
ADN: European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways.
ADR: Agreement concerning the International Carriage of Dangerous Goods by Road.
ATE: Acute Toxicity Estimate.
AOX: Adsorbable organic halides.
BCF: Bioconcentration factor.
BOD: Biological Oxygen Demand.
CAS number: Chemical Abstract Service number.
CLP: Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures.
CMR effects: Carcinogenic, mutagenic, reprotoxic effects.
COD: Chemical Oxygen Demand.
CSA: Chemical Safety Assessment.
CSR: Chemical Safety Report.
DNEL: Derived-No-Effect-Level.
ECHA: European Chemical Agency.
EC: European Community.
EC number: EINECS and ELINCS numbers (see also EINECS and ELINCS).
EEC: European Economic Community.
EEA: European Economic Area (EU + Iceland, Liechtenstein and Norway).
EINECS: European Inventory of Existing Commercial Chemical Substances.
ELINCS: European List of Notified Chemical Substances.
EN: European Norm.
EU: European Union.
EuPCS: European Product Categorisation System.
EWC: European Waste Catalogue (replaced by LoW – see below).
GHS: Globally Harmonized System of Classification and Labelling of Chemicals.
IATA: International Air Transport Association.
ICAO-TI: Technical Instructions for the Safe Transport of Dangerous Goods by Air.
IMDG: International Maritime Dangerous Goods.
IMO: International Maritime Organization.
IMSBC: International Maritime Solid Bulk Cargoes.
IUCLID: International Uniform Chemical Information Database.
IUPAC: International Union of Pure and Applied Chemistry.
Kow: n-Octanol - Water Partition Coefficient.
LC50: Lethal concentration resulting in 50 % mortality.
LD50: Lethal dose resulting in 50 % mortality (median lethal dose).
LoW: List of Waste.
LOEC: Lowest Observed Effect Concentration.
LOEL: Lowest Observed Effect Level.
NOEC: No Observed Effect Concentration.
NOEL: No Observed Effect Level.
NOAEC: No Observed Adverse Effect Concentration.
NOAEL: No Observed Adverse Effect Level.
OECD: Organization for Economic Cooperation and Development.
OSHA: Occupational Safety and Health Administration.
PBT: Persistent, Bioaccumulative and Toxic.
PNEC: Predicted No Effect Concentration.
QSAR: Quantitative Structure Activity Relationship.
REACH: Regulation 1907/2006/EC concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals.
RID: Regulations Concerning the International Transport of Dangerous Goods by Rail.
SCBA: Self Contained Breathing Apparatus.
SDS: Safety Data Sheet.
STOT: Specific Target Organ Toxicity.
SVHC: Substances of Very High Concern.
UN: United Nations.
UVCB: Chemical Substances of Unknown or Variable Composition, Complex Reaction Products and Biological Materials.
VOC: Volatile Organic Compound.
vPvB: very Persistent and very Bioaccumulative.

This safety data sheet had been prepared on the basis of information provided by the manufacturer/supplier and conform to the relevant regulations.
The information, data and recommendations contained herein are provided in good faith, obtained from reliable sources and believed to be true and accurate as of the date issued; however, no representation is made as to the comprehensiveness of the information.
The SDS shall be used only as a guide for handling the product; in the course of handling and using the product other considerations may arise or be required.
Users are cautioned to determine the appropriateness and applicability of the above information to their particular circumstances and purposes and assume all risk associated with the use of this product.
It is the responsibility of the user to fully comply with local, national and international regulations concerning the use of this product.

Safety data sheet was prepared by:
MSDS-Europe
International branch of ToxInfo Kft.

Professional help regarding the explanation of the safety data sheet:
+36 70 335 8480; info@msds-europe.com
www.msds-europe.com

SAFETY DATA SHEET

SECTION 1: IDENTIFICATION OF THE SUBSTANCE AND OF THE COMPANY/UNDERTAKING

1.1. **Product identifier:**
Thermo Liquid

Article number: 106310

Chemical description: 1,2,3-Propanetriol
CAS number: 56-81-5
EC number: 200-289-5
Registration number: Exception from the registration according to Annex II No. 9 of Regulation (EC) No 987/2008 amending Regulation (EC) No 1907/2006 on the registration, evaluation, authorization and restriction of chemical substances (REACH) with regard to Annexes IV and V.

