

Issuing Date 30-Jan-2018

Revision Date 30-Jan-2018

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

Product Code(s) SDS-06209 EN E
Product Name Agilus30 White, FLX945
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 1865 407333 - Global – English Language response
- +44 1235 239670 - Europe - Multi lingual response
- +1 215 207 0061 - USA – Multi-lingual response
- +65 3158 1074 - Asia Pacific - Multi lingual response
- +61 2 8014 4558 - Australia - English Language response
- +86 512 8090 3042 - China - Chinese 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 2 - (H319)
Skin sensitisation	Category 1 - (H317)
Specific target organ toxicity (single exposure)	Category 3 - (H335)
Chronic aquatic toxicity	Category 2 - (H411)

2.2. Label elements

Contains Exo-1,7,7-trimethylbicyclo[2.2.1]hept-2-yl acrylate



Signal word

Warning

Hazard statements

H315 - Causes skin irritation
 H317 - May cause an allergic skin reaction
 H319 - Causes serious eye irritation
 H335 - May cause respiratory irritation
 H411 - Toxic to aquatic life with long lasting effects

Precautionary Statements - EU (§28, 1272/2008)

P280 - Wear eye protection/ face protection
 P101 - If medical advice is needed, have product container or label at hand
 P102 - Keep out of reach of children
 P405 - Store locked up
 P271 - Use only outdoors or in a well-ventilated area
 P501 - Dispose of contents/container to industrial incineration plant

2.3. Other hazards

Toxic to aquatic life.

Section 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances

Chemical name	EC No	CAS No	Weight-%	Classification according to Regulation (EC) No. 1272/2008 [CLP]	REACH Registration Number
Proprietary	Listed	-	50-60	Skin Irrit. 2 (H315) Eye Irrit. 2 (H319)	No data available
Exo-1,7,7-trimethylbicyclo[2.2.1]hept-2-yl acrylate	227-561-6	5888-33-5	10 - 30	Skin Sens. 1 (H317) Aquatic Acute 1 (H400) Aquatic Chronic 1 (H410) STOT SE 3 (H335)	17-2120129664-54-0000
Proprietary	Not Listed	-	3-10	Eye Irrit. 2B (H320) Skin Irrit. 2 (H315)	No data available
Titanium dioxide	236-675-5	13463-67-7	0.3-1	Not classified	No data available
Glycerol, propoxylated, esters with acrylic acid	500-114-5	52408-84-1	0.3-1	Skin Sens. 1 (H317) Eye Irrit. 2 (H319)	No data available
Proprietary	Listed	-	0.3-1	Skin Sens. 1 (H317) Aquatic Chronic 4 (H413)	No data available
4-(1-Oxo-2-propenyl)-morpholine	418-140-1	5117-12-4	0.3-1	Acute Tox. 4 (H302) Eye Dam. 1 (H318) Skin Sens. 1 (H317) STOT RE 2 (H373)	17-2120129668-46-0000
Stabilizer	-	-	0.1 - 0.3	Aquatic Chronic 1 (H410) Aquatic Acute 1 (H400)	No data available
Proprietary	Listed	-	0.1 - 0.3	Skin Sens. 1 (H317)	No data available
2-methoxy-1-methylethyl acetate	203-603-9	108-65-6	0.1 - 0.3	Flam. Liq. 3 (H226)	No data available
Xylene, mixture of isomers	215-535-7	1330-20-7	0.1 - 0.3	Acute Tox. 4 (H312) Acute Tox. 4 (H332) Skin Irrit. 2 (H315) Flam. Liq. 3 (H226) Eye Irrit. 2 (H319) STOT SE 3 (H335) STOT RE 2 (H373) Asp. Tox. 1 (H304)	No data available
Proprietary	Not Listed	-	0.1 - 0.3	Skin Sens. 1 (H317) Aquatic Chronic 2 (H411)	No data available
Aluminium Hydroxide	-	21645-51-2	0.1 - 0.3	Not classified	No data available
n-butyl acetate	204-658-1	123-86-4	<0.1	(EUH066) STOT SE 3 (H336) Flam. Liq. 3 (H226)	No data available
ethylbenzene	202-849-4	100-41-4	<0.1	Acute Tox. 4 (H332) STOT RE 2 (H373) Asp. Tox. 1 (H304) Flam. Liq. 2 (H225)	No data available
phosphoric acid	231-633-2	7664-38-2	<0.1	Skin Corr. 1B (H314)	No data available
2-Propenoic acid	201-177-9	79-10-7	<0.1	Acute Tox. 4 (H302) Acute Tox. 4 (H332) Skin Corr. 1A (H314) Aquatic Acute 1 (H400) Flam. Liq. 3 (H226) Eye Dam. 1 (H318) STOT SE 3 (H335) Aquatic Chronic 2 (H411)	No data available
camphene	201-234-8	79-92-5	<0.1	Flam. Sol. 1 (H228) Eye Irrit. 2 (H319) Aquatic Acute 1 (H400) Aquatic Chronic 2 (H411)	No data available

