KORTHO INK K10 BLACK

Safety Data Sheet

according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878
Issue date: 11/4/2024 Version: 1.0

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

1.1. Product identifier

Product form : Mixture
Product name : KORTHO INK K10 BLACK
UFI : RUA0-C0DC-K00W-1FDC
Product code : 053897
Product group : Trade product
Other means of identification : 053897 - Kortho INK K10 Black, 1 L

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

Relevant identified uses

Main use category : Industrial,Professional use

Title	Life cycle stage	Use descriptors
KORTHO INK K10 BLACK	Industrial, Professional	SU0, PC18, PROC0

Full text of use descriptors: see section 16

1.3. Details of the supplier of the safety data sheet

Distributor
Korthofah B.V.
Lageweg 39
2222 AG Katwijk ZH
The Netherlands
T +31 714 060 480
export@kortho.nl, https://www.kortho.com

1.4. Emergency telephone number

Country/Area	Organisation/Company	Address	Emergency number	Comment
United Kingdom	National Poisons Information Service (Birmingham Centre) City Hospital	Dudley Road B18 7QH Birmingham	0344 892 0111	Only for healthcare professionals

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

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

Flammable liquids, Category 2	H225
Skin corrosion/irritation, Category 2	H315
Serious eye damage/eye irritation, Category 2	H319
Skin sensitisation, Category 1	H317
Reproductive toxicity, Category 1B	H360
Specific target organ toxicity – Single exposure, Category 3, Narcosis	H336
Hazardous to the aquatic environment – Chronic Hazard, Category 3	H412

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

Adverse physicochemical, human health and environmental effects

No additional information available

2.2. Label elements

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

Hazard pictograms (CLP) :

GHS02 GHS05 GHS07 GHS08

Signal word (CLP) : Danger

Contains : 1-methyl-2-pyrrolidone; 1-methoxypropan-2-ol; maleic anhydride

Hazard statements (CLP) : H225 - Highly flammable liquid and vapour.
H315 - Causes skin irritation.
H317 - May cause an allergic skin reaction.
H319 - Causes serious eye irritation.
H336 - May cause drowsiness or dizziness.
H360 - May damage fertility or the unborn child.
H412 - Harmful to aquatic life with long lasting effects.

Precautionary statements (CLP) : P201 - Obtain special instructions before use.
P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P235 - Keep cool.
P280 - Wear protective gloves/protective clothing/eye protection/face protection.
P308+P313 - IF exposed or concerned: Get medical advice/attention.
P321 - Specific treatment (see supplemental first aid instruction on this label).

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	1-methyl-2-pyrrolidone (872-50-4)
Substance(s) not meeting the vPvB criteria of REACH regulation, in accordance with Annex XIII	1-methyl-2-pyrrolidone (872-50-4)

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	1-methyl-2-pyrrolidone (872-50-4)

SECTION 3: Composition/information on ingredients

3.2. Mixtures

Product name	Product identifier	% w/w (% w/w)	Classification according to Regulation (EC) No. 1272/2008 [CLP]
1-methoxypropan-2-ol substance with national workplace exposure limit(s) (GB); substance with a Community workplace exposure limit	CAS-No.: 107-98-2 EC-No.: 203-539-1 EC Index-No.: 603-064-00-3 REACH-no: 01-2119457435-35	30 – 50	Flam. Liq. 3, H226 STOT SE 3, H336
ethanol; ethyl alcohol substance with national workplace exposure limit(s) (GB)	CAS-No.: 64-17-5 EC-No.: 200-578-6 EC Index-No.: 603-002-00-5 REACH-no: 01-2119457610-43	20 – 30	Flam. Liq. 2, H225 Eye Irrit. 2, H319
1-Ethoxypropan-2-ol	CAS-No.: 1569-02-4 EC-No.: 216-374-5 EC Index-No.: 603-177-00-8 REACH-no: 01-2119462792-32	1 – 5	Flam. Liq. 3, H226 Eye Irrit. 2, H319 STOT SE 3, H336
1-methyl-2-pyrrolidone substance listed on REACH Candidate List (1-Methyl-2-pyrrolidone (NMP)) substance with national workplace exposure limit(s) (GB); substance with a Community workplace exposure limit	CAS-No.: 872-50-4 EC-No.: 212-828-1 EC Index-No.: 606-021-00-7 REACH-no: 01-2119472430-46	1 – 5	Skin Irrit. 2, H315 Eye Irrit. 2, H319 Repr. 1B, H360D STOT SE 3, H335
Ethanol, 2,2 '-iminobis-, N-C12-18-alkyl derivs.	CAS-No.: 71786-60-2 EC-No.: 276-014-8	1 – 5	Acute Tox. 4 (Oral), H302 Skin Corr. 1C, H314 Repr. 2, H361fd STOT RE 2, H373 Aquatic Acute 1, H400 Aquatic Chronic 1, H410
Di-"isononyl" phthalate substance with national workplace exposure limit(s) (GB)	CAS-No.: 28553-12-0 EC-No.: 249-079-5 REACH-no: 01-2119430798-28	1 – 5	Not classified
Propylidynetrimethanol	CAS-No.: 77-99-6 EC-No.: 201-074-9 REACH-no: 01-2119486799-10	0.1 – 1	Repr. 2, H361fd
maleic anhydride substance with national workplace exposure limit(s) (GB)	CAS-No.: 108-31-6 EC-No.: 203-571-6 EC Index-No.: 607-096-00-9 REACH-no: 01-2119472428-31	0.01 – 0.1	Acute Tox. 4 (Oral), H302 STOT RE 1, H372 Skin Corr. 1B, H314 Eye Dam. 1, H318 Resp. Sens. 1, H334 Skin Sens. 1A, H317

Specific concentration limits:		
Product name	**Product identifier**	**Specific concentration limits (% w/w (% w/w))**
1-methyl-2-pyrrolidone	CAS-No.: 872-50-4 EC-No.: 212-828-1 EC Index-No.: 606-021-00-7 REACH-no: 01-2119472430-46	(10 ≤ C ≤ 100) STOT SE 3; H335
maleic anhydride	CAS-No.: 108-31-6 EC-No.: 203-571-6 EC Index-No.: 607-096-00-9 REACH-no: 01-2119472428-31	(0.001 ≤ C ≤ 100) Skin Sens. 1A; H317

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 : Never give anything by mouth to an unconscious person. IF exposed or concerned: Get medical advice/attention.

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

First-aid measures after skin contact : Rinse skin with water/shower. Take off immediately all contaminated clothing. Repeated exposure may cause skin dryness or cracking.

First-aid measures after eye contact : Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER/doctor.

First-aid measures after ingestion : Rinse mouth. Do NOT induce vomiting. Obtain emergency medical attention.

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

Symptoms/effects : Suspected of damaging the unborn child. (if swallowed).

Symptoms/effects after inhalation : May cause respiratory irritation.

Symptoms/effects after eye contact : Causes serious eye damage.

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

When in doubt or if symptoms are observed, get medical advice.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media : Alcohol resistant foam. Dry powder. Carbon dioxide. Water spray. Sand.