1.2. **Relevant identified uses of the substance and uses advised against:**
Polymerization liquid for professional use.

1.3. **Details of the supplier of the safety data sheet:**

Information about the manufacturer:
Invicon Chemical Solutions GmbH
Schweizerstrasse 96
A-6830 Rankweil
Tel: +43-(0)5522-45301
E-mail: office@invicon.at

1.3.1. Responsible person: -
E-mail: office@invicon.at

1.4. **Emergency telephone number:** +43-(0)5522-45301 (during business hours)

SECTION 2: HAZARDS IDENTIFICATION

2.1. **Classification of the substance or mixture:**

Classification according to Regulation (EC) No 1272/2008 (CLP):

Not considered as hazardous substance.

Hazard statement: No hazard statements.

2.2. **Label elements:**

Chemical description: 1,2,3-Propanetriol
CAS number: 56-81-5
EC number: 200-289-5

Hazard statement: No hazard statements.

Precautionary statements: No precautionary statements.

2.3. **Other hazards:**
No other known specific hazards for human or environment.
Results of PBT and vPvB assessment: Not applicable.
Endocrine disrupting property: Not an endocrine disruptor.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1. **Substances:**

Chemical description: 1,2,3-Propanetriol
INCI name: Glycerin
CAS number: 56-81-5
EC number: 200-289-5

SECTION 4: FIRST AID MEASURES

4.1. **Description of first aid measures:**

General information: No special measures are required.

INGESTION:

Measures:

- Rinse mouth and drink plenty of water.
- If symptoms persist, obtain medical help.

INHALATION:

Measures:

- Remove to fresh air.
- Obtain medical help.

SKIN CONTACT:

Measures:

- Generally, the product does not irritate the skin.
- Wash immediately with water and soap and flush thoroughly.

EYE CONTACT:

Measures:

- In case of contact with eyes flush immediately with plenty of flowing water holding eyelids apart.
- If symptoms persist, obtain medical help.

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

No acute and delayed symptoms and effects known.

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

No special treatment needed; treat symptomatically.

SECTION 5: FIREFIGHTING MEASURES

5.1. **Extinguishing media:**

5.1.1. **Suitable extinguishing media:**

Carbon dioxide, dry powder, alcohol-resistant foam, water spray.

5.1.2. **Unsuitable extinguishing media:**

Full water jet.
Do not use full water jet on the burning product, because it can disperse and spread fire.

5.2. **Special hazards arising from the substance or mixture:**

Flammable. Vapors heavier than air cause coughing. In case of intense heating, the formation of explosive mixtures is possible. At elevated temperatures there is a risk of exothermic polymerisation (> 200 °C). Acrolein can be formed at temperatures above 280 °C.
In case of fire smoke and other combustion products may be formed, their inhalation can cause serious health damage.

5.3. **Advice for firefighters:**

Wear full protective clothing and self-contained breathing apparatus.
Cool the affected containers with water spray.
Avoid contact with oxidizing agents.
Avoid breathing dust/fume/gas/mist/vapor/spray.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1. **Personal precautions, protective equipment and emergency procedures:**

6.1.1. **For non-emergency personnel:**
Allow only well-trained experts wearing suitable protective clothing to abide in the field of accident.

6.1.2. **For emergency responders:**
Use suitable protective equipment (Section 8).
Do not inhale vapors/aerosols.
Do not touch or walk through the spilled oil.

6.2. **Environmental precautions:**
Product and the resulting waste must be treated according to the applicable environmental regulations. Do not allow product and the resulting waste to enter sewers/soil/surface or ground water. Notify the respective authorities in accordance with local law in the case of environmental pollution immediately.