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

Additional information

This product requires tactile warnings if supplied to the general public

Section 4: FIRST AID MEASURES

4.1. Description of first aid measures

General advice	Show this safety data sheet to the doctor in attendance.
Inhalation	Remove to fresh air. IF exposed or concerned: Get medical advice/attention. Get medical attention immediately if symptoms occur.
Eye contact	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Keep eye wide open while rinsing. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention if irritation develops and persists. Do not rub affected area.
Skin contact	May cause an allergic skin reaction. In the case of skin irritation or allergic reactions see a doctor. Wash off immediately with soap and plenty of water for at least 15 minutes.
Ingestion	Do NOT induce vomiting. Clean mouth with water and drink afterwards plenty of water. Never give anything by mouth to an unconscious person. 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	Itching. Rashes. Hives. Burning sensation.
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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	No information available.
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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. Ensure adequate ventilation. Use personal protective equipment as required. 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	See Section 12 for additional Ecological Information.
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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	Ensure adequate ventilation.
General hygiene considerations	Wear suitable gloves and eye/face protection. Do not eat, drink or smoke when using this product. Avoid contact with skin, eyes or clothing.

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.
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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	-
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 vía dérmica*	TWA: 50 ppm TWA: 270 mg/m ³
Xylene, mixture of isomers 1330-20-7	TWA 50 ppm TWA 221 mg/m ³ STEL 100 ppm STEL 442 mg/m ³ *	TWA: 50 ppm TWA: 220 mg/m ³ STEL: 100 ppm STEL: 441 mg/m ³ Sk*	TWA: 50 ppm TWA: 221 mg/m ³ TWA: 1000 mg/m ³ STEL: 100 ppm STEL: 442 mg/m ³ STEL: 1500 mg/m ³ *	TWA: 50 ppm TWA: 221 mg/m ³ STEL: 100 ppm STEL: 442 mg/m ³ vía dérmica*	TWA: 100 ppm TWA: 440 mg/m ³ H*
Aluminium Hydroxide 21645-51-2	-	TWA: 10 mg/m ³ TWA: 4 mg/m ³	-	-	-
n-butyl acetate 123-86-4	-	TWA: 150 ppm TWA: 724 mg/m ³ STEL: 200 ppm STEL: 966 mg/m ³	TWA: 150 ppm TWA: 710 mg/m ³ STEL: 200 ppm STEL: 940 mg/m ³	TWA: 150 ppm TWA: 724 mg/m ³ STEL: 200 ppm STEL: 965 mg/m ³	TWA: 62 ppm TWA: 300 mg/m ³
ethylbenzene 100-41-4	TWA 100 ppm TWA 442 mg/m ³ STEL 200 ppm STEL 884 mg/m ³ *	TWA: 100 ppm TWA: 441 mg/m ³ STEL: 125 ppm STEL: 552 mg/m ³ Sk*	TWA: 20 ppm TWA: 88.4 mg/m ³ TWA: 1000 mg/m ³ STEL: 100 ppm STEL: 442 mg/m ³ STEL: 1500 mg/m ³ *	TWA: 100 ppm TWA: 441 mg/m ³ STEL: 200 ppm STEL: 884 mg/m ³ vía dérmica*	TWA: 20 ppm TWA: 88 mg/m ³ H*
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
2-Propenoic acid 79-10-7	-	-	TWA: 2 ppm TWA: 6 mg/m ³ STEL: 10 ppm STEL: 30 mg/m ³	TWA: 2 ppm TWA: 6 mg/m ³ vía dérmica*	TWA: 10 ppm TWA: 30 mg/m ³
camphene 79-92-5	-	-	TWA: 1000 mg/m ³ STEL: 1500 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
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*

