UV INK LH-100 CYAN

Safety Data Sheet

according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878
Issue date: 8-3-2010 Revision date: 28-9-2023 Supersedes version of: 27-6-2023 Version: 9.0

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

1.1. Product identifier

Product form : Mixture
Product name : UV INK LH-100 CYAN
UFI : 4MHC-W03R-080H-SKW2
Product code : LH-100-C-BA_LH-100-C-B2
Product group : Trade product

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

Relevant identified uses

Main use category : Industrial use,Professional use

Title	Use descriptors
UV INK LH-100 CYAN	SU0, PC18, PROC1

Full text of use descriptors: see section 16

1.3. Details of the supplier of the safety data sheet

Mimaki Europe B.V.
Stammerdijk 7E
1112 AA Diemen
Netherlands
T +31 20 4627640
reach@mimakieurope.com

1.4. Emergency telephone number

Emergency number : National Poisons Information Centre +31 (0)30 - 274 8888
(Only for the purpose of informing medical personnel in cases of accidental intoxications. The emergency phone number is 24 hours/day available.)

Country/Area	Organisation/Company	Address	Emergency number	Comment
United Kingdom	Guy's & St Thomas' Poisons Unit Medical Toxicology Unit, Guy's & St Thomas' Hospital Trust	Avonley Road SE14 5ER	+44 20 7188 7188	

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP]

Skin corrosion/irritation, Category 2	H315
Serious eye damage/eye irritation, Category 1	H318
Skin sensitisation, Category 1	H317
Carcinogenicity, Category 2	H351
Reproductive toxicity, Category 1B	H360Df
Hazardous to the aquatic environment – Acute Hazard, Category 1	H400
Hazardous to the aquatic environment – Chronic Hazard, Category 2	H411

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

Adverse physicochemical, human health and environmental effects

Suspected of causing cancer. May damage fertility or the unborn child. Causes skin irritation. May cause an allergic skin reaction. Causes serious eye damage. Very toxic to aquatic life. Toxic to aquatic life with long lasting effects.

2.2. Label elements

Labelling according to Regulation (EC) No. 1272/2008 [CLP]

Hazard pictograms (CLP) :

GHS05 GHS07 GHS08 GHS09

Signal word (CLP) : Danger

Contains : Hexamethylene diacrylate;tetrahydrofurfuryl acrylate;pentaerythritol triacrylate;4-hydroxy-2,2,6,6-tetramethylpiperidinoxyl ;2-ethyl-2-[[(1-oxoallyl) oxy] methyl]-1,3-propanediyl diacrylate; 2,2-bis (acryloyloxymethyl)butyl acrylate; trimethylolpropane triacrylate

Hazard statements (CLP) : H315 - Causes skin irritation.
H317 - May cause an allergic skin reaction.
H318 - Causes serious eye damage.
H351 - Suspected of causing cancer.
H360Df - May damage the unborn child. Suspected of damaging fertility.
H410 - Very toxic to aquatic life with long lasting effects.

Precautionary statements (CLP) : P201 - Obtain special instructions before use.
P280 - Wear protective gloves, protective clothing, eye protection, face protection.
P308+P313 - IF exposed or concerned: Get medical advice/attention.
P273 - Avoid release to the environment.
P391 - Collect spillage.
P501 - Dispose of contents and container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation.

EUH-statements : EUH071 - Corrosive to the respiratory tract.

Extra phrases : Restricted to professional users.

2.3. Other hazards

Contains no PBT and/or vPvB substances ≥ 0.1% assessed in accordance with REACH Annex XIII

Component	
Substance(s) not meeting the PBT criteria of REACH regulation, in accordance with Annex XIII	2-methyl-1-(4-methylthiophenyl)-2-morpholinopropan-1-one (71868-10-5)
Substance(s) not meeting the vPvB criteria of REACH regulation, in accordance with Annex XIII	2-methyl-1-(4-methylthiophenyl)-2-morpholinopropan-1-one (71868-10-5)

The mixture does not contain substance(s) included in the list established in accordance with Article 59(1) of REACH for having endocrine disrupting properties, or substance(s) are not identified as having endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at a concentration equal to or greater than 0,1 %

Component	
Substance(s) not included in the list established in accordance with Article 59(1) of REACH for having endocrine disrupting properties, or is not identified as having endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605	2-methyl-1-(4-methylthiophenyl)-2-morpholinopropan-1-one (71868-10-5)

SECTION 3: Composition/information on ingredients

3.2. Mixtures

Name	Product identifier	% w/w (% w/w)	Classification according to Regulation (EC) No. 1272/2008 [CLP]
Hexamethylene diacrylate (Note D)	CAS-No.: 13048-33-4 EC-No.: 235-921-9 EC Index-No.: 607-109-00-8 REACH-no: 01-2119484737-22	20 – 30	Skin Irrit. 2, H315 Eye Irrit. 2, H319 Skin Sens. 1, H317 Aquatic Acute 1, H400 Aquatic Chronic 2, H411
tetrahydrofurfuryl acrylate	CAS-No.: 2399-48-6 EC-No.: 219-268-7 REACH-no: 01-2120738396-46	20 – 30	Acute Tox. 4 (Oral), H302 Skin Corr. 1C, H314 Eye Dam. 1, H318 Skin Sens. 1B, H317 Repr. 1B, H360Df STOT RE 2, H373 Aquatic Chronic 2, H411
pentaerythritol triacrylate (Note D)	CAS-No.: 3524-68-3 EC-No.: 222-540-8 EC Index-No.: 607-110-00-3	10 – 20	Eye Irrit. 2, H319 Skin Irrit. 2, H315 Skin Sens. 1, H317
2-[[3-[(1-oxoallyl)oxy]-2,2-bis[[(1-oxoallyl)oxy]methyl]propoxy]methyl]-2-[[(1-oxoallyl)oxy]methyl]-1,3-propanediyl diacrylate	CAS-No.: 29570-58-9 EC-No.: 249-698-0	10 – 20	Eye Irrit. 2, H319
2-methyl-1-(4-methylthiophenyl)-2-morpholinopropan-1-one substance listed on REACH Candidate List	CAS-No.: 71868-10-5 EC-No.: 400-600-6 EC Index-No.: 606-041-00-6 REACH-no: 01-2119900396-41	10 – 20	Acute Tox. 4 (Oral), H302 Repr. 1B, H360Df Aquatic Chronic 2, H411
2-ethyl-2-[[(1-oxoallyl) oxy] methyl]-1,3-propanediyl diacrylate; 2,2-bis (acryloyloxymethyl)butyl acrylate; trimethylolpropane triacrylate (Note D)	CAS-No.: 15625-89-5 EC-No.: 239-701-3 EC Index-No.: 607-111-00-9 REACH-no: 01-2119489896-11	5 – 10	Skin Irrit. 2, H315 Eye Irrit. 2, H319 Skin Sens. 1, H317 Carc. 2, H351 Aquatic Acute 1, H400 Aquatic Chronic 1, H410
2-isopropyl-9H-thioxanthen-9-one	CAS-No.: 5495-84-1 REACH-no: 01-2120769513-49	1 – 5	Repr. 2, H361 Aquatic Acute 1, H400
4-hydroxy-2,2,6,6-tetramethylpiperidinoxyl	CAS-No.: 2226-96-2 EC-No.: 218-760-9 REACH-no: 01-2119968566-20	1 – 5	Acute Tox. 4 (Oral), H302 Eye Dam. 1, H318 STOT RE 2, H373