6.3. **Methods and material for containment and cleaning up:**
Collect with inert absorbent material (e.g. sand, diatomite, acid binder or universal binding agent).
Stop leaks if possible.
No hazardous substances are released.

6.4. **Reference to other sections:**
For further and detailed information see section 7, 8 and 13.

SECTION 7: HANDLING AND STORAGE

7.1. **Precautions for safe handling:**
Observe conventional hygiene precautions.
When using do not eat, drink, smoke or take drugs.
Protect from heat and direct sunlight.
The usual precautions for handling chemicals should be observed.
Keep in the original container or an approved alternative container made of compatible material.
Technical measures:
When handling heavy containers, safety shoes and suitable tools must be used.
Precautions against fire and explosion:
Keep away from heat, sparks and flames.
Avoid contact with oxidizing agents.

7.2. **Conditions for safe storage, including any incompatibilities:**
Technical measures and storage condition
During storage, the applicable regulations for the storage of water-polluting substances according to the water hazard class must be observed (e.g. WHG, AwSV, fire-fighting water retention guidelines, etc.).
Store only in the original container.
Store at room temperature.
Always keep container closed to protect against moisture penetration.
Keep away from oxidizing agents.
Protect from heat and direct sunlight.
Keep container tightly sealed.
Do not store in unlabelled containers.
Maximum storage temperature: Do not store above 55 °C.
Incompatible materials: See Section 10.5.
Packaging material: No specific instructions available.

7.3. **Specific end use(s):**
No specific instructions available.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. **Control parameters:**

Occupational exposure limit values (Commission Directive (EC) No 2000/39 of 8 June 2000):
The substance is not regulated with exposure limit value.

DNEL values		Oral exposure		Dermal exposure		Inhalative exposure	
		Short term (acute)	Long term (chronic)	Short term (acute)	Long term (chronic)	Short term (acute)	Long term (chronic)
Consumer	Local	no data	no data	no data	no data	no data	no data
	Systemic	no data	no data	no data	no data	no data	no data
Worker	Local	no data	no data	no data	no data	no data	no data
	Systemic	no data	no data	no data	no data	no data	no data

PNEC values		
Compartment	Value	Note(s)
Freshwater	no data	no notes
Marine water	no data	no notes
Freshwater sediment	no data	no notes
Marine water sediment	no data	no notes
Sewage treatment plant (STP)	no data	no notes
Intermittent release	no data	no notes
Secondary poisoning	no data	no notes
Soil	no data	no notes

8.2. **Exposure controls:**

In case of a hazardous material with no controlled concentration limit it is the employer's duty to keep concentration levels down to a minimum achievable by existing scientific and technological means, where the hazardous substance poses no harm to workers.

8.2.1. **Appropriate engineering controls:**

In pursuance of work is proper foresight needed to avoid spilling onto clothes and floors and to avoid contact with eyes and skin.

8.2.2. **Individual protection measures, such as personal protective equipment:**

The usual precautionary measures for handling chemicals should be followed.
Wash hands and/or face before eating, drinking, smoking, using the toilet and at the end of work.
Wash contaminated clothing before re-use.
Wear non-slipping safety shoes.
The information regarding personal protective equipment is only for informative purposes. A complete risk assessment is required before the use of the product for the determination of the appropriate personal protective equipment, taking local circumstances into account.

1. **Eye/face protection:** Protective goggles are recommended during refilling (EN ISO 16321-1:2022; EN 166).
2. **Skin protection:**
    a. **Hand protection:** Not required.
    b. **Other:** No specific prescription.
3. **Respiratory protection:** Respiratory protection is required if vapours/aerosols are released.
4. **Thermal hazard:** No thermal hazards known.

8.2.3. **Environmental exposure controls:**

Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation.