Unsuitable extinguishing media : Do not use a heavy water stream.

5.2. Special hazards arising from the substance or mixture

Fire hazard : Highly flammable liquid and vapour. The vapours are denser than air and may travel along the ground. Distance ignition possible.

Explosion hazard : May form flammable/explosive vapour-air mixture.

Hazardous decomposition products in case of fire : Carbon dioxide. Carbon monoxide. Nitrogen oxides (NOx).

5.3. Advice for firefighters

Firefighting instructions : Use water spray or fog for cooling exposed containers. Exercise caution when fighting any chemical fire. Prevent fire fighting water from entering the environment.

Protection during firefighting : Do not enter fire area without proper protective equipment, including respiratory protection. Self-contained breathing apparatus when in close proximity to fire.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures : Remove ignition sources. Use special care to avoid static electric charges. No open flames. No smoking.

For non-emergency personnel

Emergency procedures : Evacuate unnecessary personnel.

For emergency responders

Protective equipment : Use self-contained breathing apparatus and chemically protective clothing.

Emergency procedures : Ventilate area.

6.2. Environmental precautions

Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or public waters.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up : Soak up spills with inert solids, such as clay or diatomaceous earth as soon as possible. Collect spillage. Store away from other materials.

6.4. Reference to other sections

See Section 8. Exposure controls and personal protection. Concerning disposal elimination after cleaning, see section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Additional hazards when processed : Handle empty containers with care because residual vapours are flammable.

Precautions for safe handling : Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Provide good ventilation in process area to prevent formation of vapour. No open flames. No smoking. Use only non-sparking tools. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Avoid breathing vapours.

7.2. Conditions for safe storage, including any incompatibilities

Technical measures : Proper grounding procedures to avoid static electricity should be followed. Ground/bond container and receiving equipment. Use explosion-proof electrical/ventilating/lighting equipment.

Storage conditions : Keep only in the original container in a cool well ventilated place. Keep in fireproof place. Keep container tightly closed.

Incompatible products : Strong bases. Strong acids. Oxidizing agent.

Incompatible materials : Sources of ignition. Direct sunlight. Heat sources.

7.3. Specific end use(s)

No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

National occupational exposure and biological limit values

Di-"isononyl" phthalate (28553-12-0)	
United Kingdom - Occupational Exposure Limits	
Local name	Diisononyl phthalate
WEL TWA (OEL TWA)	5 mg/m³

Di-"isononyl" phthalate (28553-12-0)	
WEL STEL (OEL STEL)	15 mg/m³ (calculated)
Regulatory reference	EH40/2005 (Fourth edition, 2020). HSE

ethanol; ethyl alcohol (64-17-5)	
United Kingdom - Occupational Exposure Limits	
Local name	Ethanol
WEL TWA (OEL TWA)	1920 mg/m³
	1000 ppm
WEL STEL (OEL STEL)	5760 mg/m³ (calculated)
	3000 ppm (calculated)
Regulatory reference	EH40/2005 (Fourth edition, 2020). HSE

1-methyl-2-pyrrolidone (872-50-4)	
EU - Indicative Occupational Exposure Limit (IOEL)	
Local name	n-Methyl-2-pyrrolidone
IOEL TWA	40 mg/m³
IOEL STEL	80 mg/m³
	20 ppm
Remark	Skin
Regulatory reference	COMMISSION DIRECTIVE 2009/161/EU
EU - Binding Occupational Exposure Limit (BOEL)	
Local name	1-Methyl-2-pyrrolidone
BOEL TWA	40 mg/m³
	10 ppm
BOEL STEL	80 mg/m³
	20 ppm
Notes	Skin (Substantial contribution to the total body burden via dermal exposure possible)
Regulatory reference	DIRECTIVE (EU) 2022/431 (amending Directive 2004/37/EC)
EU - Biological Limit Value (BLV)	
Local name	N-Methyl-2-pyrrolidone
BLV	20 mg/g creatinine Parameter: 2-hydroxy-N-methylsuccinimide - Medium: urine - Sampling time: morning-after-shift ; 18 hours 70 mg/g creatinine Parameter: 5-hydroxy-N-methyl-2-pyrrolidone - Medium: urine - Sampling time: 2-4 hours after the end of exposure/shift
Regulatory reference	SCOEL List of recommended health-based BLVs and BGVs
United Kingdom - Occupational Exposure Limits	
Local name	n-Methyl-2-pyrrolidone
WEL TWA (OEL TWA)	40 mg/m³
	10 ppm
WEL STEL (OEL STEL)	80 mg/m³
	20 ppm

1-methyl-2-pyrrolidone (872-50-4)	
Remark	Sk (Can be absorbed through the skin. The assigned substances are those for which there are concerns that dermal absorption will lead to systemic toxicity)
Regulatory reference	EH40/2005 (Fourth edition, 2020). HSE

1-methoxypropan-2-ol (107-98-2)	
EU - Indicative Occupational Exposure Limit (IOEL)	
Local name	1-Methoxypropanol-2
IOEL TWA	375 mg/m³ 375 mg/m³
	100 ppm
IOEL STEL	568 mg/m³ 568 mg/m³
	150 ppm 150 ppm
Remark	Skin Skin
Regulatory reference	COMMISSION DIRECTIVE 2000/39/EC COMMISSION DIRECTIVE 2000/39/EC
United Kingdom - Occupational Exposure Limits	
Local name	1-Methoxypropan-2-ol
WEL TWA (OEL TWA)	375 mg/m³
	100 ppm
WEL STEL (OEL STEL)	560 mg/m³
	150 ppm
Remark	Sk (Can be absorbed through the skin. The assigned substances are those for which there are concerns that dermal absorption will lead to systemic toxicity)
Regulatory reference	EH40/2005 (Fourth edition, 2020). HSE

maleic anhydride (108-31-6)	
United Kingdom - Occupational Exposure Limits	
Local name	Maleic anhydride
WEL TWA (OEL TWA)	1 mg/m³
WEL STEL (OEL STEL)	3 mg/m³
Remark	Sen (Capable of causing occupational asthma)
Regulatory reference	EH40/2005 (Fourth edition, 2020). HSE

DNEL and PNEC

Ethanol, 2,2 '-iminobis-, N-C12-18-alkyl derivs. (71786-60-2)	
DNEL/DMEL (Workers)	
Long-term - systemic effects, dermal	0.17 mg/kg bodyweight/day
Long-term - systemic effects, inhalation	0.59 mg/m³
DNEL/DMEL (General population)	
Long-term - systemic effects,oral	0.06 mg/kg bodyweight/day
Long-term - systemic effects, inhalation	0.09 mg/m³