Note D: Certain substances which are susceptible to spontaneous polymerisation or decomposition are generally placed on the market in a stabilised form. It is in this form that they are listed in Part 3. However, such substances are sometimes placed on the market in a non-stabilised form. In this case, the supplier must state on the label the name of the substance followed by the words 'non-stabilised'.

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

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures general : IF exposed or concerned: Get medical advice/attention.

First-aid measures after inhalation : Remove person to fresh air and keep comfortable for breathing. Consult a doctor/medical service if you feel unwell.

First-aid measures after skin contact : Wash skin with plenty of water. Take off contaminated clothing. If skin irritation or rash occurs: Get medical advice/attention.

First-aid measures after eye contact : Rinse immediately with plenty of water for 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a physician immediately.

First-aid measures after ingestion : Call a poison center or a doctor if you feel unwell.

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

Symptoms/effects after skin contact : Irritation. May cause an allergic skin reaction.

Symptoms/effects after eye contact : Serious damage to eyes.

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

Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media : Foam. Dry powder. Water spray. Carbon dioxide.

Unsuitable extinguishing media : Heavy water stream.

5.2. Special hazards arising from the substance or mixture

Hazardous decomposition products in case of fire : Toxic fumes may be released. Carbon monoxide. Carbon dioxide.

5.3. Advice for firefighters

Protection during firefighting : Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

Other information : Inhalation of vapour can cause breathing difficulties.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures : Provide local exhaust or general room ventilation to minimize dust and/or vapour concentrations. Use care in walking on spilled material.

For non-emergency personnel

Emergency procedures : Only qualified personnel equipped with suitable protective equipment may intervene. Avoid breathing dust/fume/gas/mist/vapours/spray.

For emergency responders

Protective equipment : Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".

Emergency procedures : Keep public away from danger area.

6.2. Environmental precautions

Avoid release to the environment. Notify authorities if product enters sewers or public waters.

6.3. Methods and material for containment and cleaning up

For containment : Collect spillage.

Methods for cleaning up : Take up liquid spill into absorbent material. Use suitable disposal containers. Label the container and provide warning statements to prevent any contact. This material and its container must be disposed of in a safe way, and as per local legislation. Notify authorities if product enters sewers or public waters.

Other information : Dispose of materials or solid residues at an authorized site.

6.4. Reference to other sections

Concerning personal protective equipment to use, see section 8. Concerning disposal elimination after cleaning, see section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Additional hazards when processed : Minimize exposure to air and light.

Precautions for safe handling : Ensure good ventilation of the work station. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Wear personal protective equipment. Avoid contact with skin and eyes. Avoid breathing dust/fume/gas/mist/vapours/spray.

Hygiene measures : Separate working clothes from town clothes. Launder separately. Wash contaminated clothing before reuse. Contaminated work clothing should not be allowed out of the workplace. Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Store locked up. Store in a well-ventilated place. Keep cool.

7.3. Specific end use(s)

Use only in well ventilated areas.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

DNEL and PNEC

Hexamethylene diacrylate (13048-33-4)	
DNEL/DMEL (Workers)	
Long-term - systemic effects, dermal	2,77 mg/kg bodyweight/day
Long-term - systemic effects, inhalation	24,48 mg/m³
DNEL/DMEL (General population)	
Long-term - systemic effects,oral	2,08 mg/kg bodyweight/day
Long-term - systemic effects, inhalation	7,24 mg/m³
Long-term - systemic effects, dermal	1,66 mg/kg bodyweight/day
PNEC (Water)	
PNEC aqua (freshwater)	0,0015 mg/l
PNEC aqua (marine water)	0,00015 mg/l
PNEC (Sediment)	
PNEC sediment (freshwater)	0,0243 mg/kg dwt
PNEC sediment (marine water)	0,00243 mg/kg dwt
PNEC (Soil)	
PNEC soil	0,00397 mg/kg dwt
PNEC (STP)	
PNEC sewage treatment plant	2,7 mg/l

tetrahydrofurfuryl acrylate (2399-48-6)	
DNEL/DMEL (Workers)	
Long-term - systemic effects, dermal	4,9 mg/kg bodyweight/day
Long-term - systemic effects, inhalation	1,73 mg/m³

tetrahydrofurfuryl acrylate (2399-48-6)	
DNEL/DMEL (General population)	
Long-term - systemic effects,oral	180 µg/kg dw
Long-term - systemic effects, inhalation	300 µg/m³
Long-term - systemic effects, dermal	1,75 mg/kg bodyweight/day
PNEC (Water)	
PNEC aqua (freshwater)	3,92 µg/L
PNEC aqua (marine water)	392 ng/l
PNEC aqua (intermittent, freshwater)	39,2 µg/L
PNEC (Sediment)	
PNEC sediment (freshwater)	20,6 µg/kg
PNEC sediment (marine water)	2,1 µg/kg
PNEC (Soil)	
PNEC soil	1,8 µg/kg
PNEC (STP)	
PNEC sewage treatment plant	2,637 mg/l

4-hydroxy-2,2,6,6-tetramethylpiperidinoxyl (2226-96-2)	
DNEL/DMEL (Workers)	
Acute - systemic effects, dermal	8 mg/kg bodyweight/day
Long-term - systemic effects, dermal	0,3 mg/kg bodyweight/day
Long-term - systemic effects, inhalation	1,2 mg/m³
DNEL/DMEL (General population)	
Long-term - systemic effects,oral	0,2 mg/kg bodyweight/day
PNEC (Water)	
PNEC aqua (freshwater)	0,03 mg/l
PNEC aqua (marine water)	0,003 mg/l
PNEC aqua (intermittent, freshwater)	0,54 mg/l
PNEC (Sediment)	
PNEC sediment (freshwater)	0,126 mg/kg dwt
PNEC sediment (marine water)	0,0169 mg/kg dwt
PNEC (Soil)	
PNEC soil	0,031 mg/kg dwt
PNEC (STP)	
PNEC sewage treatment plant	430 mg/l