The requirements detailed in Section 8 assume skilled work under normal conditions and usage of the product for appropriate aims. If conditions differ from normal or work is carried out under extreme conditions an expert's advice should be sought out before deciding upon further protective measures.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. **Information on basic physical and chemical properties:**

	Parameter	Value / Test method / Remarks
1.	Physical state	viscous liquid
2.	Colour	colourless
3.	Odour, odour threshold	odourless
4.	Melting point/freezing point	ca. 18 °C
5.	Boiling point or initial boiling point and boiling range	ca. 290 °C
6.	Flammability	no data*
7.	Lower and upper explosion limit	no data*

8.	Flash point	ca. 175 °C
9.	Auto-ignition temperature	no data*
10.	Decomposition temperature	no data*
11.	pH	neutral
12.	Kinematic viscosity	no data*
13.	Solubility in water in other solvents	completely miscible no data*
14.	Partition coefficient n-octanol/water (log value)	no data*
15.	Vapour pressure	no data*
16.	Density and/or relative density	ca. 1.26 g/cm³ (20 °C)
17.	Relative vapour density	no data*
18.	Particle characteristics	no data*

9.2. **Other information:**

9.2.1. **Information with regard to physical hazard classes:**
Explosive properties: The product is not explosive.
Ignition temperature: > 400 °C

9.2.2. **Other safety characteristics:**
Dynamic viscosity: 990-1400 mPas (at 20 °C).

*: The manufacturer did not carry out any tests on this parameter for the product or the results of the tests are not available at the time of publication of the data sheet, or the property is not applicable for the product.

SECTION 10: STABILITY AND REACTIVITY

10.1. **Reactivity:**
No reactivity known.

10.2. **Chemical stability:**
Stable at ambient temperature.

10.3. **Possibility of hazardous reactions:**
Reactive with oxidizing agents.
The reaction with strongly dehydrating agents (sulphuric acid) produces acrolein (toxic, irritating).

10.4. **Conditions to avoid:**
Temperatures > 200 °C (polymerisation, product decomposes).

10.5. **Incompatible materials:**
No incompatible materials known.

10.6. **Hazardous decomposition products:**
Acrolein can form at very high temperatures (> 280 °C).

SECTION 11: TOXICOLOGICAL INFORMATION

11.1. **Information on hazard classes as defined in Regulation (EC) No 1272/2008:**
Acute toxicity: Based on the available data, the classification criteria are not met.
Skin corrosion/irritation: Based on the available data, the classification criteria are not met.
Serious eye damage/irritation: Based on the available data, the classification criteria are not met.
Respiratory or skin sensitisation: Based on the available data, the classification criteria are not met.
Germ cell mutagenicity: Based on the available data, the classification criteria are not met.
Carcinogenicity: Based on the available data, the classification criteria are not met.
Reproductive toxicity: Based on the available data, the classification criteria are not met.
STOT-single exposure: Based on the available data, the classification criteria are not met.
STOT-repeated exposure: Based on the available data, the classification criteria are not met.
Aspiration hazard: Based on the available data, the classification criteria are not met.

11.1.1. **Summaries of the information derived from the test conducted:**
No data available.

11.1.2. **Relevant toxicological properties:**
Acute toxicity:
LD/LC50 values relevant for classification:
LD50 (oral, rat): > 12600 mg/kg
LD50 (dermal; rabbit): > 18700 mg/kg

Primary irritant effect:
- Skin corrosion/irritation: Slight irritation is possible (literature data).
- Serious eye damage/eye irritation: Slight irritation is possible (literature data).
- Inhalation: Slightly irritating due to drying of the mucosa.

Respiratory or skin sensitisation:
No sensitizing effects known.

CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction):
The available data show no evidence of carcinogenic, mutagenic or teratogenic effects.
- Germ cell mutagenicity Ames test: No mutagenic effect.

11.1.3. Information on likely routes of exposure:
Ingestion, inhalation, skin and eye contact.

11.1.4. Symptoms related to the physical, chemical and toxicological characteristics:
After the ingestion of larger quantities: Vomiting, stomach pain, headache, diarrhea, dizziness.