Ethanol, 2,2 '-iminobis-, N-C12-18-alkyl derivs. (71786-60-2)	
Long-term - systemic effects, dermal	0.06 mg/kg bodyweight/day
PNEC (Water)	
PNEC aqua (freshwater)	0.183 µg/l
PNEC aqua (marine water)	0.0183 µg/l
PNEC aqua (intermittent, freshwater)	1 µg/l
PNEC (Sediment)	
PNEC sediment (freshwater)	1.692 mg/kg dwt
PNEC sediment (marine water)	0.1692 mg/kg dwt
PNEC (Soil)	
PNEC soil	5 mg/kg dwt
PNEC (Oral)	
PNEC oral (secondary poisoning)	2 mg/kg food
PNEC (STP)	
PNEC sewage treatment plant	2200 µg/l

ethanol; ethyl alcohol (64-17-5)	
DNEL/DMEL (Workers)	
Acute - local effects, inhalation	1900 mg/m³
Long-term - systemic effects, dermal	343 mg/kg bodyweight/day
Long-term - systemic effects, inhalation	380 mg/m³
DNEL/DMEL (General population)	
Acute - local effects, inhalation	950 mg/m³
Long-term - systemic effects,oral	87 mg/kg bodyweight/day
Long-term - systemic effects, inhalation	114 mg/m³
Long-term - systemic effects, dermal	206 mg/kg bodyweight/day
PNEC (Water)	
PNEC aqua (freshwater)	0.96 mg/l
PNEC aqua (marine water)	0.79 mg/l
PNEC aqua (intermittent, freshwater)	2.75 mg/l
PNEC (Sediment)	
PNEC sediment (freshwater)	3.6 mg/kg dwt
PNEC sediment (marine water)	2.9 mg/kg dwt
PNEC (Soil)	
PNEC soil	0.63 mg/kg dwt
PNEC (Oral)	
PNEC oral (secondary poisoning)	0.72 g/kg food
PNEC (STP)	
PNEC sewage treatment plant	580 mg/l

1-methyl-2-pyrrolidone (872-50-4)	
DNEL/DMEL (Workers)	
Acute - systemic effects, dermal	208 mg/kg bodyweight/day
Acute - systemic effects, inhalation	80 mg/m³
Long-term - systemic effects, dermal	4.8 mg/kg bodyweight/day
Long-term - systemic effects, inhalation	14.4 mg/m³
Long-term - local effects, inhalation	40 mg/m³
DNEL/DMEL (General population)	
Acute - systemic effects, dermal	125 mg/kg bodyweight/day
Acute - systemic effects, inhalation	80 mg/m³
Acute - systemic effects, oral	26 mg/kg bodyweight/day
Long-term - systemic effects,oral	850 µg/kg dw
Long-term - systemic effects, inhalation	3.6 mg/m³
Long-term - systemic effects, dermal	2.4 mg/kg bodyweight/day
Long-term - local effects, inhalation	4.5 mg/m³
PNEC (Water)	
PNEC aqua (freshwater)	250 µg/l
PNEC aqua (marine water)	25 µg/l
PNEC aqua (intermittent, freshwater)	5 mg/l
PNEC (Sediment)	
PNEC sediment (freshwater)	1.09 mg/kg dwt
PNEC sediment (marine water)	109 µg/kg dw
PNEC (Soil)	
PNEC soil	70.1 µg/kg
PNEC (Oral)	
PNEC oral (secondary poisoning)	1.67 mg/kg food
PNEC (STP)	
PNEC sewage treatment plant	10 mg/l

1-methoxypropan-2-ol (107-98-2)	
DNEL/DMEL (Workers)	
Acute - systemic effects, inhalation	553.5 mg/m³
Acute - local effects, inhalation	553.5 mg/m³
Long-term - systemic effects, dermal	183 mg/kg bodyweight/day
Long-term - systemic effects, inhalation	369 mg/m³
DNEL/DMEL (General population)	
Long-term - systemic effects,oral	33 mg/kg bodyweight/day
Long-term - systemic effects, inhalation	43.9 mg/m³
Long-term - systemic effects, dermal	78 mg/kg bodyweight/day
PNEC (Water)	
PNEC aqua (freshwater)	10 mg/l

1-methoxypropan-2-ol (107-98-2)	
PNEC aqua (marine water)	1 mg/l
PNEC aqua (intermittent, freshwater)	100 mg/l
PNEC (Sediment)	
PNEC sediment (freshwater)	52.3 mg/kg dwt
PNEC sediment (marine water)	5.2 mg/kg dwt
PNEC (Soil)	
PNEC soil	4.59 mg/kg dwt
PNEC (STP)	
PNEC sewage treatment plant	100 mg/l

2,6-Di-tert-butyl-p-cresol (128-37-0)	
DNEL/DMEL (Workers)	
Long-term - systemic effects, dermal	0.5 mg/kg bodyweight/day
Long-term - systemic effects, inhalation	3.5 mg/m³
DNEL/DMEL (General population)	
Long-term - systemic effects,oral	0.25 mg/kg bodyweight/day
Long-term - systemic effects, inhalation	0.86 mg/m³
Long-term - systemic effects, dermal	0.25 mg/kg bodyweight/day
PNEC (Water)	
PNEC aqua (freshwater)	0.000199 mg/l
PNEC aqua (marine water)	0.0000199 mg/l
PNEC aqua (intermittent, freshwater)	0.00199 mg/l
PNEC (Sediment)	
PNEC sediment (freshwater)	0.0996 mg/kg dwt
PNEC sediment (marine water)	0.00996 mg/kg dwt
PNEC (Soil)	
PNEC soil	0.04769 mg/kg dwt
PNEC (Oral)	
PNEC oral (secondary poisoning)	8.33 mg/kg
PNEC (STP)	
PNEC sewage treatment plant	0.17 mg/l

1-Ethoxypropan-2-ol (1569-02-4)	
DNEL/DMEL (Workers)	
Acute - systemic effects, inhalation	500 mg/m³
Long-term - systemic effects, dermal	74 mg/kg bodyweight/day
Long-term - systemic effects, inhalation	211 mg/m³
DNEL/DMEL (General population)	
Acute - systemic effects, inhalation	300 mg/m³
Long-term - systemic effects,oral	14 mg/kg bodyweight/day

1-Ethoxypropan-2-ol (1569-02-4)	
Long-term - systemic effects, inhalation	127 mg/m³
Long-term - systemic effects, dermal	44.3 mg/kg bodyweight/day
PNEC (Water)	
PNEC aqua (freshwater)	10 mg/l
PNEC aqua (marine water)	1 mg/l
PNEC aqua (intermittent, freshwater)	19 mg/l
PNEC (Sediment)	
PNEC sediment (freshwater)	37.6 mg/kg dwt
PNEC sediment (marine water)	3.76 mg/kg dwt
PNEC (Soil)	
PNEC soil	1.97 mg/kg dwt
PNEC (Oral)	
PNEC oral (secondary poisoning)	142 mg/kg food
PNEC (STP)	
PNEC sewage treatment plant	1250 mg/l