2-methyl-1-(4-methylthiophenyl)-2-morpholinopropan-1-one (71868-10-5)	
DNEL/DMEL (Workers)	
Acute - systemic effects, dermal	20 mg/kg bodyweight/day
Acute - systemic effects, inhalation	5,38 mg/m³
Long-term - systemic effects, dermal	0,18 mg/kg bodyweight/day

2-methyl-1-(4-methylthiophenyl)-2-morpholinopropan-1-one (71868-10-5)	
Long-term - systemic effects, inhalation	0,32 mg/m³
DNEL/DMEL (General population)	
Acute - systemic effects, dermal	20 mg/kg bodyweight
Long-term - systemic effects,oral	0,05 mg/kg bodyweight/day
Long-term - systemic effects, inhalation	0,16 mg/m³
Long-term - systemic effects, dermal	0,09 mg/kg bodyweight/day
PNEC (Water)	
PNEC aqua (freshwater)	0,0012 mg/l
PNEC aqua (marine water)	0,00012 mg/l
PNEC aqua (intermittent, freshwater)	0,012 mg/l
PNEC (Sediment)	
PNEC sediment (freshwater)	0,01736 mg/kg dwt
PNEC sediment (marine water)	0,001736 mg/kg dwt
PNEC (Soil)	
PNEC soil	0,081 mg/kg dwt
PNEC (Oral)	
PNEC oral (secondary poisoning)	2,22 – 16,7 mg/kg food
PNEC (STP)	
PNEC sewage treatment plant	1 mg/l

2-ethyl-2-[[(1-oxoallyl) oxy] methyl]-1,3-propanediyl diacrylate; 2,2-bis (acryloyloxymethyl)butyl acrylate; trimethylolpropane triacrylate (15625-89-5)	
DNEL/DMEL (Workers)	
Long-term - systemic effects, dermal	83 mg/kg bodyweight/day
Long-term - systemic effects, inhalation	3,5 mg/m³
DNEL/DMEL (General population)	
Long-term - systemic effects,oral	500 µg/kg dw
Long-term - systemic effects, inhalation	870 µg/m³
Long-term - systemic effects, dermal	42 mg/kg bodyweight/day
PNEC (Water)	
PNEC aqua (freshwater)	870 ng/l
PNEC aqua (marine water)	87 ng/l
PNEC aqua (intermittent, freshwater)	8,7 µg/L
PNEC (Sediment)	
PNEC sediment (freshwater)	17 µg/kg dw
PNEC sediment (marine water)	1,7 µg/kg dw
PNEC (Soil)	
PNEC soil	2,9 µg/kg dw
PNEC (Oral)	
PNEC oral (secondary poisoning)	10 mg/kg food

2-ethyl-2-[[(1-oxoallyl) oxy] methyl]-1,3-propanediyl diacrylate; 2,2-bis (acryloyloxymethyl)butyl acrylate; trimethylolpropane triacrylate (15625-89-5)	
PNEC (STP)	
PNEC sewage treatment plant	6,25 mg/l

8.2. Exposure controls

Appropriate engineering controls

Appropriate engineering controls:
Local exhaust is needed at source of vapours. Keep away from heat. Ensure good ventilation of the work station.

Personal protection equipment

Personal protective equipment:
Gloves. Safety glasses. Protective clothing.
Personal protective equipment symbol(s):

Eye and face protection

Eye protection:
Chemical goggles or safety glasses (acc. EN 166)

Eye protection			
Type	**Field of application**	**Characteristics**	**Standard**

Skin protection

Skin and body protection:
Wear suitable protective clothing. Standard. EN 13034

Hand protection:
Wear suitable gloves resistant to chemical penetration. Choosing the proper glove is a decision that depends not only on the type of material, but also on other quality features, which differ for each manufacturer. Use barrier gloves. (0.062mm). Breakthrough time (EN 374-3:2003): > 480 min (www.echa.europa.eu)

Hand protection					
Type	**Material**	**Permeation**	**Thickness (mm)**	**Penetration**	**Standard**

Respiratory protection

Respiratory protection:
Where excessive vapour may result, wear approved mask. Extra personal protection: A/P2 filter respirator for organic vapour and harmful dust

Environmental exposure controls

Environmental exposure controls:
Avoid release to the environment.
Other information:
Do not eat, drink or smoke when using this product.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	:	Liquid
Colour	:	Cyan.

Odour	:	Acrylates.
Odour threshold	:	Not available
Melting point	:	Not applicable
Freezing point	:	Not available
Boiling point	:	Not available
Flammability	:	Non flammable.
Lower explosion limit	:	Not available
Upper explosion limit	:	Not available
Flash point	:	130 °C
Auto-ignition temperature	:	Not available
Decomposition temperature	:	Not available
pH	:	Not available
Viscosity, kinematic	:	20,183 mm²/s
Viscosity, dynamic	:	22 mPa·s
Solubility	:	Not available
Partition coefficient n-octanol/water (Log Kow)	:	Not available
Vapour pressure	:	Not available
Vapour pressure at 50°C	:	Not available
Density	:	1,09
Relative density	:	Not available
Relative vapour density at 20°C	:	Not available
Particle characteristics	:	Not applicable

9.2. Other information

Other safety characteristics

VOC content	:	< 25 %

SECTION 10: Stability and reactivity

10.1. Reactivity

Stable under normal conditions.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

This material may attack some forms of plastics and rubbers. Hazardous polymerization may occur if exposure to fire conditions.

10.4. Conditions to avoid

Ignition sources. Moisture. Heat.

10.5. Incompatible materials

No additional information available

10.6. Hazardous decomposition products

At high temperature may liberate dangerous gases.