11.1.5. Delayed and immediate effects as well as chronic effects from short and long-term exposure:
Based on our experiences and the available information, in case of proper use and handling, no adverse effects on health can be expected.

11.1.6. Interactive effects:
No data available.

11.1.7. Absence of specific data:
No information.

11.2. Information on other hazards:

Endocrine disrupting properties:
Endocrine disrupting property: Not an endocrine disruptor.

Other information:
RTECS number: MA 8050000
EC food additive number: E422

SECTION 12: ECOLOGICAL INFORMATION

12.1. Toxicity:
The substance is not classified as dangerous for the environment.
Acute toxicity to fish:
LC50 (96 hours) > 1000 mg/l
LC50 (24 hours) > 5000 mg/l (literature data, based on the pure substance)
Acute toxicity to bacteria:
EC50 (72 hours): > 10000 mg/l (literature data)
EC5 (16 hours): > 10000 mg/l (literature data, based on the pure substance)
Toxicity to Algae:
EC50 (48 hours): > 2900 mg/l (literature data)
IC5 (7 days): > 10000 mg/l (literature data, based on the pure substance)

12.2. Persistence and degradability:
The product is biodegradable.

12.3. Bioaccumulative potential:
No data available.

12.4. Mobility in soil:
No data available.

12.5. Results of PBT and vPvB assessment:
Not applicable.

12.6. Endocrine disrupting properties:
Endocrine disrupting property: Not an endocrine disruptor.

12.7. Other adverse effects:
Do not enter into ground/surface water or into sewers.
Drinking water can be endangered if large amounts enter the soil or the water cycle.
Water hazard class (WGK, German regulation, self-classification): 1 - slightly hazardous for water

SECTION 13: DISPOSAL CONSIDERATIONS

13.1. **Waste treatment methods:**
Disposal according to the local regulations.

13.1.1. **Information regarding the disposal of the product:**
Recommendation:
Disposal according to the local regulations.
Hand over to the hazardous waste collector or transfer to a collection point for hazardous substances.
Can be incinerated in waste incineration plants.
List of Waste Code:
13 08 99 oil wastes not otherwise specified

13.1.2. **Information regarding the disposal of the packaging:**
Recommendation:
Dispose of according to applicable legislation.
Only give completely empty containers to an approved waste disposal company.
Recommended cleaning agent:
Water, with the addition of cleaning and/or neutralizing agents if necessary.

13.1.3. **Physical/chemical properties that may affect waste treatment options shall be specified:**
No data available.

13.1.4. **Sewage disposal:**
No data available.

13.1.5. **Special precautions for any recommended waste treatment:**
No data available.

SECTION 14: TRANSPORT INFORMATION

ADR; ADN; IMDG; IATA:
Not subject to the conventions of carriage of dangerous goods.

14.1. **UN number or ID number:**
No UN Number.

14.2. **UN proper shipping name:**
No proper shipping name.

14.3. **Transport hazard class(es):**
No transport hazard classes.

14.4. **Packing group:**
No packing group.

14.5. **Environmental hazards:**
Not applicable.

14.6. **Special precautions for user:**
No further relevant information available.

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:**

REGULATION (EC) No 1907/2006 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), establishing a European Chemicals Agency, amending Directive (EC) No 1999/45 and repealing Council Regulation (EEC) No 793/93 and Commission Regulation (EC) No 1488/94 as well as Council Directive (EEC) No 76/769 and Commission Directives (EEC) No 91/155, (EEC) No 93/67, (EC) No 93/105 and (EC) No 2000/21

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 (EEC) No 67/548 and (EC) No 1999/45, and amending Regulation (EC) No 1907/2006

COMMISSION REGULATION (EU) 2020/878 of 18 June 2020 amending Annex II to Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH)

15.2. **Chemical safety assessment:** A chemical safety assessment has been carried out.

SECTION 16: OTHER INFORMATION

Information regarding the revision of the safety data sheet:
The safety data sheet has been revised according to Regulation (EU) 2020/878 (Section 1-16).
The hazard classification of the substance did not change compared to the previous version.

