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Revision Number 2

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

Product Code(s) SDS-06133 EN E
Product Name TangoBlackPlus, FLX980
PN (Part Number) OBJ-03231, OBJ-06272
Denmark PR No 2292167
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

| | |
|---|----------------------|
| Acute toxicity - Inhalation (Dusts/Mists) | Category 4 - (H332) |
| Skin corrosion/irritation | Category 2 - (H315) |
| Serious eye damage/eye irritation | Category 2 - (H319) |
| Skin sensitisation | Category 1A - (H317) |
| Chronic aquatic toxicity | Category 2 - (H411) |

2.2. Label elements

Contains 2-[[[(butylamino)carbonyl]oxy]ethyl acrylate (main constituent >84%), Exo-1,7,7-trimethylbicyclo[2.2.1]hept-2-yl acrylate, 2-[[[(butylamino)carbonyl]oxy]ethyl acrylate (main constituent <84%), Acrylic acid, 2-hydroxyethyl ester



Signal word

Warning

Hazard statements

H315 - Causes skin irritation
 H317 - May cause an allergic skin reaction
 H319 - Causes serious eye irritation
 H332 - Harmful if inhaled
 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
 P271 - Use only outdoors or in a well-ventilated area
 P273 - Avoid release to the environment
 P280 - Wear protective gloves and eye/face protection
 P391 - Collect spillage
 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 | Weight-% | Classification according to Regulation (EC) No. | REACH Registration |
|---------------|-------|--------|----------|---|--------------------|
|---------------|-------|--------|----------|---|--------------------|

| | | | | 1272/2008 [CLP] | Number |
|---|-----------|------------|-----------|--|---------------------------|
| Proprietary | Listed | - | 30- 50 | Acute Tox. 3 (H331) Skin Sens. 1A (H317) Aquatic Chronic 2 (H411) | No data available |
| Proprietary | Listed | - | 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) | 17-2120129664-54 -0000 |
| Proprietary | Listed | - | 10 - 30 | Acute Tox. 4 (H332) Skin Sens. 1B (H317) Aquatic Chronic 2 (H411) | No data available |
| Proprietary | Listed | - | 0.3-1 | Skin Sens. 1 (H317) Aquatic Chronic 4 (H413) | No data available |
| Acrylic acid, 2-hydroxyethyl ester | 212-454-9 | 818-61-1 | 0.3-1 | 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) | 17-2120129649-46 -0000 |
| Proprietary | Listed | - | 0.1 - 0.3 | Acute Tox. 4 (H302) Skin Sens. 1B (H317) Aquatic Chronic 1 (H410) | No data available |
| 2,6-Bis(1,1-Dimethylethyl)-4-Methyl-Phenol | 204-881-4 | 128-37-0 | 0.1 - 0.3 | Aquatic Acute 1 (H400) Aquatic Chronic 1 (H410) | No data available |
| Benzyl Alcohol | 202-859-9 | 100-51-6 | 0.1 - 0.3 | Acute Tox. 4 (H302) Acute Tox. 4 (H332) Eye Irrit. 2 (H319) | No data available |
| Glycerol, propoxylated, esters with acrylic acid | 500-114-5 | 52408-84-1 | 0.1 - 0.3 | Skin Sens. 1 (H317) Eye Irrit. 2 (H319) | No data available |
| Xylene, mixture of isomers | 215-535-7 | 1330-20-7 | 0.1 - 0.3 | Flam. Liq. 3 (H226) Acute Tox. 4 (H312) Acute Tox. 4 (H332) Skin Irrit. 2 (H315) Eye Irrit. 2 (H319) STOT SE 3 (H335) STOT RE 2 (H373) Asp. Tox. 1 (H304) | No data available |
| camphene | 201-234-8 | 79-92-5 | <0.1 | Flam. Sol. 2 (H228) Eye Irrit. 2 (H319) Aquatic Acute 1 (H400) Aquatic Chronic 1 (H410) | 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 |
| 2-methoxy-1-methylethyl acetate | 203-603-9 | 108-65-6 | <0.1 | Flam. Liq. 3 (H226) STOT SE 3 (H336) | No data available |
| Limonene | 205-341-0 | 138-86-3 | <0.1 | Flam. Liq. 3 (H226) Asp. Tox. 1 (H304) Skin Irrit. 2 (H315) Skin Sens. 1B (H317) Aquatic Acute 1 (H400) Aquatic Chronic 1 (H410) | No data available |
| n-butyl acetate | 204-658-1 | 123-86-4 | <0.1 | Flam. Liq. 3 (H226) STOT SE 3 (H336) (EUH066) | No data available |
| ethylbenzene | 202-849-4 | 100-41-4 | <0.1 | Flam. Liq. 2 (H225) Acute Tox. 4 (H332) STOT RE 2 (H373) | No data available |