SECTION 11: Toxicological information

11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

Acute toxicity (oral)	:	Not classified
Acute toxicity (dermal)	:	Not classified
Acute toxicity (inhalation)	:	Not classified

Hexamethylene diacrylate (13048-33-4)	
LD50 oral rat	> 5000 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 401 (Acute Oral Toxicity)
LD50 dermal rabbit	3650 mg/kg bodyweight Animal: rabbit, Guideline: OECD Guideline 402 (Acute Dermal Toxicity)

tetrahydrofurfuryl acrylate (2399-48-6)	
LD50 oral rat	928 mg/kg bodyweight

29H,31H-phthalocyaninato(2-)-N29,N30,N31,N32 copper (147-14-8)	
LD50 oral rat	> 2000 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 401 (Acute Oral Toxicity)
LD50 dermal rat	> 5000 mg/kg bodyweight Animal: rat, Animal sex: male, Guideline: OECD Guideline 402 (Acute Dermal Toxicity)

4-hydroxy-2,2,6,6-tetramethylpiperidinoxyl (2226-96-2)	
LD50 oral rat	1053 mg/kg
LD50 dermal rat	> 2000 mg/kg bodyweight Animal: rat, Guideline: EU Method B.3 (Acute Toxicity (Dermal)), Guideline: OECD Guideline 402 (Acute Dermal Toxicity), Guideline: EPA OPPTS 870.1200 (Acute Dermal Toxicity)

2-methyl-1-(4-methylthiophenyl)-2-morpholinopropan-1-one (71868-10-5)	
LD50 oral rat	1984 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 401 (Acute Oral Toxicity)
LD50 dermal rat	> 2000 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 402 (Acute Dermal Toxicity)

2-ethyl-2-[[(1-oxoallyl) oxy] methyl]-1,3-propanediyl diacrylate; 2,2-bis (acryloyloxymethyl)butyl acrylate; trimethylolpropane triacrylate (15625-89-5)	
LD50 oral rat	5000 mg/kg
LD50 dermal rabbit	4,7 ml/kg
LC50 Inhalation - Rat	550 mg/m³ (6 h)

Skin corrosion/irritation : Causes skin irritation.

Additional information : On basis of test data
not corrosive

Serious eye damage/irritation : Causes serious eye damage.

Respiratory or skin sensitisation : May cause an allergic skin reaction.

Germ cell mutagenicity : Not classified

Carcinogenicity : Suspected of causing cancer.

Reproductive toxicity : May damage the unborn child. Suspected of damaging fertility.

STOT-single exposure : Not classified

4-hydroxy-2,2,6,6-tetramethylpiperidinoxyl (2226-96-2)	
LOAEL (oral, rat)	200 mg/kg bodyweight
NOAEL (oral, rat)	40 mg/kg bodyweight/day

STOT-repeated exposure : Not classified

Hexamethylene diacrylate (13048-33-4)	
NOAEL (oral, rat, 90 days)	250 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 422 (Combined Repeated Dose Toxicity Study with the Reproduction / Developmental Toxicity Screening Test)
NOAEL (dermal, rat/rabbit, 90 days)	20 – 200 mg/kg bodyweight/day

tetrahydrofurfuryl acrylate (2399-48-6)	
NOAEL (oral, rat, 90 days)	35 mg/kg bodyweight/day

tetrahydrofurfuryl acrylate (2399-48-6)	
STOT-repeated exposure	May cause damage to organs through prolonged or repeated exposure.

2-isopropyl-9H-thioxanthen-9-one (5495-84-1)	
NOAEL (oral, rat, 90 days)	150 mg/kg bodyweight Animal: rat, Guideline: EU Method B.7 (Repeated Dose (28 Days) Toxicity (Oral)), Guideline: OECD Guideline 407 (Repeated Dose 28-Day Oral Toxicity Study in Rodents), Guideline: other:, Guideline: other:

29H,31H-phthalocyaninato(2-)-N29,N30,N31,N32 copper (147-14-8)	
NOAEL (oral, rat, 90 days)	1000 mg/kg bodyweight Animal: rat, Guideline: other:Guideline for 28-Day Repeated Dose Toxicity Test in Mammalian Species (Chemical Substances Control Law of Japan)

4-hydroxy-2,2,6,6-tetramethylpiperidinoxyl (2226-96-2)	
LOAEL (oral, rat, 90 days)	200 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 407 (Repeated Dose 28-Day Oral Toxicity in Rodents), Guideline: other:"28-day Repeated Dose Toxicity Study in Mammalian Species" prescribed in "The Notification on Partial Revision of Testing Methods Relating to New Chemical Substances" (Notification No. 700 of Kanpogyo, No.1039 of Yakuhatsu, and No.1014 of 61 Kikyoku)
NOAEL (oral, rat, 90 days)	40 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 407 (Repeated Dose 28-Day Oral Toxicity in Rodents), Guideline: other:"28-day Repeated Dose Toxicity Study in Mammalian Species" prescribed in "The Notification on Partial Revision of Testing Methods Relating to New Chemical Substances" (Notification No. 700 of Kanpogyo, No.1039 of Yakuhatsu, and No.1014 of 61 Kikyoku)
STOT-repeated exposure	May cause damage to organs (spleen) through prolonged or repeated exposure (if swallowed).

2-methyl-1-(4-methylthiophenyl)-2-morpholinopropan-1-one (71868-10-5)	
NOAEL (oral, rat, 90 days)	75 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 408 (Repeated Dose 90-Day Oral Toxicity in Rodents)

2-ethyl-2-[[(1-oxoallyl) oxy] methyl]-1,3-propanediyl diacrylate; 2,2-bis (acryloyloxymethyl)butyl acrylate; trimethylolpropane triacrylate (15625-89-5)	
NOAEL (oral, rat, 90 days)	300 mg/kg bodyweight/day
NOAEL (dermal, rat/rabbit, 90 days)	> 500 mg/kg bodyweight Animal: rabbit

Aspiration hazard : Not classified

UV INK LH-100 CYAN	
Viscosity, kinematic	20,183 mm²/s

Hexamethylene diacrylate (13048-33-4)	
Viscosity, kinematic	3,85 – 6,75 mm²/s

11.2. Information on other hazards

No additional information available

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general : Avoid release to the environment. Very toxic to aquatic life. Toxic to aquatic life with long lasting effects.

Ecology - water : Very toxic to aquatic life with long lasting effects.

Hazardous to the aquatic environment, short–term (acute) : Very toxic to aquatic life.

Hazardous to the aquatic environment, long–term (chronic) : Toxic to aquatic life with long lasting effects.