Propylidynetrimethanol (77-99-6)	
DNEL/DMEL (Workers)	
Long-term - systemic effects, dermal	940 µg/kg dw
Long-term - systemic effects, inhalation	3.3 mg/m³
DNEL/DMEL (General population)	
Long-term - systemic effects,oral	340 µg/kg dw
Long-term - systemic effects, inhalation	580 µg/m³
Long-term - systemic effects, dermal	340 µg/kg dw
PNEC (Water)	
PNEC aqua (freshwater)	1 mg/l
PNEC aqua (marine water)	0.1 mg/l
PNEC aqua (intermittent, freshwater)	10 mg/l
PNEC (Sediment)	
PNEC sediment (freshwater)	3.505 mg/kg dwt
PNEC sediment (marine water)	0.351 mg/kg dwt
PNEC (Soil)	
PNEC soil	0.241 mg/kg dwt
PNEC (STP)	
PNEC sewage treatment plant	100 mg/l

maleic anhydride (108-31-6)	
DNEL/DMEL (Workers)	
Acute - systemic effects, dermal	0.2 mg/kg bodyweight/day
Acute - systemic effects, inhalation	0.95 mg/m³

maleic anhydride (108-31-6)	
Long-term - systemic effects, dermal	0.2 mg/kg bodyweight/day
Long-term - systemic effects, inhalation	0.19 mg/m³
Long-term - local effects, inhalation	0.32 mg/m³
DNEL/DMEL (General population)	
Acute - systemic effects, dermal	0.1 mg/kg bodyweight/day
Acute - systemic effects, inhalation	0.25
Acute - systemic effects, oral	0.1 mg/kg bodyweight/day
Long-term - systemic effects,oral	0.06 mg/kg bodyweight/day
Long-term - systemic effects, inhalation	0.05 mg/m³
Long-term - systemic effects, dermal	0.1 mg/kg bodyweight/day
Long-term - local effects, inhalation	0.08 mg/m³
PNEC (Water)	
PNEC aqua (freshwater)	0.075 mg/l
PNEC aqua (marine water)	0.0075 mg/l
PNEC aqua (intermittent, freshwater)	0.75 mg/l
PNEC (Sediment)	
PNEC sediment (freshwater)	0.06 mg/kg dwt
PNEC sediment (marine water)	0.006 mg/kg dwt
PNEC (Soil)	
PNEC soil	0.01 mg/kg dwt
PNEC (Oral)	
PNEC oral (secondary poisoning)	6.67 mg/kg food
PNEC (STP)	
PNEC sewage treatment plant	4.46 mg/l

ethyl acetate (141-78-6)	
DNEL/DMEL (Workers)	
Acute - systemic effects, inhalation	1468 mg/m³
Acute - local effects, inhalation	1468 mg/m³
Long-term - systemic effects, dermal	63 mg/kg bodyweight/day
Long-term - systemic effects, inhalation	734 mg/m³
Long-term - local effects, inhalation	734 mg/m³
DNEL/DMEL (General population)	
Acute - systemic effects, inhalation	734 mg/m³
Acute - local effects, inhalation	734 mg/m³
Long-term - systemic effects,oral	4.5 mg/kg bodyweight/day
Long-term - systemic effects, inhalation	367 mg/m³
Long-term - systemic effects, dermal	37 mg/kg bodyweight/day
Long-term - local effects, inhalation	367 mg/m³

ethyl acetate (141-78-6)	
PNEC (Water)	
PNEC aqua (freshwater)	0.24 mg/l
PNEC aqua (marine water)	0.024 mg/l
PNEC aqua (intermittent, freshwater)	1.65 mg/l
PNEC (Sediment)	
PNEC sediment (freshwater)	1.15 mg/kg dwt
PNEC sediment (marine water)	115 µg/kg
PNEC (Soil)	
PNEC soil	148 µg/kg
PNEC (Oral)	
PNEC oral (secondary poisoning)	200 mg/kg
PNEC (STP)	
PNEC sewage treatment plant	650 mg/l

8.2. Exposure controls

Appropriate engineering controls

Appropriate engineering controls:
Zorg voor voldoende ventilatie.

Personal protection equipment

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

Eye and face protection

Eye protection:
Wear eye glasses with side protection according to EN 166.

Eye protection			
Type	**Field of application**	**Characteristics**	**Standard**
Safety glasses	Droplet	With side shields	EN 166

Skin protection

Skin and body protection:
EN 1149. Wear suitable protective clothing. Choose protective clothing according to the type, quantity and concentration of hazardous substances, and the specific workplace.

Skin and body protection	
Type	**Standard**
Overall, Lab coat	EN 1149-1

Hand protection:
Wear suitable gloves tested to EN374. Recommendation: Suitable chemical resistant safety gloves (EN 374) also with prolonged, direct contact (Recommended: Protective index 6, corresponding > 480 minutes of permeation time according to EN 374): e.g. nitrile rubber (>=0.4 mm), butyl rubber (>=0.7 mm) and others. 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. The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed. Gloves must be replaced after each use and whenever signs of wear or perforation appear

Hand protection					
Type	**Material**	**Permeation**	**Thickness (mm)**	**Penetration**	**Standard**
Reusable gloves	Butyl rubber	3 (> 60 minutes)	>4	3 (> 0.65)	EN ISO 374

Respiratory protection

Respiratory protection:
No respiratory protection needed under normal use conditions. In the event of exposure to high concentrations of dust or vapour: Use mask type P1 (EN 143 EU) against interfering environmental influences. For higher levels of protection, use mask filter type ABEK-P2 (EU EN 143). Breathing equipment and components have to be tested and approved under appropriate government standards such as CEN (EU).

Respiratory protection			
Device	**Filter type**	**Condition**	**Standard**
Full face mask	Type A - High-boiling (>65 °C) organic compounds	If conc. in air > exposure limit	EN 14387

Environmental exposure controls

Other information:
Do not eat, drink or smoke during use.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	:	Liquid
Colour	:	Black.
Odour	:	alcoholically.
Odour threshold	:	Not available
Melting point	:	Not available
Freezing point	:	Not available
Boiling point	:	> 35 °C
Flammability	:	Not available
Lower explosion limit	:	Not available
Upper explosion limit	:	Not available
Flash point	:	≤ 8 °C
Auto-ignition temperature	:	Not available
Decomposition temperature	:	Not available
pH	:	Not available
Viscosity, kinematic	:	Not available
Viscosity, dynamic	:	15 – 30 mPa·s Din Cup4
Solubility	:	Water: Not miscible
Partition coefficient n-octanol/water (Log Kow)	:	Not available
Vapour pressure	:	Not available
Vapour pressure at 50°C	:	Not available
Density	:	Not available
Relative density	:	≈ 0.9
Relative vapour density at 20°C	:	Not available
Particle characteristics	:	Not applicable

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

No additional information available

10.2. Chemical stability

Highly flammable liquid and vapour. May form flammable/explosive vapour-air mixture.

10.3. Possibility of hazardous reactions

Not established.

10.4. Conditions to avoid

Direct sunlight. Extremely high or low temperatures. Open flame.

10.5. Incompatible materials

Strong acids. Strong bases. Oxidizer.

10.6. Hazardous decomposition products

Carbon monoxide. Carbon dioxide. May release flammable gases. fume.