| | | | | | |
|-----------------------------|-----------|-----------|------|---|-------------------|
| | | | | Asp. Tox. 1 (H304) | |
| Isopentyl Acetate | 204-662-3 | 123-92-2 | <0.1 | Flam. Liq. 3 (H226) (EUH066) | No data available |
| 3,7-Dimethyl-2,6-Octadienal | 226-394-6 | 5392-40-5 | <0.1 | Skin Sens. 1B (H317) Skin Irrit. 2 (H315) Eye Irrit. 2 (H319) | No data available |

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

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. Get medical attention immediately if symptoms occur. If symptoms persist, call a doctor. If breathing has stopped, give artificial respiration. Get medical attention immediately. |
| 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 | Clean mouth with water and drink afterwards plenty of water. Never give anything by mouth to an unconscious person. Do NOT induce vomiting. Get medical attention. |
| Self-protection of the first aider | Avoid contact with skin, eyes or clothing. Wear personal protective clothing (see section 8). Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination. Avoid breathing vapours or mists. Use personal protective equipment as required. See section 8 for more information. |

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

| | |
|-----------------|--|
| Symptoms | Itching. Rashes. Hives. Burning sensation. Coughing and/ or wheezing. Difficulty in breathing. |
|-----------------|--|

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

| | |
|------------------------|--|
| Note to doctors | May cause sensitisation in susceptible persons. Treat symptomatically. |
|------------------------|--|

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. |
|---|---|

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. |
|---|---|

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. Avoid breathing vapours or mists. |
| 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. |
|----------------------------------|---|

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. |
|------------------------------------|--|

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 | 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.

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 |
|---|---|---|--|--|--|
| 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 |
| 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* |
| camphene 79-92-5 | - | - | TWA: 1000 mg/m ³ STEL: 1500 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 | - | - |
| 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 |
| Limonene 138-86-3 | - | - | TWA: 1000 mg/m ³ STEL: 1500 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* |
| Isopentyl Acetate 123-92-2 | TWA 50 ppm TWA 270 mg/m ³ STEL 100 ppm STEL 540 mg/m ³ | TWA: 50 ppm TWA: 270 mg/m ³ | TWA: 50 ppm TWA: 270 mg/m ³ STEL: 100 ppm STEL: 540 mg/m ³ | TWA: 50 ppm TWA: 270 mg/m ³ STEL: 100 ppm STEL: 540 mg/m ³ | TWA: 50 ppm TWA: 270 mg/m ³ |
| 3,7-Dimethyl-2,6-Octadiene | - | - | - | TWA: 5 ppm | - |

| nal 5392-40-5 | | | | vía dérmica* | |
|---|--|--|---|--|--|
| Chemical name | Italy | Portugal | Netherlands | Finland | Denmark |
| Acrylic acid, 2-hydroxyethyl ester 818-61-1 | - | - | - | - | TWA: 1 ppm TWA: 5 mg/m ³ H* |
| 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 |
| Benzyl Alcohol 100-51-6 | - | - | - | TWA: 10 ppm TWA: 45 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 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* |
| 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* |
| 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* |
| Isopentyl Acetate 123-92-2 | TWA: 50 ppm TWA: 270 mg/m ³ STEL: 100 ppm STEL: 540 mg/m ³ | TWA: 50 ppm TWA: 270 mg/m ³ STEL: 100 ppm STEL: 540 mg/m ³ | STEL: 530 mg/m ³ | TWA: 50 ppm TWA: 270 mg/m ³ STEL: 100 ppm STEL: 540 mg/m ³ | TWA: 50 ppm TWA: 271 mg/m ³ |
| Chemical name | Austria | Switzerland | Poland | Norway | Ireland |
| 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: 10 mg/m ³ STEL: 30 mg/m ³ |
| Benzyl Alcohol 100-51-6 | - | - | TWA: 240 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 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* |
| 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* |
| Limonene 138-86-3 | - | - | - | TWA: 25 ppm TWA: 140 mg/m ³ TWA: 40 ppm TWA: 275 mg/m ³ STEL: 37.5 ppm STEL: 175 mg/m ³ STEL: 60 ppm STEL: 343.75 mg/m ³ | - |
| n-butyl acetate 123-86-4 | TWA: 100 ppm TWA: 480 mg/m ³ STEL 100 ppm | TWA: 100 ppm TWA: 480 mg/m ³ STEL: 200 ppm | STEL: 950 mg/m ³ TWA: 200 mg/m ³ | TWA: 75 ppm TWA: 355 mg/m ³ STEL: 112.5 ppm | TWA: 150 ppm TWA: 710 mg/m ³ STEL: 200 ppm |