UV INK LH-100 CYAN	
LC50 - Fish [1]	< 1 mg/l

Hexamethylene diacrylate (13048-33-4)	
LC50 - Fish [1]	10 mg/l Test organisms (species): Leuciscus idus
EC50 - Crustacea [1]	2,6 mg/l Test organisms (species): Daphnia magna
EC50 72h - Algae [1]	1,5 mg/l Test organisms (species): Desmodesmus subspicatus (previous name: Scenedesmus subspicatus)
EC50 72h - Algae [2]	2,33 mg/l Test organisms (species): other:
LOEC (chronic)	0,24 mg/l Test organisms (species): Daphnia magna Duration: '21 d'
NOEC (chronic)	0,14 mg/l Test organisms (species): Daphnia magna Duration: '21 d'
NOEC chronic fish	72,3 µg/L (39 d)
NOEC chronic crustacea	140 µg/L (21 d)

tetrahydrofurfuryl acrylate (2399-48-6)	
LC50 - Fish [1]	7,32 mg/l
EC50 - Crustacea [1]	37,7 mg/l
EC50 72h - Algae [1]	3,92 mg/l
EC50 72h - Algae [2]	2,71 mg/l Test organisms (species): Pseudokirchneriella subcapitata (previous names: Raphidocelis subcapitata, Selenastrum capricornutum)

2-isopropyl-9H-thioxanthen-9-one (5495-84-1)	
LC50 - Fish [1]	0,125 mg/l Test organisms (species):
EC50 - Crustacea [1]	Test organisms (species): Daphnia magna
EC50 72h - Algae [1]	> 0,047 mg/l Test organisms (species): Raphidocelis subcapitata (previous names: Pseudokirchneriella subcapitata, Selenastrum capricornutum)
EC50 72h - Algae [2]	0,014 mg/l Test organisms (species): Raphidocelis subcapitata (previous names: Pseudokirchneriella subcapitata, Selenastrum capricornutum)

29H,31H-phthalocyaninato(2-)-N29,N30,N31,N32 copper (147-14-8)	
LC50 - Fish [1]	> 100 mg/l Test organisms (species): Danio rerio (previous name: Brachydanio rerio)
LC50 - Fish [2]	355,6 mg/l Test organisms (species): other:Oncorhynchus mykiss (formerly named: Salmo gairdneri)
EC50 - Crustacea [1]	> 500 mg/l Test organisms (species): other:Daphnia magna Straus
EC50 - Crustacea [2]	> 500 mg/l Test organisms (species): Daphnia magna
EC50 - Other aquatic organisms [1]	> 500 mg/l Test organisms (species): other:
EC50 72h - Algae [1]	> 100 mg/l Test organisms (species): Desmodesmus subspicatus (previous name: Scenedesmus subspicatus)
LOEC (chronic)	> 1 mg/l Test organisms (species): Daphnia magna Duration: '21 d'
NOEC (chronic)	≥ 1 mg/l Test organisms (species): Daphnia magna Duration: '21 d'
NOEC chronic crustacea	1 mg/l

4-hydroxy-2,2,6,6-tetramethylpiperidinoxyl (2226-96-2)	
LC50 - Fish [1]	545 mg/l Test organisms (species): Danio rerio (previous name: Brachydanio rerio)
EC50 - Crustacea [1]	54 mg/l Test organisms (species): Daphnia magna

4-hydroxy-2,2,6,6-tetramethylpiperidinoxyl (2226-96-2)	
EC50 - Crustacea [2]	157 mg/l (24 h)
EC50 72h - Algae [1]	272 mg/l Test organisms (species): Desmodesmus subspicatus (previous name: Scenedesmus subspicatus)
EC50 72h - Algae [2]	1038 mg/l Test organisms (species): Desmodesmus subspicatus (previous name: Scenedesmus subspicatus)
LOEC (chronic)	4,5 mg/l Test organisms (species): Daphnia magna Duration: '21 d'
NOEC (acute)	26 mg/l 48 h
NOEC (chronic)	1,5 mg/l Test organisms (species): Daphnia magna Duration: '21 d'

2-methyl-1-(4-methylthiophenyl)-2-morpholinopropan-1-one (71868-10-5)	
LC50 - Fish [1]	9 mg/l Test organisms (species): other:Zebra fish
LC50 - Fish [2]	9 mg/l (72 h)
EC50 - Other aquatic organisms [1]	15,3 mg/l (24h)
EC50 72h - Algae [1]	1,2 mg/l Test organisms (species): Desmodesmus subspicatus (previous name: Scenedesmus subspicatus)
EC50 72h - Algae [2]	1,2 mg/l Test organisms (species): Desmodesmus subspicatus (previous name: Scenedesmus subspicatus)
LOEC (acute)	2,8 – 7,8 mg/l
NOEC (acute)	1 – 2,8 mg/l 96h
NOEC chronic crustacea	1 mg/l (21 d)

2-ethyl-2-[[(1-oxoallyl) oxy] methyl]-1,3-propanediyl diacrylate; 2,2-bis (acryloyloxymethyl)butyl acrylate; trimethylolpropane triacrylate (15625-89-5)	
LC50 - Fish [1]	870 µg/l
LC50 - Other aquatic organisms [1]	19,9 mg/l 48h
EC50 72h - Algae [1]	7,2 – 18,8 mg/l
EC50 72h - Algae [2]	7,2 mg/l Test organisms (species): Desmodesmus subspicatus (previous name: Scenedesmus subspicatus)
EC50 96h - Algae [1]	4,86 mg/l Test organisms (species): Desmodesmus subspicatus (previous name: Scenedesmus subspicatus)
EC50 96h - Algae [2]	4,86 mg/l

12.2. Persistence and degradability

UV INK LH-100 CYAN	
Persistence and degradability	Rapidly degradable

Hexamethylene diacrylate (13048-33-4)	
Persistence and degradability	Rapidly degradable
Biodegradation	100 %

tetrahydrofurfuryl acrylate (2399-48-6)	
Persistence and degradability	Rapidly degradable

pentaerythritol triacrylate (3524-68-3)	
Persistence and degradability	Rapidly degradable

2-[[3-[(1-oxoallyl)oxy]-2,2-bis[[(1-oxoallyl)oxy]methyl]propoxy]methyl]-2-[[(1-oxoallyl)oxy]methyl]-1,3-propanediyl diacrylate (29570-58-9)	
Persistence and degradability	Rapidly degradable

2-isopropyl-9H-thioxanthen-9-one (5495-84-1)	
Persistence and degradability	Rapidly degradable

29H,31H-phthalocyaninato(2-)-N29,N30,N31,N32 copper (147-14-8)	
Persistence and degradability	Rapidly degradable

4-hydroxy-2,2,6,6-tetramethylpiperidinoxyl (2226-96-2)	
Persistence and degradability	Rapidly degradable

2-methyl-1-(4-methylthiophenyl)-2-morpholinopropan-1-one (71868-10-5)	
Persistence and degradability	Rapidly degradable

