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Revision Number 2.02

Section 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING**1.1. Product identifier**

Product Code(s)	SDS-06186 EN E
Product Name	VeroFlex® Cyan, RGD891
PN (Part Number)	OBJ-03341
Denmark PR No	N/A
Chemical name	Acrylic formulation
Pure substance/mixture	Mixture

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

Recommended Use	Printing inks
Uses advised against	This product is a cartridge containing ink. Under normal conditions of use, the substance is released from a cartridge only inside an appropriate printing system, and therefore, exposure is limited

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

Stratasys EMEA Regional Office
Airport Boulevard B 120
77836 Rheinmünster, Germany
Phone: +49-7229-7772-0

For further information, please contact

E-mail address info@Stratasys.com**1.4. Emergency telephone number****Emergency Telephone** +44 1235 239670 - Europe - Multi lingual response

Austria	Poison Information Centre (AT): +43-(0)1-406 43 43
Belgium	Poison Centre (BE): +32 70 245 245
Croatia	Poison Control (CR): +385 1 2348 342
Czech Republic	Poison Control (CS): +420 224 919 293, +420 224 915 402
Denmark	Poison Control Hotline (DK): +45 82 12 12 12
Estonia	Poison Control (ET): 16662, (+372) 626 93 90
Finland	Poison Information Centre (FI): +358 9 471 977
France	ORFILA (FR): + 01 45 42 59 59
Germany	Poison Centre Berlin (DE): +49 030 30686 790 (24 h service, Advice in German and English)
Greece	Poison Information Center (EL): (0030) 2107793777
Hungary	Poison Information Service (HU): (+ 36-80) 201-199

Iceland	Poison Information Center: 543 2222
Italy	Poison Centre, Milan (IT): +39 02 6610 1029
Latvia	Poison Information Center (LV): +371 67042473
Lithuania	Poison Information Office (LT): +370 5236 20 52 or +370 687 53 378
Luxembourg	Belgian Poison Center: (+352) 8002-5500
Netherlands	National Poisons Information Center (NVIC): 030-274 8888
Norway	Poison Center: 22 59 13 00
Portugal	Poison Information Centre (PT): +351 21 330 3284
Spain	Poison Information Service (ES): +34 91 562 04 20
Sweden	112 – ask for Poisons Information

Section 2: HAZARDS IDENTIFICATION

2.1. Classification of the substance or mixture

Regulation (EC) No 1272/2008

Skin corrosion/irritation	Category 2 - (H315)
Serious eye damage/eye irritation	Category 1 - (H318)
Skin sensitisation	Category 1A - (H317)
Specific target organ toxicity (single exposure)	Category 3 - (H335)
Specific target organ toxicity (repeated exposure)	Category 2 - (H373)
Chronic aquatic toxicity	Category 2 - (H411)

2.2. Label elements

Contains 4-(1-Oxo-2-propenyl)-morpholine, Acrylic acid, Exo-1,7,7-trimethylbicyclo[2.2.1]hept-2-yl acrylate, (Octahydro-4,7-methano-1H-indenediyl)bis(methylene)diacrylate



Signal word

Danger

Hazard statements

H315 - Causes skin irritation
 H317 - May cause an allergic skin reaction
 H318 - Causes serious eye damage
 H335 - May cause respiratory irritation
 H373 - May cause damage to organs through prolonged or repeated exposure
 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
 P260 - Do not breathe dust/fume/gas/mist/vapours/spray
 P271 - Use only outdoors or in a well-ventilated area
 P273 - Avoid release to the environment
 P280 - Wear protective gloves and eye/face 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 or doctor
 P391 - Collect spillage
 P405 - Store locked up
 P501 - Dispose of contents/ container to an approved waste disposal plant

2.3. Other hazards

Toxic to aquatic life.