| | | | | | |
|--|--|--|---|---|---|
| | STEL 480 mg/m ³ Ceiling 100 ppm Ceiling 480 mg/m ³ | STEL: 960 mg/m ³ | | STEL: 418.75 mg/m ³ | 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* |
| Isopentyl Acetate 123-92-2 | TWA: 50 ppm TWA: 270 mg/m ³ STEL 100 ppm STEL 540 mg/m ³ | TWA: 50 ppm TWA: 260 mg/m ³ STEL: 50 ppm STEL: 260 mg/m ³ | STEL: 500 mg/m ³ TWA: 250 mg/m ³ | TWA: 50 ppm TWA: 260 mg/m ³ STEL: 75 ppm STEL: 325 mg/m ³ | TWA: 50 ppm TWA: 260 mg/m ³ STEL: 100 ppm STEL: 520 mg/m ³ |
| 3,7-Dimethyl-2,6-Octadie nal 5392-40-5 | - | - | STEL: 54 mg/m ³ TWA: 27 mg/m ³ | - | - |

Biological occupational exposure limits

| Chemical name | European Union | United Kingdom | France | Spain | Germany |
|--|----------------|----------------|-------------|---------|-----------------------|
| Xylene, mixture of isomers 1330-20-7 | - | 650 | - | 1 | 1.5 mg/L 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 | black |
| 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 | 1.05 | 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). Harmful by inhalation. |
| Eye contact | Irritating to eyes. (based on components). Causes serious eye irritation. |
| 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 Itching. Rashes. Hives. Redness. May cause redness and tearing of the eyes. Coughing and/ or wheezing.

Numerical measures of toxicity

Acute toxicity

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

| | |
|--------------------------------------|-----------------|
| ATEmix (dermal) | 66,666.67 mg/kg |
| ATEmix (inhalation-dust/mist) | 1.01 mg/l |

Component Information

| Chemical name | Oral LD50 | Dermal LD50 | Inhalation LC50 |
|--|-----------------------|---|---|
| Proprietary | = 4890 mg/kg (Rat) | > 3000 mg/kg (Rabbit) | - |
| Acrylic acid, 2-hydroxyethyl ester | = 548 mg/kg (Rat) | = 154 mg/kg (Rabbit) | - |
| 2,6-Bis(1,1-Dimethylethyl)-4-Methyl-Phenol | > 2930 mg/kg (Rat) | > 2000 mg/kg (Rat) | - |
| Benzyl Alcohol | = 1230 mg/kg (Rat) | = 2 g/kg (Rabbit) | = 8.8 mg/L (Rat) 4 h |
| 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 |
| camphene | > 5 g/kg (Rat) | > 2500 mg/kg (Rabbit) | = 17100 mg/m ³ (Rat) 1 h |
| 2-methoxy-1-methylethyl acetate | = 8532 mg/kg (Rat) | > 5 g/kg (Rabbit) | - |
| Limonene | = 5300 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 |
| Isopentyl Acetate | = 16600 mg/kg (Rat) | > 5 g/kg (Rabbit) | - |

| | | | |
|-----------------------------|----------------------|-------------------------|---|
| 3,7-Dimethyl-2,6-Octadienal | = 4960 mg/kg (Rat) | = 2250 mg/kg (Rabbit) | - |
|-----------------------------|----------------------|-------------------------|---|