Xylene, mixture of isomers 1330-20-7	TWA: 50 ppm TWA: 221 mg/m ³ STEL: 100 ppm STEL: 442 mg/m ³ pelle*	TWA: 50 ppm TWA: 221 mg/m ³ STEL: 100 ppm STEL: 442 mg/m ³ P*	TWA: 210 mg/m ³ STEL: 442 mg/m ³ H*	TWA: 50 ppm TWA: 220 mg/m ³ STEL: 100 ppm STEL: 440 mg/m ³ iho*	TWA: 25 ppm TWA: 109 mg/m ³ H*
n-butyl acetate 123-86-4	-	TWA: 150 ppm STEL: 200 ppm	-	TWA: 150 ppm TWA: 720 mg/m ³ STEL: 200 ppm STEL: 960 mg/m ³	TWA: 150 ppm TWA: 710 mg/m ³
ethylbenzene 100-41-4	TWA: 100 ppm TWA: 442 mg/m ³ STEL: 200 ppm STEL: 884 mg/m ³ pelle*	TWA: 100 ppm TWA: 442 mg/m ³ STEL: 200 ppm STEL: 884 mg/m ³ P*	TWA: 215 mg/m ³ STEL: 430 mg/m ³ H*	TWA: 50 ppm TWA: 220 mg/m ³ STEL: 200 ppm STEL: 880 mg/m ³ iho*	TWA: 50 ppm TWA: 217 mg/m ³ H*
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
2-Propenoic acid 79-10-7	-	TWA: 2 ppm P*	-	TWA: 2 ppm TWA: 6 mg/m ³ STEL: 15 ppm STEL: 45 mg/m ³	TWA: 2 ppm TWA: 5.9 mg/m ³ H*
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: 10.0 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
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*
Xylene, mixture of isomers 1330-20-7	TWA: 50 ppm TWA: 221 mg/m ³ STEL 100 ppm STEL 442 mg/m ³ H*	TWA: 100 ppm TWA: 435 mg/m ³ STEL: 200 ppm STEL: 870 mg/m ³ H*	TWA: 100 mg/m ³	TWA: 25 ppm TWA: 108 mg/m ³ STEL: 37.5 ppm STEL: 135 mg/m ³ H*	TWA: 50 ppm TWA: 221 mg/m ³ STEL: 100 ppm STEL: 442 mg/m ³ Sk*
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
n-butyl acetate 123-86-4	TWA: 100 ppm TWA: 480 mg/m ³ STEL 100 ppm STEL 480 mg/m ³ Ceiling 100 ppm Ceiling 480 mg/m ³	TWA: 100 ppm TWA: 480 mg/m ³ STEL: 200 ppm STEL: 960 mg/m ³	STEL: 950 mg/m ³ TWA: 200 mg/m ³	TWA: 75 ppm TWA: 355 mg/m ³ STEL: 112.5 ppm STEL: 418.75 mg/m ³	TWA: 150 ppm TWA: 710 mg/m ³ STEL: 200 ppm STEL: 950 mg/m ³
ethylbenzene 100-41-4	TWA: 100 ppm TWA: 440 mg/m ³ STEL 200 ppm STEL 880 mg/m ³ H*	TWA: 50 ppm TWA: 220 mg/m ³ STEL: 50 ppm STEL: 220 mg/m ³ H*	STEL: 400 mg/m ³ TWA: 200 mg/m ³	TWA: 5 ppm TWA: 20 mg/m ³ STEL: 10 ppm STEL: 30 mg/m ³ H*	TWA: 100 ppm TWA: 442 mg/m ³ STEL: 200 ppm STEL: 884 mg/m ³ Sk*
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	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
2-Propenoic acid 79-10-7	-	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: 30 mg/m ³ STEL: 15 ppm STEL: 45 mg/m ³	TWA: 2 ppm TWA: 6 mg/m ³ STEL: 6 ppm STEL: 18 mg/m ³