Section 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.2 Mixtures

Chemical name	EC No	CAS No	Index no.	Weight-%	Classification according to Regulation (EC) No. 1272/2008 [CLP]	REACH Registration Number
Proprietary	No information available	-	-	10 - 30	Skin Irrit. 2 (H315) Eye Irrit. 2 (H319) Skin Sens. 1B (H317) STOT SE 3 (H335) Aquatic Acute 1 (H400) Aquatic Chronic 1 (H410)	01-2119957862-25-XXX X
Proprietary	No information available	-	-	10 - 30	Acute Tox. 4 (H302) Eye Dam. 1 (H318) Skin Sens. 1 (H317) STOT RE 2 (H373)	01-0000016491-73-XXX X
Proprietary	No information available	-	-	10 - 30	Skin Sens. 1B (H317) Aquatic Chronic 2 (H411)	01-2120051112-76-XXX X
Proprietary	No information available	-	-	10 - 30	Skin Sens. 1B (H317)	01-2120735823-52-XXX X
Proprietary	Not Listed	-	-	3-10	Skin Sens. 1 (H317)	01-2119490020-53-XXX X
Proprietary	No information available	-	-	3-10	Acute Tox. 3 (H331) Skin Sens. 1A (H317) Aquatic Chronic 2 (H411)	01-2120751208-56-XXX X
Proprietary	No information available	-	-	1-3	Skin Sens. 1 (H317) Aquatic Chronic 4 (H413)	No data available
Titanium dioxide	236-675-5	13463-67-7	-	0.3-1	Not classified	No data available
camphene	201-234-8	79-92-5	-	0.1 - 0.3	Flam. Sol. 2 (H228) Eye Irrit. 2 (H319) Aquatic Acute 1 (H400) Aquatic Chronic 1 (H410)	No data available
Glycerol, propoxylated, esters with acrylic acid	500-114-5	52408-84-1	-	0.1 - 0.3	Eye Irrit. 2 (H319) Skin Sens. 1 (H317)	No data available
Ethoxylated Trimethylolpropane Triacrylate	-	28961-43-5	-	0.1 - 0.3	Skin Sens. 1B (H317) Eye Irrit. 2 (H319)	No data available
Acrylic acid	201-177-9	79-10-7	607-061-00-8	0.1 - 0.3	Flam. Liq. 3 (H226) Acute Tox. 4 (H302) Acute Tox. 4 (H312) Acute Tox. 4 (H332) Skin Corr. 1A (H314) Eye Dam. 1 (H318) STOT SE 3 (H335) Aquatic Acute 1 (H400) Aquatic Chronic 2 (H411)	No data available
1,7,7-Trimethyltricyclo[2.2.1.0 _{2,6}]heptane	208-083-7	508-32-7	-	<0.1	Eye Irrit. 2 (H319) Aquatic Acute 1 (H400) Aquatic Chronic 1 (H410)	No data available
Acrylic acid, 2-hydroxyethyl ester	212-454-9	818-61-1	607-072-00-8	<0.1	Acute Tox. 4 (H302) Acute Tox. 3 (H311) Corr. 1B (H314) Eye Dam. 1 (H318) Skin Sens. 1 (H317) Aquatic Acute 1 (H400) Aquatic Chronic 3 (H412)	No data available
Aluminium Hydroxide	244-492-7	21645-51-2	-	<0.1	Not classified	No data available
2-methoxy-1-methylethyl acetate	203-603-9	108-65-6	-	<0.1	Flam. Liq. 3 (H226) STOT SE 3 (H336)	No data available
4-Methoxyphenol/ Mequinol	205-769-8	150-76-5	-	<0.1	Acute Tox. 4 (H302) Eye Irrit. 2 (H319) Skin Sens. 1 (H317) Repr. 2 (H361d) Aquatic Chronic 3 (H412)	No data available
Proprietary	No information available	-	-	<0.1	Eye Irrit. 2 (H319) Aquatic Acute 1 (H400) Aquatic Chronic 1 (H410)	No data available
Phosphoric acid	231-633-2	7664-38-2	-	<0.1	Skin Corr. 1B (H314) Eye Dam. 1 (H318)	No data available
Heptane	205-563-8	142-82-5	-	<0.1	Skin Irrit. 2 (H315) STOT SE 3 (H336) Asp. Tox. 1 (H304) Aquatic Acute 1 (H400) Aquatic Chronic 1 (H410) Flam. Liq. 2 (H225)	No data available

2,6-Bis(1,1-Dimethylethyl)-4-Methyl-Phenol	204-881-4	128-37-0	-	<0.1	Aquatic Acute 1 (H400) Aquatic Chronic 1 (H410)	No data available
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Full text of H- and EUH-phrases: see section 16

Section 4: FIRST AID MEASURES

4.1. Description of first aid measures

General advice	Immediate medical attention is required. Show this safety data sheet to the doctor in attendance.
Inhalation	Remove to fresh air. Get medical attention immediately if symptoms occur. IF exposed or concerned: Get medical advice/attention.
Eye contact	Get immediate medical advice/attention. Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Keep eye wide open while rinsing. Do not rub affected area.
Skin contact	Wash off immediately with soap and plenty of water for at least 15 minutes. May cause an allergic skin reaction. In the case of skin irritation or allergic reactions see a doctor.
Ingestion	Clean mouth with water and drink afterwards plenty of water. Never give anything by mouth to an unconscious person. Do NOT induce vomiting. Call a doctor.
Self-protection of the first aider	Avoid contact with skin, eyes or clothing. Wear personal protective clothing (see section 8).

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

Symptoms	Burning sensation. Itching. Rashes. Hives.
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4.3. Indication of any immediate medical attention and special treatment needed

Note to doctors	May cause sensitisation in susceptible persons. Treat symptomatically.
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Section 5: FIRE-FIGHTING MEASURES

5.1. Extinguishing media

Suitable Extinguishing Media	Use extinguishing agent suitable for type of surrounding fire Class B fires: Use carbon dioxide (CO ₂), regular dry chemical (sodium bicarbonate), regular foam (Aqueous Film Forming Foam-AFFF), or water spray to cool containers
Unsuitable extinguishing media	No information available.