2-ethyl-2-[[(1-oxoallyl) oxy] methyl]-1,3-propanediyl diacrylate; 2,2-bis (acryloyloxymethyl)butyl acrylate; trimethylolpropane triacrylate (15625-89-5)	
Persistence and degradability	Rapidly degradable

12.3. Bioaccumulative potential

Hexamethylene diacrylate (13048-33-4)	
Partition coefficient n-octanol/water (Log Pow)	2,81 @ 25 °C

tetrahydrofurfuryl acrylate (2399-48-6)	
Partition coefficient n-octanol/water (Log Pow)	0,81 @ 21.7 °C

2-isopropyl-9H-thioxanthen-9-one (5495-84-1)	
Partition coefficient n-octanol/water (Log Kow)	≈ 5,59 20°C

29H,31H-phthalocyaninato(2-)-N29,N30,N31,N32 copper (147-14-8)	
Partition coefficient n-octanol/water (Log Pow)	-1 23 oC

4-hydroxy-2,2,6,6-tetramethylpiperidinoxyl (2226-96-2)	
Partition coefficient n-octanol/water (Log Pow)	0,56 @ 20 °C and pH 7

2-methyl-1-(4-methylthiophenyl)-2-morpholinopropan-1-one (71868-10-5)	
Partition coefficient n-octanol/water (Log Pow)	3,09 @ 25 °C and pH 7

2-ethyl-2-[[(1-oxoallyl) oxy] methyl]-1,3-propanediyl diacrylate; 2,2-bis (acryloyloxymethyl)butyl acrylate; trimethylolpropane triacrylate (15625-89-5)	
Partition coefficient n-octanol/water (Log Pow)	4,35 @ 20°C

12.4. Mobility in soil

No additional information available

12.5. Results of PBT and vPvB assessment

Component	
Substance(s) not meeting the PBT criteria of REACH regulation, in accordance with Annex XIII	2-methyl-1-(4-methylthiophenyl)-2-morpholinopropan-1-one (71868-10-5)
Substance(s) not meeting the vPvB criteria of REACH regulation, in accordance with Annex XIII	2-methyl-1-(4-methylthiophenyl)-2-morpholinopropan-1-one (71868-10-5)

12.6. Endocrine disrupting properties

No additional information available

12.7. Other adverse effects

No additional information available

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Regional waste regulation	:	Disposal must be done according to official regulations.
Waste treatment methods	:	Dispose of contents/container in accordance with licensed collector's sorting instructions.
Product/Packaging disposal recommendations	:	Dispose of this material and its container at hazardous or special waste collection point. Avoid release to the environment.
European List of Waste (LoW, EC 2000/532)	:	08 03 12* - waste ink containing dangerous substances
HP Code	:	HP5 - "Specific Target Organ Toxicity (STOT)/Aspiration Toxicity:" waste which can cause specific target organ toxicity either from a single or repeated exposure, or which cause acute toxic effects following aspiration. HP6 - "Acute Toxicity:" waste which can cause acute toxic effects following oral or dermal administration, or inhalation exposure. HP7 - "Carcinogenic:" waste which induces cancer or increases its incidence HP8 - "Corrosive:" waste which on application can cause skin corrosion. HP10 - "Toxic for reproduction:" waste which has adverse effects on sexual function and fertility in adult males and females, as well as developmental toxicity in the offspring. HP13 - "Sensitising:" waste which contains one or more substances known to cause sensitising effects to the skin or the respiratory organs. HP14 - "Ecotoxic:" waste which presents or may present immediate or delayed risks for one or more sectors of the environment

SECTION 14: Transport information

In accordance with ADR / IMDG / IATA / ADN / RID

ADR	IMDG	IATA	ADN	RID
14.1. UN number or ID number				
UN 3082	UN 3082	UN 3082	UN 3082	UN 3082
14.2. UN proper shipping name				
ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.	Environmentally hazardous substance, liquid, n.o.s.	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.

ADR	IMDG	IATA	ADN	RID
Transport document description				
UN 3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Hexamethylene diacrylate ; tetrahydrofurfuryl acrylate ; 2-methyl-1-(4-methylthiophenyl)-2-morpholinopropan-1-one ; 2-ethyl-2-[[(1-oxoallyl) oxy] methyl]-1,3-propanediyl diacrylate; 2,2-bis (acryloyloxymethyl)butyl acrylate; trimethylolpropane triacrylate Hexamethylene diacrylate ; tetrahydrofurfuryl acrylate ; pentaerythritol triacrylate ; 2-ethyl-2-[[(1-oxoallyl) oxy] methyl]-1,3-propanediyl diacrylate; 2,2-bis (acryloyloxymethyl)butyl acrylate; trimethylolpropane triacrylate ; 4-hydroxy-2,2,6,6-tetramethylpiperidinoxyl), 9, III, (-)	UN 3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Hexamethylene diacrylate ; tetrahydrofurfuryl acrylate ; 2-methyl-1-(4-methylthiophenyl)-2-morpholinopropan-1-one ; 2-ethyl-2-[[(1-oxoallyl) oxy] methyl]-1,3-propanediyl diacrylate; 2,2-bis (acryloyloxymethyl)butyl acrylate; trimethylolpropane triacrylate), 9, III, MARINE POLLUTANT	UN 3082 Environmentally hazardous substance, liquid, n.o.s. (Hexamethylene diacrylate ; tetrahydrofurfuryl acrylate ; 2-methyl-1-(4-methylthiophenyl)-2-morpholinopropan-1-one ; 2-ethyl-2-[[(1-oxoallyl) oxy] methyl]-1,3-propanediyl diacrylate; 2,2-bis (acryloyloxymethyl)butyl acrylate; trimethylolpropane triacrylate), 9, III	UN 3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Hexamethylene diacrylate ; tetrahydrofurfuryl acrylate ; 2-methyl-1-(4-methylthiophenyl)-2-morpholinopropan-1-one ; 2-ethyl-2-[[(1-oxoallyl) oxy] methyl]-1,3-propanediyl diacrylate; 2,2-bis (acryloyloxymethyl)butyl acrylate; trimethylolpropane triacrylate), 9, III	UN 3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Hexamethylene diacrylate ; tetrahydrofurfuryl acrylate ; 2-methyl-1-(4-methylthiophenyl)-2-morpholinopropan-1-one ; 2-ethyl-2-[[(1-oxoallyl) oxy] methyl]-1,3-propanediyl diacrylate; 2,2-bis (acryloyloxymethyl)butyl acrylate; trimethylolpropane triacrylate), 9, III
14.3. Transport hazard class(es)				
9	9	9	9	9
				