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

Di-"isononyl" phthalate (28553-12-0)	
LD50 oral rat	> 10000 mg/kg bodyweight Animal: rat
LD50 dermal rabbit	> 3160 mg/kg bodyweight Animal: rabbit, Animal sex: female
LC50 Inhalation - Rat	> 4.4 mg/l air Animal: rat, Guideline: other:

Ethanol, 2,2 '-iminobis-, N-C12-18-alkyl derivs. (71786-60-2)	
ATE oral	500 mg/kg bodyweight

ethanol; ethyl alcohol (64-17-5)	
LD50 oral rat	1187 – 15010 mg/kg bodyweight Guideline: OECD Guideline 401 (Acute Oral Toxicity), 95% CL: 9720 - 11380
LD50 oral	8300 mg/kg bodyweight Animal: mouse
LD50 dermal rabbit	> 20000 mg/kg (Symptoms: Redness, pain)
LD50 dermal	15800 mg/kg bodyweight
LC50 Inhalation - Rat	124.7 mg/l/4h (Symptoms include headache, dizziness, fatigue, muscular weakness, drowsiness and in extreme cases, loss of consciousness)
ATE vapours	124.7 mg/l/4h
ATE dust/mist	124.7 mg/l/4h

1-methyl-2-pyrrolidone (872-50-4)	
LD50 oral rat	4150 mg/kg
LD50 dermal rat	5000 mg/kg
LC50 Inhalation - Rat	5.1 mg/l/4h

1-methyl-2-pyrrolidone (872-50-4)	
ATE oral	4150 mg/kg bodyweight
ATE dermal	5000 mg/kg bodyweight
ATE vapours	5.1 mg/l/4h
ATE dust/mist	5.1 mg/l/4h

1-methoxypropan-2-ol (107-98-2)	
LD50 oral rat	4277 mg/kg
LD50 dermal rat	> 2000 mg/kg
ATE oral	4277 mg/kg bodyweight

1-Ethoxypropan-2-ol (1569-02-4)	
LD50 dermal rat	> 2000 mg/kg bodyweight Animal: rat, Guideline: EU Method B.3 (Acute Toxicity (Dermal))
LC50 Inhalation - Rat	> 9.59 mg/l air Animal: rat, Guideline: OECD Guideline 403 (Acute Inhalation Toxicity), Guideline: EU Method B.2 (Acute Toxicity (Inhalation))

Propylidynetrimethanol (77-99-6)	
LD50 oral rat	≈ 14700 mg/kg bodyweight Animal: rat, Animal sex: male
LD50 dermal rabbit	> 10000 mg/kg bodyweight Animal: rabbit
LC50 Inhalation - Rat	> 0.85 mg/l air Animal: rat, Animal sex: male

maleic anhydride (108-31-6)	
LD50 dermal rabbit	2620 mg/kg bodyweight Animal: rabbit, Animal sex: female, Guideline: OECD Guideline 402 (Acute Dermal Toxicity)
ATE oral	500 mg/kg bodyweight
ATE dermal	2620 mg/kg bodyweight

Skin corrosion/irritation : Causes skin irritation.

Ethanol, 2,2 '-iminobis-, N-C12-18-alkyl derivs. (71786-60-2)	
pH	7 (≥)

Serious eye damage/irritation : Causes serious eye irritation.

Ethanol, 2,2 '-iminobis-, N-C12-18-alkyl derivs. (71786-60-2)	
pH	7 (≥)

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

Germ cell mutagenicity : Not classified

Carcinogenicity : Not classified

ethanol; ethyl alcohol (64-17-5)	
IARC group	1 - Carcinogenic to humans

Di-"isononyl" phthalate (28553-12-0)	
NOAEL (chronic, oral, animal/male, 2 years)	88.3 mg/kg bodyweight Animal: rat, Animal sex: male, Guideline: EPA OTS 798.3300 (Carcinogenicity)
NOAEL (chronic, oral, animal/female, 2 years)	108.6 mg/kg bodyweight Animal: rat, Animal sex: female, Guideline: EPA OTS 798.3300 (Carcinogenicity)

1-methyl-2-pyrrolidone (872-50-4)	
NOAEL (chronic, oral, animal/male, 2 years)	≈ 89 mg/kg bodyweight Animal: mouse, Animal sex: male, Guideline: OECD Guideline 451 (Carcinogenicity Studies), Guideline: EU Method B.32 (Carcinogenicity Test), Guideline: EPA OTS 798.3300 (Carcinogenicity), Remarks on results: other:Effect type: toxicity (migrated information)
NOAEL (chronic, oral, animal/female, 2 years)	≈ 221 mg/kg bodyweight Animal: mouse, Animal sex: female, Guideline: OECD Guideline 451 (Carcinogenicity Studies), Guideline: EU Method B.32 (Carcinogenicity Test), Guideline: EPA OTS 798.3300 (Carcinogenicity), Remarks on results: other:Effect type: toxicity (migrated information)

Reproductive toxicity : May damage fertility or the unborn child.

Di-"isononyl" phthalate (28553-12-0)	
NOAEL (animal/female, F1)	200 – 260 mg/kg bodyweight Animal: rat, Animal sex: female, Guideline: other:, Guideline: EPA OTS 798.4700 (Reproduction and Fertility Effects)

ethanol; ethyl alcohol (64-17-5)	
NOAEL (animal/male, F0/P)	13800 mg/kg bodyweight

1-methyl-2-pyrrolidone (872-50-4)	
LOAEL (animal/female, F0/P)	500 mg/kg bodyweight Animal: rat, Animal sex: female, Guideline: OECD Guideline 416 (Two-Generation Reproduction Toxicity Study)
NOAEL (animal/male, F0/P)	≥ 500 mg/kg bodyweight Animal: rat, Animal sex: male, Guideline: OECD Guideline 416 (Two-Generation Reproduction Toxicity Study)
NOAEL (animal/female, F0/P)	350 mg/kg bodyweight Animal: rat, Animal sex: female, Guideline: OECD Guideline 416 (Two-Generation Reproduction Toxicity Study)

STOT-single exposure : May cause drowsiness or dizziness.

1-methyl-2-pyrrolidone (872-50-4)	
STOT-single exposure	May cause respiratory irritation.

1-methoxypropan-2-ol (107-98-2)	
STOT-single exposure	May cause drowsiness or dizziness.

1-Ethoxypropan-2-ol (1569-02-4)	
STOT-single exposure	May cause drowsiness or dizziness.