5.2. Special hazards arising from the substance or mixture

Specific hazards arising from the chemical	Product is or contains a sensitiser. May cause sensitisation by skin contact.
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5.3. Advice for firefighters

Special protective equipment for fire-fighters	Move containers from fire area if you can do it without risk. Cool containers with flooding quantities of water until well after fire is out. Isolate the hazard area and deny entry to unnecessary and unprotected personnel. Keep out of drains, sewers, ditches and waterways. Inhalation is a health risk. Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.
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Section 6: ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions	Avoid contact with skin, eyes or clothing. Use personal protective equipment as required. Ensure adequate ventilation. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak.
Occupational Spill Release	Intact cartridges do not pose a leak or spill hazard. Damaged cartridges may leak uncured ink. Stop leak if you can do it without risk Use water spray to reduce vapours or divert vapour cloud drift Absorb spill with inert material (e.g. dry sand or earth), then place in a chemical waste container Keep out of drains, sewers, ditches and waterways
Other Information	Refer to protective measures listed in Sections 7 and 8.
For emergency responders	Use personal protection recommended in Section 8.

6.2. Environmental precautions

Environmental precautions	Prevent further leakage or spillage if safe to do so.
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6.3. Methods and material for containment and cleaning up

Methods for containment	Use a non-combustible material like vermiculite, sand or earth to soak up the product and place into a container for later disposal. Following product recovery, flush area with water.
Methods for cleaning up	Take up mechanically, placing in appropriate containers for disposal.
Prevention of secondary hazards	Clean contaminated objects and areas thoroughly observing environmental regulations.

6.4. Reference to other sections

Reference to other sections	See section 8 for more information. See section 13 for more information.
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Section 7: HANDLING AND STORAGE

7.1. Precautions for safe handling

Advice on safe handling	Do not eat, drink or smoke when using this product. Avoid breathing vapours or mists. Wash thoroughly after handling. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Use personal protective equipment as required. Use only outdoors or in a well-ventilated area. Wear protective gloves and eye/face protection. Contaminated work clothing should not be allowed out of the workplace. Avoid release to the environment.
General hygiene considerations	Avoid contact with skin, eyes or clothing. Wear suitable gloves and eye/face protection. Do not eat, drink or smoke when using this product.

7.2. Conditions for safe storage, including any incompatibilities

Storage Conditions	Store in a cool, dry area away from potential sources of heat, open flames, sunlight or other chemicals. Store in a cool, well ventilated area. Store in accordance with local regulations. Keep container tightly closed. Store between 15 °C and 27 °C. Shipment temperature (up to 5 weeks) is -20 °C to 50 °C. Store in a combustible storage area away from heat and open flame.
Hints on joint storage	
Storage class	LGK10 - Combustible liquids unless storage class 3

7.3. Specific end use(s)

Risk Management Methods (RMM) The information required is contained in this Material Safety Data Sheet.

Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION**Exposure disclaimer**

Personal protection measures are only needed if cartridge is damaged punctured causing spillage of material.