Biological occupational exposure limits

Chemical name	European Union	United Kingdom	France	Spain	Germany
Xylene, mixture of isomers	-	650	-	1	1.5 mg/L

1330-20-7					2000 mg/L
ethylbenzene 100-41-4	-	-	-	700	300 mg/g
Chemical name	Italy	Portugal	Netherlands	Finland	Denmark
Xylene, mixture of isomers 1330-20-7	-	-	-	5.0	
ethylbenzene 100-41-4	-	-	-	5.2	
Chemical name	Austria	Switzerland	Poland	Norway	Ireland
Xylene, mixture of isomers 1330-20-7	-	1.5	-	-	-
ethylbenzene 100-41-4	-	800	-	-	-

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 Wear safety glasses with side shields (or goggles). If splashes are likely to occur, wear safety glasses with side-shields.

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

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 white
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	No data available	None known
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 None known based on information supplied.

10.5. Incompatible materials

Incompatible materials None known based on information supplied.

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	Specific test data for the substance or mixture is not available.
Eye contact	Specific test data for the substance or mixture is not available.
Skin contact	Specific test data for the substance or mixture is not available.
Ingestion	Specific test data for the substance or mixture is not available. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhoea.

Information on toxicological effects

Symptoms Itching. Rashes. Hives. Redness. May cause redness and tearing of the eyes.

Numerical measures of toxicity**Acute toxicity**

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

ATEmix (oral)	16,913.00 mg/kg
ATEmix (dermal)	13,803.00 mg/kg

Component Information

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
Exo-1,7,7-trimethylbicyclo[2.2.1]hept-2-yl acrylate	= 4890 mg/kg (Rat)	> 3000 mg/kg (Rabbit)	
Titanium dioxide	> 10000 mg/kg > 10000 mg/kg (Rat)		
4-(1-Oxo-2-propenyl)-morpholine	= 588 mg/kg (rat)	> 2000 mg/kg (rat)	= 5.28 mg/l (rat)
Proprietary	(Rat) LD50 = 1,590 - 3,910 mg/kg	(Rabbit) LD50 = > 2,000 mg/kg	(Rat) 1 h LC0 = 6.7 mg/l
2-methoxy-1-methylethyl acetate	= 8532 mg/kg (Rat)	> 5 g/kg (Rabbit)	
Xylene, mixture of isomers	= 3500 mg/kg (Rat)	> 4350 mg/kg (Rabbit) > 1700 mg/kg (Rabbit)	= 29.08 mg/L (Rat) 4 h = 5000 ppm (Rat) 4 h
Proprietary	>2000 mg/kg (Rat)	>2000 mg/kg	
Aluminium Hydroxide	> 5000 mg/kg (Rat)		
n-butyl acetate	= 10768 mg/kg (Rat)	> 17600 mg/kg (Rabbit)	= 390 ppm (Rat) 4 h
ethylbenzene	= 3500 mg/kg (Rat)	= 15400 mg/kg (Rabbit)	= 17.4 mg/L (Rat) 4 h
phosphoric acid	= 1530 mg/kg (Rat)	= 2740 mg/kg (Rabbit)	> 850 mg/m ³ (Rat) 1 h
2-Propenoic acid	= 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
camphene	> 5 g/kg (Rat)	> 2500 mg/kg (Rabbit)	= 17100 mg/m ³ (Rat) 1 h

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

Skin corrosion/irritation	No information available.
Serious eye damage/eye irritation	No information available.
Respiratory or skin sensitisation	No information available.