14.4. Packing group				
III	III	III	III	III
14.5. Environmental hazards				
Dangerous for the environment: Yes	Dangerous for the environment: Yes Marine pollutant: Yes EmS-No. (Fire): F-A EmS-No. (Spillage): S-F	Dangerous for the environment: Yes	Dangerous for the environment: Yes	Dangerous for the environment: Yes
No supplementary information available				

14.6. Special precautions for user

Overland transport

Classification code (ADR)	:	M6
Special provisions (ADR)	:	274, 335, 375, 601
Limited quantities (ADR)	:	5l
Excepted quantities (ADR)	:	E1
Packing instructions (ADR)	:	P001, IBC03, LP01, R001
Special packing provisions (ADR)	:	PP1
Mixed packing provisions (ADR)	:	MP19

Portable tank and bulk container instructions (ADR)	:	T4
Portable tank and bulk container special provisions (ADR)	:	TP1, TP29
Tank code (ADR)	:	LGBV
Vehicle for tank carriage	:	AT
Transport category (ADR)	:	3
Special provisions for carriage - Packages (ADR)	:	V12
Special provisions for carriage - Loading, unloading and handling (ADR)	:	CV13
Hazard identification number (Kemler No.)	:	90
Orange plates	:	
Tunnel restriction code (ADR)	:	-
EAC code	:	•3Z

Transport by sea

Special provisions (IMDG)	:	274, 335, 969
Limited quantities (IMDG)	:	5 L
Excepted quantities (IMDG)	:	E1
Packing instructions (IMDG)	:	LP01, P001
Special packing provisions (IMDG)	:	PP1
IBC packing instructions (IMDG)	:	IBC03
Tank instructions (IMDG)	:	T4
Tank special provisions (IMDG)	:	TP1, TP29
Stowage category (IMDG)	:	A

Air transport

PCA Excepted quantities (IATA)	:	E1
PCA Limited quantities (IATA)	:	Y964
PCA limited quantity max net quantity (IATA)	:	30kgG
PCA packing instructions (IATA)	:	964
PCA max net quantity (IATA)	:	450L
CAO packing instructions (IATA)	:	964
CAO max net quantity (IATA)	:	450L
Special provisions (IATA)	:	A97, A158, A197, A215
ERG code (IATA)	:	9L

Inland waterway transport

Classification code (ADN)	:	M6
Special provisions (ADN)	:	274, 335, 375, 601
Limited quantities (ADN)	:	5 L
Excepted quantities (ADN)	:	E1
Carriage permitted (ADN)	:	T
Equipment required (ADN)	:	PP
Number of blue cones/lights (ADN)	:	0

Rail transport

Classification code (RID)	:	M6
Special provisions (RID)	:	274, 335, 375, 601
Limited quantities (RID)	:	5L
Excepted quantities (RID)	:	E1
Packing instructions (RID)	:	P001, IBC03, LP01, R001
Special packing provisions (RID)	:	PP1
Mixed packing provisions (RID)	:	MP19
Portable tank and bulk container instructions (RID)	:	T4
Portable tank and bulk container special provisions (RID)	:	TP1, TP29
Tank codes for RID tanks (RID)	:	LGBV
Transport category (RID)	:	3
Special provisions for carriage – Packages (RID)	:	W12

Special provisions for carriage - Loading, unloading and handling (RID)	:	CW13, CW31
Colis express (express parcels) (RID)	:	CE8
Hazard identification number (RID)	:	90

14.7. Maritime transport in bulk according to IMO instruments

Not applicable

SECTION 15: Regulatory information

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

EU-Regulations

REACH Annex XVII (Restriction List)

EU restriction list (REACH Annex XVII)		
Reference code	**Applicable on**	**Entry title or description**
3(b)	UV INK LH-100 CYAN ; Hexamethylene diacrylate ; tetrahydrofurfuryl acrylate ; pentaerythritol triacrylate ; 2-[[3-[(1-oxoallyl)oxy]-2,2-bis[[(1-oxoallyl)oxy]methyl]propoxy]methyl]-2-[[(1-oxoallyl)oxy]methyl]-1,3-propanediyl diacrylate ; 2-ethyl-2-[[(1-oxoallyl) oxy] methyl]-1,3-propanediyl diacrylate; 2,2-bis (acryloyloxymethyl)butyl acrylate; trimethylolpropane triacrylate	Substances or mixtures fulfilling the criteria for any of the following hazard classes or categories set out in Annex I to Regulation (EC) No 1272/2008: Hazard classes 3.1 to 3.6, 3.7 adverse effects on sexual function and fertility or on development, 3.8 effects other than narcotic effects, 3.9 and 3.10
3(c)	UV INK LH-100 CYAN ; Hexamethylene diacrylate ; tetrahydrofurfuryl acrylate ; 2-ethyl-2-[[(1-oxoallyl) oxy] methyl]-1,3-propanediyl diacrylate; 2,2-bis (acryloyloxymethyl)butyl acrylate; trimethylolpropane triacrylate	Substances or mixtures fulfilling the criteria for any of the following hazard classes or categories set out in Annex I to Regulation (EC) No 1272/2008: Hazard class 4.1
30.	2-methyl-1-(4-methylthiophenyl)-2-morpholinopropan-1-one	Substances which are classified as reproductive toxicant category 1A or 1B in Part 3 of Annex VI to Regulation (EC) No 1272/2008 and are listed in Appendix 5 or Appendix 6, respectively.

REACH Annex XIV (Authorisation List)

Contains no substance(s) listed on REACH Annex XIV (Authorisation List)

REACH Candidate List (SVHC)

Contains substance(s) listed on the REACH Candidate List in concentrations ≥ 0.1 % or SCL: 2-methyl-1-(4-methylthiophenyl)-2-morpholinopropan-1-one (EC 400-600-6, CAS 71868-10-5)

PIC Regulation (Prior Informed Consent)

Contains no substance(s) listed on the PIC list (Regulation EU 649/2012 concerning the export and import of hazardous chemicals)

POP Regulation (Persistent Organic Pollutants)

Contains no substance(s) listed on the POP list (Regulation EU 2019/1021 on persistent organic pollutants)

Ozone Regulation (2024/590)

Contains no substance(s) listed on the Ozone Depletion list (Regulation EU 2024/590 on substances that deplete the ozone layer)

Council Regulation (EC) for the control of dual-use items

Contains no substance subject to the COUNCIL REGULATION (EC) for the control of dual-use items