STOT-repeated exposure : Not classified

Di-"isononyl" phthalate (28553-12-0)	
NOAEL (dermal, rat/rabbit, 90 days)	≈ 500 mg/kg bodyweight Animal: rabbit

Ethanol, 2,2 '-iminobis-, N-C12-18-alkyl derivs. (71786-60-2)	
LOAEL (oral, rat, 90 days)	125 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 408 (Repeated Dose 90-Day Oral Toxicity Study in Rodents)
NOAEL (oral, rat, 90 days)	30 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 408 (Repeated Dose 90-Day Oral Toxicity Study in Rodents)
STOT-repeated exposure	May cause damage to organs through prolonged or repeated exposure.

ethanol; ethyl alcohol (64-17-5)	
LOAEL (oral, rat, 90 days)	3200 mg/kg bodyweight
NOAEL (oral, rat, 28 days)	1730 mg/kg bodyweight/day
NOAEC (inhalation, rat, 28 days)	6.66 mg/l
NOAEL (oral, rat, 90 days)	< 1730 mg/kg bodyweight

ethanol; ethyl alcohol (64-17-5)	
NOAEL (subchronic, oral, animal/male, 90 days)	< 9700 mg/kg bodyweight Animal: mouse, Animal sex: male, Guideline: EPA OPPTS 870.3100 (90-Day Oral Toxicity in Rodents)
NOAEL (subchronic, oral, animal/female, 90 days)	> 9400 mg/kg bodyweight Animal: mouse, Animal sex: female, Guideline: EPA OPPTS 870.3100 (90-Day Oral Toxicity in Rodents)

1-methyl-2-pyrrolidone (872-50-4)	
LOAEL (dermal, rat/rabbit, 90 days)	1653 mg/kg bodyweight Animal: rabbit, Animal sex: male, Guideline: OECD Guideline 410 (Repeated Dose Dermal Toxicity: 21/28-Day Study)
LOAEC (inhalation, rat, dust/mist/fume, 90 days)	1 mg/l air Animal: rat, Guideline: OECD Guideline 413 (Subchronic Inhalation Toxicity: 90-Day Study)
NOAEL (dermal, rat/rabbit, 90 days)	826 mg/kg bodyweight Animal: rabbit, Animal sex: male, Guideline: OECD Guideline 410 (Repeated Dose Dermal Toxicity: 21/28-Day Study)
NOAEC (inhalation, rat, dust/mist/fume, 90 days)	0.5 mg/l air Animal: rat, Guideline: OECD Guideline 413 (Subchronic Inhalation Toxicity: 90-Day Study)

1-methoxypropan-2-ol (107-98-2)	
LOAEL (oral, rat, 90 days)	2757 mg/kg bodyweight Animal: rat, Animal sex: male, Guideline: OECD Guideline 407 (Repeated Dose 28-Day Oral Toxicity Study in Rodents)
NOAEL (oral, rat, 90 days)	919 mg/kg bodyweight Animal: rat, Animal sex: male, Guideline: OECD Guideline 407 (Repeated Dose 28-Day Oral Toxicity Study in Rodents)
NOAEL (dermal, rat/rabbit, 90 days)	> 1000 mg/kg bodyweight Animal: rabbit, Guideline: OECD Guideline 410 (Repeated Dose Dermal Toxicity: 21/28-Day Study)

1-Ethoxypropan-2-ol (1569-02-4)	
LOAEL (dermal, rat/rabbit, 90 days)	Animal: rabbit, Animal sex: male, Guideline: OECD Guideline 411 (Subchronic Dermal Toxicity: 90-Day Study)
LOAEC (inhalation, rat, vapour, 90 days)	8.36 mg/l air Animal: rat, Guideline: OECD Guideline 413 (Subchronic Inhalation Toxicity: 90-Day Study)
NOAEL (oral, rat, 90 days)	1000 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 408 (Repeated Dose 90-Day Oral Toxicity in Rodents)
NOAEL (dermal, rat/rabbit, 90 days)	1800 mg/kg bodyweight Animal: rabbit, Animal sex: male, Guideline: OECD Guideline 411 (Subchronic Dermal Toxicity: 90-Day Study)
NOAEC (inhalation, rat, vapour, 90 days)	1.266 mg/l air Animal: rat, Guideline: OECD Guideline 413 (Subchronic Inhalation Toxicity: 90-Day Study)

Propylidynetrimethanol (77-99-6)	
NOAEL (oral, rat, 90 days)	200 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 422 (Combined Repeated Dose Toxicity Study with the Reproduction / Developmental Toxicity Screening Test)
NOAEC (inhalation, rat, gas, 90 days)	≈ 3.5 ppm Animal: rat

maleic anhydride (108-31-6)	
NOAEL (oral, rat, 90 days)	≈ 10 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 452 (Chronic Toxicity Studies)
NOAEC (inhalation, rat, vapour, 90 days)	≈ 0.0033 mg/l air Animal: rat, Guideline: OECD Guideline 413 (Subchronic Inhalation Toxicity: 90-Day Study)
STOT-repeated exposure	Causes damage to organs (respiratory system) through prolonged or repeated exposure (inhalation).

Aspiration hazard : Not classified

1-methyl-2-pyrrolidone (872-50-4)	
Viscosity, kinematic	1.613 mm²/s

1-methoxypropan-2-ol (107-98-2)	
Viscosity, kinematic	1.848 mm²/s

1-Ethoxypropan-2-ol (1569-02-4)	
Viscosity, kinematic	2.456 mm²/s

11.2. Information on other hazards

Other information

Potential adverse human health effects and symptoms : Based on available data, the classification criteria are not met

SECTION 12: Ecological information

12.1. Toxicity

Hazardous to the aquatic environment, short–term (acute) : Not classified

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

Di-"isononyl" phthalate (28553-12-0)	
LC50 - Fish [1]	> 102 mg/l Test organisms (species): Danio rerio (previous name: Brachydanio rerio)
EC50 - Crustacea [1]	> 74 mg/l Test organisms (species): Daphnia magna
EC50 72h - Algae [1]	> 88 mg/l Test organisms (species): Desmodesmus subspicatus (previous name: Scenedesmus subspicatus)

Ethanol, 2,2 '-iminobis-, N-C12-18-alkyl derivs. (71786-60-2)	
LC50 - Fish [1]	0.1 mg/l Test organisms (species): Danio rerio (previous name: Brachydanio rerio)
EC50 - Crustacea [1]	0.84 mg/l Test organisms (species): Daphnia magna

ethanol; ethyl alcohol (64-17-5)	
LC50 - Fish [1]	14.2 g/l Test organisms (species): Pimephales promelas
LC50 - Fish [2]	13000 mg/l (Oncorhynchus mykiss (Rainbow trout))
EC50 - Crustacea [1]	> 10000 mg/l Test organisms (species): Daphnia magna
EC50 - Other aquatic organisms [1]	5012 mg/l Test organisms (species): Waterflea
EC50 - Other aquatic organisms [2]	275 mg/l
EC50 72h - Algae [1]	275 mg/l Chlorella vulgaris
EC50 72h - Algae [2]	1450 Test organisms (species): Microcystis aeruginosa
EC50 96h - Algae [1]	≈ 22000 mg/l
NOEC (chronic)	9.6 mg/l Test organisms (species): Daphnia magna Duration: '9 d'
NOEC chronic fish	250 mg/l Danio rerio

1-methyl-2-pyrrolidone (872-50-4)	
LC50 - Fish [1]	500 mg/l (4 days)
EC50 - Crustacea [1]	1.107 g/l (4 days)
EC50 72h - Algae [1]	600.5 mg/l (72 h)
EC50 72h - Algae [2]	> 500 mg/l Test organisms (species): Desmodesmus subspicatus (previous name: Scenedesmus subspicatus)
LOEC (chronic)	25 mg/l Test organisms (species): Daphnia magna Duration: '21 d'