Germ cell mutagenicity	No information available.
Carcinogenicity	No information available.
Reproductive toxicity	No information available.
STOT - single exposure	No information available.
STOT - repeated exposure	No information available.
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
Exo-1,7,7-trimethylbicyclo [2.2.1]hept-2-yl acrylate	1.98 mg/l Fresh water	0.704 mg/l Fresh water	-	0.524 mg/l Fresh water
4-(1-Oxo-2-propenyl)-morpholine	120 mg/l (algae)	-	-	120 mg/kg (daphnia)
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
2-methoxy-1-methylethyl acetate	-	161: 96 h Pimephales promelas mg/L LC50 static	-	500: 48 h Daphnia magna mg/L EC50
Xylene, mixture of isomers	-	13.5 - 17.3: 96 h Oncorhynchus mykiss mg/L LC50 19: 96 h Lepomis macrochirus mg/L LC50 30.26 - 40.75: 96 h Poecilia reticulata mg/L LC50 static 23.53 - 29.97: 96 h Pimephales promelas mg/L LC50 static 7.711 - 9.591: 96 h Lepomis macrochirus mg/L LC50 static 2.661 - 4.093: 96 h Oncorhynchus mykiss mg/L LC50 static 780: 96 h Cyprinus carpio mg/L LC50 semi-static 780: 96 h Cyprinus carpio mg/L LC50 13.4: 96 h Pimephales promelas mg/L LC50 flow-through 13.1 - 16.5: 96 h Lepomis macrochirus mg/L LC50 flow-through	-	0.6: 48 h Gammarus lacustris mg/L LC50 3.82: 48 h water flea mg/L EC50
n-butyl acetate	674.7: 72 h Desmodesmus subspicatus mg/L EC50	17 - 19: 96 h Pimephales promelas mg/L LC50 flow-through 62: 96 h	-	72.8: 24 h Daphnia magna mg/L EC50

		Leuciscus idus mg/L LC50 static 100: 96 h Lepomis macrochirus mg/L LC50 static		
ethylbenzene	2.6 - 11.3: 72 h Pseudokirchneriella subcapitata mg/L EC50 static 438: 96 h Pseudokirchneriella subcapitata mg/L EC50 4.6: 72 h Pseudokirchneriella subcapitata mg/L EC50 1.7 - 7.6: 96 h Pseudokirchneriella subcapitata mg/L EC50 static	9.6: 96 h Poecilia reticulata mg/L LC50 static 7.55 - 11: 96 h Pimephales promelas mg/L LC50 flow-through 11.0 - 18.0: 96 h Oncorhynchus mykiss mg/L LC50 static 4.2: 96 h Oncorhynchus mykiss mg/L LC50 semi-static 9.1 - 15.6: 96 h Pimephales promelas mg/L LC50 static 32: 96 h Lepomis macrochirus mg/L LC50 static	-	1.8 - 2.4: 48 h Daphnia magna mg/L EC50
phosphoric acid	-	3 - 3.5: 96 h Gambusia affinis mg/L LC50	-	4.6: 12 h Daphnia magna mg/L EC50
2-Propenoic acid	0.04: 72 h Desmodemus subspicatus mg/L EC50 0.17: 96 h Pseudokirchneriella subcapitata mg/L EC50	222: 96 h Brachydanio rerio mg/L LC50 semi-static	-	95: 48 h Daphnia magna mg/L EC50 270: 24 h Daphnia magna mg/L LC50 Static
camphene	1000: 72 h Desmodemus 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