This safety data sheet supersedes all previous versions according to Annex II of Regulation (EC) No 1907/2006.

Literature references / data sources:
Previous version of the safety data sheet (30. 10. 2020, version 1)
Safety data sheet issued by the manufacturer (11. 11. 2022, version 1, IT)

Relevant hazard statements (code and full text) of Sections 2 and 3: No relevant statements.

Training advice: None data available.

Full text of the abbreviations in the safety data sheet:
ADN: European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways.
ADR: Agreement concerning the International Carriage of Dangerous Goods by Road.
ATE: Acute Toxicity Estimate.
AOX: Adsorbable organic halides.
BCF: Bioconcentration factor.
BOD: Biological Oxygen Demand.
CAS number: Chemical Abstract Service number.
CLP: Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures.
CMR effects: Carcinogenic, mutagenic, reprotoxic effects.
COD: Chemical Oxygen Demand.
CSA: Chemical safety assessment.
CSR: Chemical safety report.
DNEL: Derived-No-Effect-Level.
ECHA: European Chemical Agency.
EC: European Community.
EC number: EINECS and ELINCS numbers (see also EINECS and ELINCS).
EEC: European Economic Community.
EEA: European Economic Area (EU + Iceland, Liechtenstein and Norway).
EINECS: European Inventory of Existing Commercial Chemical Substances.
ELINCS: European List of Notified Chemical Substances.
EN: European Norm.
EU: European Union.
EuPCS: European Product Categorisation System.
EWC: European Waste Catalogue (replaced by LoW – see below).
GHS: Globally Harmonized System of Classification and Labelling of Chemicals.
IATA: International Air Transport Association.
ICAO-TI: Technical Instructions for the Safe Transport of Dangerous Goods by Air.
IMDG: International Maritime Dangerous Goods.
IMO: International Maritime Organization.
IMSBC: International Maritime Solid Bulk Cargoes.
IUCLID: International Uniform Chemical Information Database.
IUPAC: International Union of Pure and Applied Chemistry.
Kow: n-Octanol - Water Partition Coefficient.
LC50: Lethal concentration resulting in 50 % mortality.
LD50: Lethal dose resulting in 50 % mortality (median lethal dose).
LoW: List of Waste.
LOEC: Lowest Observed Effect Concentration.
LOEL: Lowest Observed Effect Level.
NOEC: No Observed Effect Concentration.

NOEL: No Observed Effect Level.
NOAEC: No Observed Adverse Effect Concentration.
NOAEL: No Observed Adverse Effect Level.
OECD: Organization for Economic Cooperation and Development.
OSHA: Occupational Safety and Health Administration.
PBT: Persistent, bioaccumulative and toxic.
PNEC: Predicted No Effect Concentration.
QSAR: Quantitative Structure Activity Relationship.
REACH: Regulation (EC) No 1907/2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals.
RID: Regulations Concerning the International Transport of Dangerous Goods by Rail.
SCBA: Use self-contained breathing apparatus.
SDS: Safety Data Sheet.
STOT: Specific Target Organ Toxicity.
SVHC: Substances of Very High Concern.
UN: United Nations.
UVCB: Chemical Substances of Unknown or Variable Composition, Complex Reaction Products and Biological Materials.
VOC: Volatile Organic Compound.
vPvB: Very Persistent, Very Bioaccumulative.

This safety data sheet had been prepared on the basis of information provided by the manufacturer/supplier and conform to the relevant regulations.
The information, data and recommendations contained herein are provided in good faith, obtained from reliable sources and believed to be true and accurate as of the date issued; however, no representation is made as to the comprehensiveness of the information.
The SDS shall be used only as a guide for handling the product; in the course of handling and using the product other considerations may arise or be required.
Users are cautioned to determine the appropriateness and applicability of the above information to their particular circumstances and purposes and assume all risk associated with the use of this product.
It is the responsibility of the user to fully comply with local, national and international regulations concerning the use of this product.

Safety data sheet was prepared by:
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