1-methyl-2-pyrrolidone (872-50-4)	
NOEC (chronic)	12.5 mg/l Test organisms (species): Daphnia magna Duration: '21 d'

1-methoxypropan-2-ol (107-98-2)	
LC50 - Fish [1]	20800 mg/l
EC50 - Other aquatic organisms [1]	2954 mg/l Test organisms (species): other aquatic crustacea:

1-Ethoxypropan-2-ol (1569-02-4)	
LC50 - Fish [1]	5300 mg/l QSAR
EC50 - Crustacea [1]	> 1000 mg/l Test organisms (species): Daphnia magna
NOEC (chronic)	> 180 mg/l Test organisms (species): Daphnia magna Duration: '21 d'
NOEC chronic fish	> 260 mg/l Test organisms (species): Oncorhynchus mykiss (previous name: Salmo gairdneri) Duration: '21 d'

Propylidynetrimethanol (77-99-6)	
LC50 - Fish [1]	> 1000 mg/l Test organisms (species): Alburnus alburnus
LC50 - Fish [2]	> 10 g/l Test organisms (species): Alburnus alburnus
EC50 - Crustacea [1]	13000 mg/l Test organisms (species): Daphnia magna
EC50 72h - Algae [1]	> 1000 mg/l Test organisms (species): Pseudokirchneriella subcapitata (previous names: Raphidocelis subcapitata, Selenastrum capricornutum)
NOEC (chronic)	> 1000 mg/l Test organisms (species): Daphnia magna Duration: '21 d'

maleic anhydride (108-31-6)	
LC50 - Fish [1]	75 mg/l Test organisms (species): Oncorhynchus mykiss (previous name: Salmo gairdneri)
LC50 - Fish [2]	75 mg/l Test organisms (species): Lepomis macrochirus
EC50 - Crustacea [1]	330 mg/l Test organisms (species): Daphnia magna
EC50 72h - Algae [1]	> 150 mg/l Test organisms (species): Raphidocelis subcapitata (previous names: Pseudokirchneriella subcapitata, Selenastrum capricornutum)

12.2. Persistence and degradability

KORTHO INK K10 BLACK	
Persistence and degradability	Rapidly degradable

Di-"isononyl" phthalate (28553-12-0)	
Persistence and degradability	Rapidly degradable

Ethanol, 2,2 '-iminobis-, N-C12-18-alkyl derivs. (71786-60-2)	
Persistence and degradability	Rapidly degradable
BOD (% of ThOD)	60 % ThOD

ethanol; ethyl alcohol (64-17-5)	
Persistence and degradability	Readily biodegradable.

1-methyl-2-pyrrolidone (872-50-4)	
Persistence and degradability	Rapidly degradable

1-methoxypropan-2-ol (107-98-2)	
Persistence and degradability	Rapidly degradable

1-Ethoxypropan-2-ol (1569-02-4)	
Persistence and degradability	Rapidly degradable
Biodegradation	68 % (OECD 301D method)

Propylidynetrimethanol (77-99-6)	
Persistence and degradability	Rapidly degradable

maleic anhydride (108-31-6)	
Persistence and degradability	Rapidly degradable

12.3. Bioaccumulative potential

Di-"isononyl" phthalate (28553-12-0)	
BCF - Fish [1]	(183,8 dimensionless)
Partition coefficient n-octanol/water (Log Pow)	8.8 – 9.7 @ 25 °C / pH 4.6

Ethanol, 2,2 '-iminobis-, N-C12-18-alkyl derivs. (71786-60-2)	
Partition coefficient n-octanol/water (Log Kow)	0.7

ethanol; ethyl alcohol (64-17-5)	
BCF - Fish [1]	3
Partition coefficient n-octanol/water (Log Pow)	-0.32
Bioaccumulative potential	No bioaccumulation.

1-methyl-2-pyrrolidone (872-50-4)	
Partition coefficient n-octanol/water (Log Pow)	-0.46 @ 25 °C

1-methoxypropan-2-ol (107-98-2)	
Partition coefficient n-octanol/water (Log Kow)	0.37

1-Ethoxypropan-2-ol (1569-02-4)	
Partition coefficient n-octanol/water (Log Pow)	< 3

Propylidynetrimethanol (77-99-6)	
Partition coefficient n-octanol/water (Log Kow)	-0.47 @ 26 °C

12.4. Mobility in soil

Ethanol, 2,2 '-iminobis-, N-C12-18-alkyl derivs. (71786-60-2)	
Surface tension	29 mN/m

ethanol; ethyl alcohol (64-17-5)	
Surface tension	0.02339 N/m @ 25 °C
Organic Carbon Normalized Adsorption Coefficient (Log Koc)	1

12.5. Results of PBT and vPvB assessment

Component	
Substance(s) not meeting the PBT criteria of REACH regulation, in accordance with Annex XIII	1-methyl-2-pyrrolidone (872-50-4)

Component	
Substance(s) not meeting the vPvB criteria of REACH regulation, in accordance with Annex XIII	1-methyl-2-pyrrolidone (872-50-4)

12.6. Endocrine disrupting properties

No additional information available

12.7. Other adverse effects

Additional information : Avoid release to the environment.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Product/Packaging disposal recommendations : Dispose in a safe manner in accordance with local/national regulations. Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation.

Additional information : Handle empty containers with care because residual vapours are flammable.

Ecological waste information : Avoid release to the environment.

HP Code : HP3 - “Flammable:”
– flammable liquid waste: liquid waste having a flash point below 60 °C or waste gas oil, diesel and light heating oils having a flash point > 55 °C and ≤ 75 °C;
– flammable pyrophoric liquid and solid waste: solid or liquid waste which, even in small quantities, is liable to ignite within five minutes after coming into contact with air;
– flammable solid waste: solid waste which is readily combustible or may cause or contribute to fire through friction;
– flammable gaseous waste: gaseous waste which is flammable in air at 20 °C and a standard pressure of 101.3 kPa;
– water reactive waste: waste which, in contact with water, emits flammable gases in dangerous quantities;
– other flammable waste: flammable aerosols, flammable self-heating waste, flammable organic peroxides and flammable self-reactive waste.
HP4 - “Irritant – skin irritation and eye damage:” waste which on application can cause skin irritation or damage to the eye.
HP14 - “Ecotoxic:” waste which presents or may present immediate or delayed risks for one or more sectors of the environment

SECTION 14: Transport information

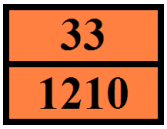
In accordance with ADR / IMDG / IATA / ADN / RID

ADR	IMDG	IATA	ADN	RID
14.1. UN number or ID number				
UN 1210	UN 1210	UN 1210	UN 1210	UN 1210
14.2. UN proper shipping name				
PRINTING INK / PRINTING INK RELATED MATERIAL	PRINTING INK RELATED MATERIAL	Printing ink related material	PRINTING INK	PRINTING INK
Transport document description				
UN 1210 PRINTING INK / PRINTING INK RELATED MATERIAL, 3, II, (D/E)	UN 1210 PRINTING INK RELATED MATERIAL, 3, II	UN 1210 Printing ink related material, 3, II	UN 1210 PRINTING INK, 3, II	UN 1210 PRINTING INK, 3, II
14.3. Transport hazard class(es)				
3	3	3	3	3

ADR	IMDG	IATA	ADN	RID
				
14.4. Packing group				
II	II	II	II	II
14.5. Environmental hazards				
Dangerous for the environment: No	Dangerous for the environment: No Marine pollutant: No EmS-No. (Fire): F-E EmS-No. (Spillage): S-D	Dangerous for the environment: No	Dangerous for the environment: No	Dangerous for the environment: No
No supplementary information available.				