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
2-methoxy-1-methylethyl acetate	0.43
Xylene, mixture of isomers	3.15
n-butyl acetate	1.81
ethylbenzene	3.2
2-Propenoic acid	0.46

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

<u>Additional information</u>	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
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IMDG

14.1 UN Number	UN3082
14.2 UN proper shipping name	OTHER REGULATED SUBSTANCES, LIQUID, N.O.S. , (Exo-1,7,7-trimethylbicyclo[2.2.1]hept-2-yl acrylate)
14.3 Transport hazard class(es)	9
14.4 Packing group Description	III UN3082, OTHER REGULATED SUBSTANCES, LIQUID, N.O.S. (2-Propenoic acid), 9, III, Marine pollutant
14.5 Marine pollutant Environmental Hazard	Not applicable Yes
14.6 Special Provisions EmS-No	274, 335, 969 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	OTHER REGULATED SUBSTANCES, LIQUID, N.O.S. , (Exo-1,7,7-trimethylbicyclo[2.2.1]hept-2-yl acrylate)
14.3 Transport hazard class(es) Labels	9 9
14.4 Packing group Description	III UN3082, OTHER REGULATED SUBSTANCES, LIQUID, N.O.S. (2-Propenoic acid), 9, III
14.5 Environmental Hazard	Yes
14.6 Special Provisions Classification code	None M6

ADR

14.1 UN Number	UN3082
14.2 UN proper shipping name	OTHER REGULATED SUBSTANCES, LIQUID, N.O.S. , (Exo-1,7,7-trimethylbicyclo[2.2.1]hept-2-yl acrylate)
14.3 Transport hazard class(es) Labels	9 9
14.4 Packing group Description	III UN3082, OTHER REGULATED SUBSTANCES, LIQUID, N.O.S. (2-Propenoic acid), 9, III

14.5 Environmental Hazard Yes
 14.6 Special Provisions 274, 335, 601, 375
 Classification code M6
 Tunnel restriction code (E)

IATA

14.1 UN Number UN3082
 14.2 UN proper shipping name Other regulated substances, liquid, n.o.s. , (Exo-1,7,7-trimethylbicyclo[2.2.1]hept-2-yl acrylate)
 14.3 Transport hazard class(es) 9
 14.4 Packing group III
 Description UN3082, Other regulated substances, liquid, n.o.s. (2-Propenoic acid), 9, III
 14.5 Environmental Hazard Yes
 14.6 Special Provisions 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
2-methoxy-1-methylethyl acetate 108-65-6	RG 84	-
Xylene, mixture of isomers 1330-20-7	RG 4bis, RG 84	-
n-butyl acetate 123-86-4	RG 84	-
ethylbenzene 100-41-4	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**

H332 - Harmful if inhaled
 H373 - May cause damage to organs through prolonged or repeated exposure if inhaled
 H304 - May be fatal if swallowed and enters airways
 H225 - Highly flammable liquid and vapour
 H226 - Flammable liquid and vapour
 H410 - Very toxic to aquatic life with long lasting effects
 H400 - Very toxic to aquatic life
 H336 - May cause drowsiness or dizziness
 H312 - Harmful in contact with skin
 H315 - Causes skin irritation
 H319 - Causes serious eye irritation
 H335 - May cause respiratory irritation
 H317 - May cause an allergic skin reaction
 H413 - May cause long lasting harmful effects to aquatic life
 H302 - Harmful if swallowed
 H318 - Causes serious eye damage
 H411 - Toxic to aquatic life with long lasting effects
 H320 - Causes eye irritation
 H314 - Causes severe skin burns and eye damage
 H228 - Flammable solid
 EUH066 - Repeated exposure may cause skin dryness or cracking

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
STOT - repeated exposure	Calculation method

Acute aquatic toxicity	Calculation method
Chronic aquatic toxicity	Calculation method
Aspiration toxicity	Calculation method

Revision Date 30-Jan-2018

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

Disclaimer

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End of Safety Data Sheet