8.1. Control parameters**Exposure Limits**

Chemical name	European Union	United Kingdom	France	Spain	Germany
Titanium dioxide 13463-67-7	-	TWA: 10 mg/m ³ TWA: 4 mg/m ³ STEL: 30 mg/m ³ STEL: 12 mg/m ³	TWA: 10 mg/m ³	TWA: 10 mg/m ³	-
camphene 79-92-5	-	-	TWA: 1000 mg/m ³ STEL: 1500 mg/m ³	-	-
Acrylic acid 79-10-7	-	TWA: 10 ppm TWA: 29 mg/m ³ STEL: 20 ppm STEL: 59 mg/m ³	TWA: 2 ppm TWA: 6 mg/m ³ STEL: 10 ppm STEL: 30 mg/m ³	TWA: 10 ppm TWA: 29 mg/m ³ STEL: 20 ppm STEL: 59 mg/m ³ via dérmica*	TWA: 10 ppm TWA: 30 mg/m ³
1,7,7-Trimethyltricyclo[2.2.1.0 ^{2,6}]heptane 508-32-7	-	-	TWA: 1000 mg/m ³ STEL: 1500 mg/m ³	-	-
Aluminium Hydroxide 21645-51-2	-	TWA: 10 mg/m ³ TWA: 4 mg/m ³	-	-	-
2-methoxy-1-methylethyl acetate 108-65-6	TWA 50 ppm TWA 275 mg/m ³ STEL 100 ppm STEL 550 mg/m ³ *	TWA: 50 ppm TWA: 274 mg/m ³ STEL: 100 ppm STEL: 548 mg/m ³ Sk*	TWA: 50 ppm TWA: 275 mg/m ³ STEL: 100 ppm STEL: 550 mg/m ³ *	TWA: 50 ppm TWA: 275 mg/m ³ STEL: 100 ppm STEL: 550 mg/m ³ via dérmica*	TWA: 50 ppm TWA: 270 mg/m ³
4-Methoxyphenol/ Mequinol 150-76-5	-	-	TWA: 5 mg/m ³	TWA: 5 mg/m ³	-
Proprietary	-	-	-	TWA: 0.1 mg/m ³	-
Phosphoric acid 7664-38-2	TWA 1 mg/m ³ STEL 2 mg/m ³	TWA: 1 mg/m ³ STEL: 2 mg/m ³	TWA: 0.2 ppm TWA: 1 mg/m ³ STEL: 0.5 ppm STEL: 2 mg/m ³	TWA: 1 mg/m ³ STEL: 2 mg/m ³	TWA: 2 mg/m ³
Heptane 142-82-5	TWA 500 ppm TWA 2085 mg/m ³	TWA: 500 ppm TWA: 2085 mg/m ³ STEL: 1500 ppm STEL: 6255 mg/m ³	TWA: 400 ppm TWA: 1668 mg/m ³ TWA: 1000 mg/m ³ STEL: 500 ppm STEL: 2085 mg/m ³ STEL: 1500 mg/m ³	TWA: 500 ppm TWA: 2085 mg/m ³	TWA: 500 ppm TWA: 2100 mg/m ³
2,6-Bis(1,1-Dimethylethyl)-4-Methyl-Phenol 128-37-0	-	TWA: 10 mg/m ³ STEL: 30 mg/m ³	TWA: 10 mg/m ³	TWA: 10 mg/m ³	TWA: 10 mg/m ³
Chemical name	Italy	Portugal	Netherlands	Finland	Denmark
Titanium dioxide 13463-67-7	-	TWA: 10 mg/m ³	-	-	TWA: 6 mg/m ³
Acrylic acid 79-10-7	-	TWA: 2 ppm P*	TWA: 29 mg/m ³ STEL: 59 mg/m ³	TWA: 2 ppm TWA: 6 mg/m ³ Ceiling: 15 ppm	TWA: 2 ppm TWA: 5.9 mg/m ³ H*