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. Irritating 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 | 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 |
|--|---|--|----------------------------|---|
| Proprietary | 1.98 mg/l Fresh water | 0.704 mg/l Fresh water | - | 0.524 mg/l Fresh water |
| 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 |
| 2,6-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 | - | - |
| Benzyl Alcohol | 35: 3 h Anabaena variabilis mg/L EC50 | 460: 96 h Pimephales promelas mg/L LC50 static 10: 96 h Lepomis macrochirus mg/L LC50 static | - | 23: 48 h water flea 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 | - | 0.6: 48 h Gammarus lacustris mg/L LC50 3.82: 48 h water flea mg/L EC50 |

| | | | | |
|---------------------------------|--|---|---|---|
| | | h Cyprinus carpio mg/L LC50 semi-static 780: 96 h 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 | | |
| 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 |
| 2-methoxy-1-methylethyl acetate | - | 161: 96 h Pimephales promelas mg/L LC50 static | - | 500: 48 h Daphnia magna mg/L EC50 |
| n-butyl acetate | 674.7: 72 h Desmodemus subspicatus mg/L EC50 | 17 - 19: 96 h Pimephales promelas mg/L LC50 flow-through 62: 96 h Leuciscus idus mg/L LC50 static 100: 96 h Lepomis macrochirus mg/L LC50 static | - | 72.8: 24 h Daphnia magna mg/L EC50 |
| 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 |
| 3,7-Dimethyl-2,6-Octadienal | 16: 72 h Desmodemus subspicatus mg/L EC50 19: 96 h Desmodemus subspicatus mg/L EC50 | 4.6 - 10: 96 h Leuciscus idus mg/L LC50 static | - | 7: 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 |
|--|-----------------------|
| Acrylic acid, 2-hydroxyethyl ester | 0.21 |
| 2,6-Bis(1,1-Dimethylethyl)-4-Methyl-Phenol | 4.17 |
| Benzyl Alcohol | 1.1 |
| Xylene, mixture of isomers | 3.15 |
| 2-methoxy-1-methylethyl acetate | 0.43 |
| n-butyl acetate | 1.81 |
| ethylbenzene | 3.2 |
| 3,7-Dimethyl-2,6-Octadienal | 2.76 |

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. (2-[[[(butylamino)carbonyl]oxy]ethyl acrylate (main constituent >84%), Exo-1,7,7-trimethylbicyclo[2.2.1]hept-2-yl acrylate), 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. (2-[[[(butylamino)carbonyl]oxy]ethyl acrylate (main constituent >84%), Exo-1,7,7-trimethylbicyclo[2.2.1]hept-2-yl acrylate), 9, III

14.5 Environmental Hazard Yes
 14.6 Special Provisions 274, 335, 375, 601
 Classification code M6

ADR

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.
 (2-[[[(butylamino)carbonyl]oxy]ethyl acrylate (main constituent >84%),
 Exo-1,7,7-trimethylbicyclo[2.2.1]hept-2-yl acrylate), 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 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.
 (2-[[[(butylamino)carbonyl]oxy]ethyl acrylate (main constituent >84%),
 Exo-1,7,7-trimethylbicyclo[2.2.1]hept-2-yl acrylate), 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 | - |
| Benzyl Alcohol 100-51-6 | RG 84 | - |
| Xylene, mixture of isomers 1330-20-7 | RG 4bis, RG 84 | - |
| 2-methoxy-1-methylethyl acetate 108-65-6 | RG 84 | - |
| Limonene 138-86-3 | RG 84 | - |
| n-butyl acetate 123-86-4 | RG 84 | - |
| ethylbenzene 100-41-4 | RG 84 | - |
| Isopentyl Acetate | RG 84 | - |

123-92-2

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**

EUH066 - Repeated exposure may cause skin dryness or cracking
 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
 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 |
| STOT - single exposure | Calculation method |
| STOT - repeated exposure | Calculation method |
| Acute aquatic toxicity | Calculation method |
| Chronic aquatic toxicity | Calculation method |
| Aspiration toxicity | Calculation method |
| Ozone | Calculation method |

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

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End of Safety Data Sheet