VOC Directive (2004/42)

VOC content : < 25 %

Explosives Precursors Regulation (2019/1148)

Contains no substance(s) listed on the Explosives Precursors list (Regulation EU 2019/1148 on the marketing and use of explosives precursors)

Drug Precursors Regulation (273/2004)

Contains no substance(s) listed on the Drug Precursors list (Regulation EC 273/2004 on the manufacture and the placing on market of certain substances used in the illicit manufacture of narcotic drugs and psychotropic substances)

15.2. Chemical safety assessment

A chemical safety assessment has been carried out

SECTION 16: Other information

Indication of changes

Section	Changed item	Comments
	Limited quantities (RID)	**Added**
	Special provisions (IATA)	**Modified**
	Tank special provisions (IMDG)	**Modified**
	Revision date	**Modified**
	Supersedes	**Modified**
1.1	Product code	**Modified**
2.1	Adverse physicochemical, human health and environmental effects	**Added**
2.1	Classification according to Regulation (EC) No. 1272/2008 [CLP]	**Modified**
2.2	Precautionary statements (CLP)	**Modified**
2.2	Hazard statements (CLP)	**Modified**
2.2	EUH-statements	**Added**
3	Composition/information on ingredients	**Modified**
4.1	First-aid measures general	**Modified**
4.1	First-aid measures after skin contact	**Modified**
4.1	First-aid measures after inhalation	**Modified**
4.1	First-aid measures after ingestion	**Modified**
4.1	First-aid measures after eye contact	**Modified**
4.2	Symptoms/effects after skin contact	**Modified**
4.2	Symptoms/effects after eye contact	**Modified**
4.3	Other medical advice or treatment	**Added**
5.1	Suitable extinguishing media	**Modified**

Indication of changes		
Section	**Changed item**	**Comments**
5.3	Protection during firefighting	**Modified**
6.1	Protective equipment	**Modified**
6.1	Emergency procedures	**Modified**
6.1	Emergency procedures	**Modified**
6.2	Environmental precautions	**Modified**
6.3	Other information	**Added**
6.3	For containment	**Added**
6.3	Methods for cleaning up	**Modified**
7.1	Precautions for safe handling	**Modified**
7.1	Hygiene measures	**Modified**
7.2	Storage conditions	**Modified**
8.2	Environmental exposure controls	**Added**
8.2	Personal protective equipment	**Modified**
8.2	Appropriate engineering controls	**Modified**
8.2	Skin and body protection	**Modified**
9.1	Melting point	**Added**
10.2	Chemical stability	**Modified**
10.4	Conditions to avoid	**Modified**
10.6	Hazardous decomposition products	**Modified**
12.1	Ecology - general	**Modified**
13.1	Waste treatment methods	**Added**
13.1	Waste disposal recommendations	**Modified**
15.2	Chemical safety assessment	**Modified**
16	Data sources	**Added**
16	Abbreviations and acronyms	**Modified**

Abbreviations and acronyms:	
ADN	European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
ADR	European Agreement concerning the International Carriage of Dangerous Goods by Road
ATE	Acute Toxicity Estimate
BCF	Bioconcentration factor
CLP	Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008
DMEL	Derived Minimal Effect level
DNEL	Derived-No Effect Level
EC50	Median effective concentration
IARC	International Agency for Research on Cancer
IATA	International Air Transport Association
IMDG	International Maritime Dangerous Goods

Abbreviations and acronyms:	
LC50	Median lethal concentration
LD50	Median lethal dose
LOAEL	Lowest Observed Adverse Effect Level
NOAEC	No-Observed Adverse Effect Concentration
NOAEL	No-Observed Adverse Effect Level
NOEC	No-Observed Effect Concentration
OECD	Organisation for Economic Co-operation and Development
PBT	Persistent Bioaccumulative Toxic
PNEC	Predicted No-Effect Concentration
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals Regulation (EC) No 1907/2006
RID	Regulations concerning the International Carriage of Dangerous Goods by Rail
STP	Sewage treatment plant
TLM	Median Tolerance Limit
SDS	Safety Data Sheet
vPvB	Very Persistent and Very Bioaccumulative
BLV	Biological limit value
BOD	Biochemical oxygen demand (BOD)
COD	Chemical oxygen demand (COD)
EC-No.	European Community number
EN	European Standard
OEL	Occupational Exposure Limit
ThOD	Theoretical oxygen demand (ThOD)
VOC	Volatile Organic Compounds
CAS-No.	Chemical Abstract Service number
N.O.S.	Not Otherwise Specified
ED	Endocrine disruptor

Data sources : REGULATION (EC) No 1272/2008 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 16 December 2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006.

Full text of H- and EUH-statements:	
Acute Tox. 4 (Oral)	Acute toxicity (oral), Category 4
Aquatic Acute 1	Hazardous to the aquatic environment – Acute Hazard, Category 1
Aquatic Chronic 1	Hazardous to the aquatic environment – Chronic Hazard, Category 1
Aquatic Chronic 2	Hazardous to the aquatic environment – Chronic Hazard, Category 2
Carc. 2	Carcinogenicity, Category 2
Eye Dam. 1	Serious eye damage/eye irritation, Category 1
Eye Irrit. 2	Serious eye damage/eye irritation, Category 2
Repr. 1B	Reproductive toxicity, Category 1B

Full text of H- and EUH-statements:	
Repr. 2	Reproductive toxicity, Category 2
Skin Corr. 1C	Skin corrosion/irritation, Category 1, Sub-Category 1C
Skin Irrit. 2	Skin corrosion/irritation, Category 2
Skin Sens. 1	Skin sensitisation, Category 1
Skin Sens. 1B	Skin sensitisation, category 1B
STOT RE 2	Specific target organ toxicity – Repeated exposure, Category 2
H302	Harmful if swallowed.
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.
H351	Suspected of causing cancer.
H360Df	May damage the unborn child. Suspected of damaging fertility.
H361	Suspected of damaging fertility or 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.
EUH071	Corrosive to the respiratory tract.

Full text of use descriptors	
PC18	Ink and Toners
PROC1	Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions
SU0	Other

Classification and procedure used to derive the classification for mixtures according to Regulation (EC) 1272/2008 [CLP]:		
Skin Irrit. 2	H315	Expert judgement
Eye Dam. 1	H318	Calculation method
Skin Sens. 1	H317	Calculation method
Carc. 2	H351	Calculation method
Repr. 1B	H360Df	Expert judgement
Aquatic Acute 1	H400	On basis of test data
Aquatic Chronic 2	H411	Calculation method

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.