				Ceiling: 45 mg/m ³	
Acrylic acid, 2-hydroxyethyl ester 818-61-1	-	-	-	-	TWA: 1 ppm TWA: 5 mg/m ³ H*
2-methoxy-1-methylethyl acetate 108-65-6	TWA: 50 ppm TWA: 275 mg/m ³ STEL: 100 ppm STEL: 550 mg/m ³ pelle*	TWA: 50 ppm TWA: 275 mg/m ³ STEL: 100 ppm STEL: 550 mg/m ³ P*	TWA: 550 mg/m ³	TWA: 50 ppm TWA: 270 mg/m ³ STEL: 100 ppm STEL: 550 mg/m ³ iho*	TWA: 50 ppm TWA: 275 mg/m ³ H*
4-Methoxyphenol/ Mequinol 150-76-5	-	TWA: 5 mg/m ³	-	-	TWA: 5 mg/m ³
Proprietary	-	-	-	TWA: 0.02 mg/m ³	-
Phosphoric acid 7664-38-2	TWA: 1 mg/m ³ STEL: 2 mg/m ³	TWA: 1 mg/m ³ STEL: 3 mg/m ³	TWA: 1 mg/m ³ STEL: 2 mg/m ³	TWA: 1 mg/m ³ STEL: 2 mg/m ³	TWA: 1 mg/m ³
Heptane 142-82-5	TWA: 500 ppm TWA: 2085 mg/m ³	TWA: 500 ppm TWA: 2085 mg/m ³ STEL: 500 ppm	TWA: 1200 mg/m ³ STEL: 1600 mg/m ³	TWA: 300 ppm TWA: 1200 mg/m ³ STEL: 500 ppm STEL: 2100 mg/m ³	TWA: 200 ppm TWA: 820 mg/m ³
2,6-Bis(1,1-Dimethylethyl))-4-Methyl-Phenol 128-37-0	-	TWA: 2 mg/m ³	-	TWA: 10 mg/m ³ STEL: 20 mg/m ³	TWA: 10 mg/m ³
Chemical name	Austria	Switzerland	Poland	Norway	Ireland
Titanium dioxide 13463-67-7	TWA: 5 mg/m ³ STEL 10 mg/m ³	TWA: 3 mg/m ³	STEL: 30 mg/m ³ TWA: 10 mg/m ³	TWA: 5 mg/m ³ STEL: 10 mg/m ³	TWA: 10 mg/m ³ TWA: 4 mg/m ³ STEL: 30 mg/m ³ STEL: 12 mg/m ³
camphene 79-92-5	-	STEL: 40 ppm STEL: 224 mg/m ³ H*	-	-	-
Acrylic acid 79-10-7	TWA: 10 ppm TWA: 29 mg/m ³ STEL 20 ppm STEL 59 mg/m ³	TWA: 10 ppm TWA: 30 mg/m ³ STEL: 10 ppm STEL: 30 mg/m ³	STEL: 29.5 mg/m ³ TWA: 10 mg/m ³	TWA: 10 ppm TWA: 29 mg/m ³ STEL: 15 ppm STEL: 43.5 mg/m ³	TWA: 10 ppm TWA: 29 mg/m ³ STEL: 20 ppm STEL: 59 mg/m ³
Aluminium Hydroxide 21645-51-2	TWA: 5 mg/m ³ STEL 10 mg/m ³	TWA: 3 mg/m ³	TWA: 2.5 mg/m ³ TWA: 1.2 mg/m ³	-	TWA: 10 mg/m ³ TWA: 4 mg/m ³ STEL: 30 mg/m ³ STEL: 12 mg/m ³
2-methoxy-1-methylethyl acetate 108-65-6	TWA: 50 ppm TWA: 275 mg/m ³ STEL 100 ppm STEL 550 mg/m ³ H*	TWA: 50 ppm TWA: 275 mg/m ³ STEL: 50 ppm STEL: 275 mg/m ³	STEL: 520 mg/m ³ TWA: 260 mg/m ³	TWA: 50 ppm TWA: 270 mg/m ³ STEL: 75 ppm STEL: 337.5 mg/m ³ H*	TWA: 50 ppm TWA: 275 mg/m ³ STEL: 100 ppm STEL: 550 mg/m ³ Sk*
4-Methoxyphenol/ Mequinol 150-76-5	TWA: 5 mg/m ³ STEL 10 mg/m ³	-	TWA: 5 mg/m ³	TWA: 5 mg/m ³ STEL: 10 mg/m ³	TWA: 5 mg/m ³ STEL: 15 mg/m ³
Proprietary	TWA: 1 mg/m ³ TWA: 0.1 mg/m ³ STEL 4 mg/m ³ STEL 0.4 mg/m ³	-	-	-	-
Phosphoric acid 7664-38-2	TWA: 1 mg/m ³ STEL 2 mg/m ³	TWA: 2 mg/m ³ STEL: 4 mg/m ³	STEL: 2 mg/m ³ TWA: 1 mg/m ³	TWA: 1 mg/m ³ STEL: 2 mg/m ³	TWA: 1 mg/m ³ STEL: 2 mg/m ³
Heptane 142-82-5	TWA: 500 ppm TWA: 2000 mg/m ³ STEL 2000 ppm STEL 8000 mg/m ³	TWA: 400 ppm TWA: 1600 mg/m ³ STEL: 400 ppm STEL: 1600 mg/m ³	STEL: 2000 mg/m ³ TWA: 1200 mg/m ³	TWA: 200 ppm TWA: 800 mg/m ³ TWA: 40 ppm TWA: 275 mg/m ³ STEL: 250 ppm STEL: 1000 mg/m ³ STEL: 60 ppm STEL: 343.75	TWA: 500 ppm TWA: 2085 mg/m ³ STEL: 1500 ppm STEL: 6255 mg/m ³

				mg/m ³	
2,6-Bis(1,1-Dimethylethyl)-4-Methyl-Phenol 128-37-0	TWA: 10 mg/m ³	TWA: 10 mg/m ³ STEL: 40 mg/m ³	-	-	TWA: 2 mg/m ³ STEL: 6 mg/m ³

Biological occupational exposure limits

Chemical name	Austria	Switzerland	Poland	Norway	Ireland
Aluminium Hydroxide 21645-51-2	-	60	-	-	-

Derived No Effect Level (DNEL) No information available.

Predicted No Effect Concentration (PNEC) No information available.

8.2. Exposure controls**Personal protective equipment**

Eye/face protection Tight sealing safety goggles.

Hand Protection Wear suitable gloves. Impervious gloves.

Skin and body protection Wear suitable protective clothing. Long sleeved clothing.

Respiratory protection No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required.

General hygiene considerations Avoid contact with skin, eyes or clothing. Wear suitable gloves and eye/face protection. Do not eat, drink or smoke when using this product.

Environmental exposure controls No information available.

Section 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties

Physical state	liquid
Appearance	Ink cartridge
Odour	Characteristic
Colour	blue
Odour threshold	No information available

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
pH	N/A	
Melting point / freezing point	No data available	None known
Boiling point / boiling range	No data available	None known
Flash point	>= 100 - < 250 °C	
Evaporation rate	No data available	None known
Flammability (solid, gas)	No data available	None known
Flammability Limit in Air		None known
Upper flammability limit:	No data available	
Lower flammability limit	No data available	
Vapour pressure	No data available	None known
Vapour density	No data available	None known
Relative density	1.09	g/cm ³
Water solubility	Insoluble in water	
Solubility(ies)	No data available	None known

Partition coefficient	No data available	None known
Autoignition temperature	No data available	None known
Decomposition temperature	No data available	None known
Kinematic viscosity	No data available	None known
Dynamic viscosity	No data available	None known
Explosive properties	No information available	
Oxidising properties	No information available	

9.2. Other information

Softening point	No information available
Molecular weight	No information available
VOC Content (%)	No information available
Liquid Density	No information available
Bulk density	No information available
Particle Size	No information available
Particle Size Distribution	No information available

Section 10: STABILITY AND REACTIVITY

10.1. Reactivity

Reactivity Heating may cause a fire.

10.2. Chemical stability

Stability Decomposes on exposure to light. Unstable if heated.

Explosion data

Sensitivity to Mechanical Impact None.

Sensitivity to Static Discharge None.

10.3. Possibility of hazardous reactions

Possibility of hazardous reactions Uncured ink will polymerize on exposure to light.

10.4. Conditions to avoid

Conditions to avoid Avoid exposure to heat and light.

10.5. Incompatible materials

Incompatible materials Not applicable under normal conditions of use and storage.

10.6. Hazardous decomposition products

Hazardous decomposition products Thermal Decomposition Products. Combustion: oxides of carbon.

Section 11: TOXICOLOGICAL INFORMATION

11.1. Information on toxicological effects**Information on likely routes of exposure****Product Information**

Inhalation May cause irritation of respiratory tract. (based on components).

Eye contact Severely irritating to eyes. Causes serious eye damage. May cause burns. May cause irreversible damage to eyes. (based on components).

Skin contact	May cause sensitisation by skin contact. Repeated or prolonged skin contact may cause allergic reactions with susceptible persons. (based on components). Causes skin irritation.
Ingestion	Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea. (based on components).

Information on toxicological effects

Symptoms	Redness. Burning. May cause blindness. Itching. Rashes. Hives. May cause redness and tearing of the eyes.
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Numerical measures of toxicity**Acute toxicity**

The following values are calculated based on chapter 3.1 of the GHS document

ATEmix (oral)	2,901.07 mg/kg
ATEmix (inhalation-dust/mist)	8.42 mg/l

Component Information

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
Proprietary	= 4890 mg/kg = 4890 mg/kg (Rat)	> 3000 mg/kg (Rabbit)	-
Proprietary	= 588 mg/kg (rat)	> 2000 mg/kg (rat)	= 5.28 mg/l (rat)
Proprietary	= 2.000 mg/kg (Rat) (Method: OECD Test Guideline 423)	= 2.000 mg/kg (Rat)(Method: OECD Test Guideline 402)	-
Proprietary	(Rat) LD50 = 1,590 - 3,910 mg/kg	(Rabbit) LD50 = > 2,000 mg/kg	(Rat) 1 h LC0 = 6.7 mg/l
Proprietary	>2000 mg/kg (Rat)	>2000 mg/kg	-
Proprietary	> 2000 mg/kg > 2000 mg/kg (Rat)	> 2000 mg/kg (Rat)	-
Titanium dioxide	> 10000 mg/kg > 10000 mg/kg (Rat)	-	-
camphene	> 5 g/kg > 5 g/kg (Rat)	> 2500 mg/kg (Rabbit)	= 17100 mg/m ³ (Rat) 1 h
Ethoxylated Trimethylolpropane Triacrylate	-	> 13 g/kg (Rabbit)	-
Acrylic acid	= 33500 µg/kg = 193 mg/kg = 193 mg/kg (Rat) = 33500 µg/kg (Rat)	= 295 mg/kg (Rabbit) = 280 µL/kg (Rabbit)	= 3.6 mg/L (Rat) 4 h = 11.1 mg/L (Rat) 1 h
Acrylic acid, 2-hydroxyethyl ester	= 548 mg/kg = 548 mg/kg (Rat)	= 154 mg/kg (Rabbit)	-
Aluminium Hydroxide	> 5000 mg/kg > 5000 mg/kg (Rat)	-	-
2-methoxy-1-methylethyl acetate	= 8532 mg/kg = 8532 mg/kg (Rat)	> 5 g/kg (Rabbit)	-
4-Methoxyphenol/ Mequinol	= 1600 mg/kg = 1600 mg/kg (Rat)	> 2000 mg/kg (Rabbit)	-
Phosphoric acid	= 1530 mg/kg = 1530 mg/kg (Rat)	= 2740 mg/kg (Rabbit)	> 850 mg/m ³ (Rat) 1 h
Heptane	-	= 3000 mg/kg (Rabbit)	= 103 g/m ³ (Rat) 4 h
2,6-Bis(1,1-Dimethylethyl)-4-Me thyl-Phenol	> 2930 mg/kg > 2930 mg/kg (Rat)	> 2000 mg/kg (Rat)	-

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Skin corrosion/irritation	Classification based on data available for ingredients. Irritating to skin.
Serious eye damage/eye irritation	Classification based on data available for ingredients. Causes burns. Risk of serious

	damage to eyes.
Respiratory or skin sensitisation	May cause sensitisation by skin contact. Classification based on data available for ingredients.
Germ cell mutagenicity	No information available.
Carcinogenicity	No information available.
Reproductive toxicity	No information available.
STOT - single exposure	Classification based on data available for ingredients.
STOT - repeated exposure	Classification based on data available for ingredients.
Aspiration hazard	No information available.

Section 12: ECOLOGICAL INFORMATION

12.1. Toxicity

Ecotoxicity	Toxic to aquatic life with long lasting effects
Unknown aquatic toxicity	Contains 0 % of components with unknown hazards to the aquatic environment.

Chemical name	Algae/aquatic plants	Fish	Toxicity to microorganisms	Crustacea
Proprietary	1.98 mg/l Fresh water	0.704 mg/l Fresh water	-	0.524 mg/l Fresh water
Proprietary	120 mg/l (algae)	-	-	120 mg/kg (daphnia)
Proprietary	(Pseudokirchneriella subcapitata) : 1,6 mg/l (Method: OECD Test Guideline 201)	(Fish) : 4,95 mg/l	-	(Daphnia magna Straus) : 2,36 mg/l (Method: OECD Test Guideline 202)
Proprietary	Pseudokirchneriella subcapitata (green algae) 96 h EC50 = 0.17 mg/l	Oncorhynchus mykiss (rainbow trout) 96 h LC50 = 27 mg/l	-	Daphnia magna (Water flea) 48 h EC50 = 95 mg/l
Proprietary	-	90: 96 h Danio rerio µg/L LC50 semi-static	-	-
camphene	1000: 72 h Desmodesmus subspicatus mg/L EC50	0.72: 96 h Brachydanio rerio mg/L LC50 flow-through 150: 96 h Brachydanio rerio mg/L LC50 static	-	22: 48 h Daphnia magna mg/L EC50
Glycerol, propoxylated, esters with acrylic acid	-	5.74: 96 h Danio rerio mg/L LC50 static	-	-
Ethoxylated Trimethylolpropane Triacrylate	-	1.95: 96 h Danio rerio mg/L LC50 static	-	-
Acrylic acid	0.17: 96 h Pseudokirchneriella subcapitata mg/L EC50 0.04: 72 h Desmodesmus subspicatus mg/L EC50	222: 96 h Brachydanio rerio mg/L LC50 semi-static	-	270: 24 h Daphnia magna mg/L LC50 Static 95: 48 h Daphnia magna mg/L EC50
Acrylic acid, 2-hydroxyethyl ester	-	4.8: 96 h Pimephales promelas mg/L LC50 flow-through	-	0.78: 48 h Daphnia magna mg/L EC50
2-methoxy-1-methylethyl acetate	-	161: 96 h Pimephales promelas mg/L LC50 static	-	500: 48 h Daphnia magna mg/L EC50
4-Methoxyphenol/ Mequinol	-	28.5: 96 h Oncorhynchus mykiss mg/L LC50	-	-

		flow-through 84.3: 96 h Pimephales promelas mg/L LC50 flow-through		
Phosphoric acid	-	3 - 3.5: 96 h Gambusia affinis mg/L LC50	-	4.6: 12 h Daphnia magna mg/L EC50
Heptane	-	375.0: 96 h Cichlid fish mg/L LC50	-	10: 24 h Daphnia magna mg/L EC50
2,6-Bis(1,1-Dimethylethyl)-4-Methyl-Phenol	6: 72 h Pseudokirchneriella subcapitata mg/L EC50 0.42: 72 h Desmodesmus subspicatus mg/L EC50	5: 48 h Oryzias latipes mg/L LC50	-	-

12.2. Persistence and degradability

Persistence and degradability No information available.

12.3. Bioaccumulative potential

Bioaccumulation There is no data for this product.

Component Information

Chemical name	Partition coefficient
Acrylic acid	0.46
Acrylic acid, 2-hydroxyethyl ester	0.21
2-methoxy-1-methylethyl acetate	0.43
4-Methoxyphenol/ Mequinol	1.3
Heptane	4.66
2,6-Bis(1,1-Dimethylethyl)-4-Methyl-Phenol	4.17

12.4. Mobility in soil

Mobility in soil No information available.

12.5. Results of PBT and vPvB assessment

PBT and vPvB assessment No information available.

12.6. Other adverse effects

Other adverse effects No information available.

Section 13: DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods

Waste from residues/unused products Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation.

Contaminated packaging Do not reuse empty containers.

Waste codes / waste designations according to EWC / AVV 08 03 12* Waste ink containing dangerous substances.

Section 14: TRANSPORT INFORMATION

Additional information

The environmentally hazardous substance mark is not required when transported in sizes of ≤5L or ≤5kg
The marine pollutant mark is not required when transported in sizes of ≤5L or ≤5kg

IMDG

14.1 UN number UN3082
14.2 UN proper shipping name ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
14.3 Transport hazard class(es) 9
14.4 Packing group III
Description UN3082, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Exo-1,7,7-trimethylbicyclo[2.2.1]hept-2-yl acrylate, (Octahydro-4,7-methano-1H-indenediyl)bis(methylene)diacrylate), 9, III, Marine pollutant
14.5 Marine pollutant This product contains a chemical which is listed as a severe marine pollutant according to IMDG/IMO
Environmental Hazard Yes
14.6 Special Provisions 274, 335, 969
EmS-No F-A, S-F
14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code No information available

RID

14.1 UN Number UN3082
14.2 UN proper shipping name ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
14.3 Transport hazard class(es) 9
Labels 9
14.4 Packing group III
Description UN3082, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Exo-1,7,7-trimethylbicyclo[2.2.1]hept-2-yl acrylate, (Octahydro-4,7-methano-1H-indenediyl)bis(methylene)diacrylate), 9, III
14.5 Environmental Hazard Yes
14.6 Special Provisions 274, 335, 375, 601
Classification code M6

ADR

14.1 UN number 3082
14.2 UN proper shipping name ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
14.3 Transport hazard class(es) 9
Labels 9
14.4 Packing group III
Description 3082, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Exo-1,7,7-trimethylbicyclo[2.2.1]hept-2-yl acrylate, (Octahydro-4,7-methano-1H-indenediyl)bis(methylene)diacrylate), 9, III
14.5 Environmental Hazard Yes
14.6 Special Provisions 274, 335, 601, 375
Classification code M6

IATA

14.1 UN Number UN3082
14.2 UN proper shipping name ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
14.3 Transport hazard class(es) 9
14.4 Packing group III
Description UN3082, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Exo-1,7,7-trimethylbicyclo[2.2.1]hept-2-yl acrylate, (Octahydro-4,7-methano-1H-indenediyl)bis(methylene)diacrylate), 9, III
14.5 Environmental Hazard Yes
14.6 Special Provisions A97, A158, A197
ERG Code 9L



Section 15: REGULATORY INFORMATION

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

National regulations

France

Occupational Illnesses (R-463-3, France)

Chemical name	French RG number	Title
Acrylic acid, 2-hydroxyethyl ester 818-61-1	RG 65	-
2-methoxy-1-methylethyl acetate 108-65-6	RG 84	-
4-Methoxyphenol/ Mequinol 150-76-5	RG 65	-
Heptane 142-82-5	RG 84	-

Germany

Water hazard class (WGK) hazardous to water (WGK 2)

European Union

Take note of Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work

Authorisations and/or restrictions on use:

This product does not contain substances subject to authorisation (Regulation (EC) No. 1907/2006 (REACH), Annex XIV) This product does not contain substances subject to restriction (Regulation (EC) No. 1907/2006 (REACH), Annex XVII)

Persistent Organic Pollutants

Not applicable

Dangerous substance category per Seveso Directive (2012/18/EU)

E2 - Hazardous to the Aquatic Environment in Category Chronic 2

Ozone-depleting substances (ODS) regulation (EC) 1005/2009 Not applicable

15.2. Chemical safety assessment

Chemical Safety Report No information available

Section 16: OTHER INFORMATION

Key or legend to abbreviations and acronyms used in the safety data sheet

Full text of H-Statements referred to under section 3

H225 - Highly flammable liquid and vapour

H226 - Flammable liquid and vapour
 H228 - Flammable solid
 H302 - Harmful if swallowed
 H304 - May be fatal if swallowed and enters airways
 H311 - Toxic in contact with skin
 H312 - Harmful in contact with skin
 H314 - Causes severe skin burns and eye damage
 H315 - Causes skin irritation
 H317 - May cause an allergic skin reaction
 H318 - Causes serious eye damage
 H319 - Causes serious eye irritation
 H331 - Toxic if inhaled
 H332 - Harmful if inhaled
 H335 - May cause respiratory irritation
 H336 - May cause drowsiness or dizziness
 H361d - Suspected of damaging the unborn child
 H373 - May cause damage to organs through prolonged or repeated exposure
 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

Legend

SVHC: Substances of Very High Concern for Authorisation:

Legend Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

TWA TWA (time-weighted average) STEL STEL (Short Term Exposure Limit)
 Ceiling Maximum limit value * Skin designation

Classification procedure	
Classification according to Regulation (EC) No. 1272/2008 [CLP]	Method Used
Acute oral toxicity	Calculation method
Acute dermal toxicity	Calculation method
Acute inhalation toxicity - gas	Calculation method
Acute inhalation toxicity - Vapor	Calculation method
Acute inhalation toxicity - dust/mist	Calculation method
Skin corrosion/irritation	Calculation method
Serious eye damage/eye irritation	Calculation method
Respiratory sensitisation	Calculation method
Mutagenicity	Calculation method
Carcinogenicity	Calculation method
Reproductive toxicity	Calculation method
Acute aquatic toxicity	Calculation method
Chronic aquatic toxicity	Calculation method
Aspiration toxicity	Calculation method
Ozone	Calculation method

Revision Date 21-May-2020

This material safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006

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End of Safety Data Sheet