14.6. Special precautions for user

Overland transport

Classification code (ADR)	:	F1
Special provisions (ADR)	:	163, 367, 640C
Limited quantities (ADR)	:	5l
Excepted quantities (ADR)	:	E2
Packing instructions (ADR)	:	P001
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, TP8
Tank code (ADR)	:	L1.5BN
Vehicle for tank carriage	:	FL
Transport category (ADR)	:	2
Special provisions for carriage - Operation (ADR)	:	S2, S20
Hazard identification number (Kemler No.)	:	33
Orange plates	:	
Tunnel restriction code (ADR)	:	D/E
EAC code	:	•3YE

Transport by sea

Special provisions (IMDG)	:	163, 367
Limited quantities (IMDG)	:	5 L
Excepted quantities (IMDG)	:	E2
Packing instructions (IMDG)	:	P001
Special packing provisions (IMDG)	:	PP1
IBC packing instructions (IMDG)	:	IBC02
Tank instructions (IMDG)	:	T4
Tank special provisions (IMDG)	:	TP1, TP8
Stowage category (IMDG)	:	B
Properties and observations (IMDG)	:	Fluid or viscous liquid containing colouring matter in solution or suspension. Miscibility with water depends upon the solvent.

Air transport

PCA Excepted quantities (IATA)	:	E2
PCA Limited quantities (IATA)	:	Y341
PCA limited quantity max net quantity (IATA)	:	1L
PCA packing instructions (IATA)	:	353

PCA max net quantity (IATA)	:	5L
CAO packing instructions (IATA)	:	364
CAO max net quantity (IATA)	:	60L
Special provisions (IATA)	:	A3, A72, A192
ERG code (IATA)	:	3L

Inland waterway transport

Classification code (ADN)	:	F1
Special provisions (ADN)	:	163, 367, 640C
Limited quantities (ADN)	:	5 L
Excepted quantities (ADN)	:	E2
Equipment required (ADN)	:	PP, EX, A
Ventilation (ADN)	:	VE01
Number of blue cones/lights (ADN)	:	1

Rail transport

Classification code (RID)	:	F1
Special provisions (RID)	:	163, 367, 640C
Limited quantities (RID)	:	5L
Excepted quantities (RID)	:	E2
Packing instructions (RID)	:	P001
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, TP8
Tank codes for RID tanks (RID)	:	L1.5BN
Transport category (RID)	:	2
Colis express (express parcels) (RID)	:	CE7
Hazard identification number (RID)	:	33

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)	KORTHO INK K10 BLACK ; Ethanol, 2,2 '-iminobis-, N-C12-18-alkyl derivs. ; ethanol; ethyl alcohol ; 1-methyl-2-pyrrolidone ; 1-methoxypropan-2-ol ; 1-Ethoxypropan-2-ol	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)	KORTHO INK K10 BLACK ; Ethanol, 2,2 '-iminobis-, N-C12-18-alkyl derivs.	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

EU restriction list (REACH Annex XVII)		
Reference code	**Applicable on**	**Entry title or description**
3(a)	KORTHO INK K10 BLACK ; ethanol; ethyl alcohol ; 1-methoxypropan-2-ol ; 1-Ethoxypropan-2-ol	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 2.1 to 2.4, 2.6 and 2.7, 2.8 types A and B, 2.9, 2.10, 2.12, 2.13 categories 1 and 2, 2.14 categories 1 and 2, 2.15 types A to F
72.	1-methyl-2-pyrrolidone	The substances listed in column 1 of the Table in Appendix 12
71.	1-methyl-2-pyrrolidone	1-methyl-2-pyrrolidone (NMP)
30.	1-methyl-2-pyrrolidone	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: 1-Methyl-2-pyrrolidone (NMP) (EC 212-828-1, CAS 872-50-4)

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 (1005/2009)

Contains no substance(s) listed on the Ozone Depletion list (Regulation EU 1005/2009 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)

Organic solvent : Yes

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

No chemical safety assessment has been carried out for the substance or the mixture by the supplier

For the following substances of this mixture a chemical safety assessment has been carried out:

ethanol; ethyl alcohol

SECTION 16: Other information

Abbreviations and acronyms:	
CAS-No.	Chemical Abstract Service number
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

Abbreviations and acronyms:	
BLV	Biological limit value
BOD	Biochemical oxygen demand (BOD)
CLP	Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008
COD	Chemical oxygen demand (COD)
DMEL	Derived Minimal Effect level
DNEL	Derived-No Effect Level
EC50	Median effective concentration
ED	Endocrine disruptor
EC-No.	European Community number
EN	European Standard
IARC	International Agency for Research on Cancer
IATA	International Air Transport Association
IMDG	International Maritime Dangerous Goods
IOELV	Indicative Occupational Exposure Limit Value
LC50	Median lethal concentration
LD50	Median lethal dose
LOAEL	Lowest Observed Adverse Effect Level
N.O.S.	Not Otherwise Specified
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
OEL	Occupational Exposure Limit
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
ThOD	Theoretical oxygen demand (ThOD)
TLM	Median Tolerance Limit
TRGS	Technical Rules for Hazardous Substances
SDS	Safety Data Sheet
VOC	Volatile Organic Compounds
WGK	Water Hazard Class
vPvB	Very Persistent and Very Bioaccumulative

Data sources : Manufacturer/Supplier. ECHA (European Chemicals Agency).

Other information : DISCLAIMER OF LIABILITY The information in this SDS was obtained from sources which we believe are reliable. However, the information is provided without any warranty, express or implied, regarding its correctness. The conditions or methods of handling, storage, use or disposal of the product are beyond our control and may be beyond our knowledge. For this and other reasons, we do not assume responsibility and expressly disclaim liability for loss, damage or expense arising out of or in any way connected with the handling, storage, use or disposal of the product. This SDS was prepared and is to be used only for this product. If the product is used as a component in another product, this SDS information may not be applicable.

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
EUH071	Corrosive to the respiratory tract.
Eye Dam. 1	Serious eye damage/eye irritation, Category 1
Eye Irrit. 2	Serious eye damage/eye irritation, Category 2
Flam. Liq. 2	Flammable liquids, Category 2
Flam. Liq. 3	Flammable liquids, Category 3
H225	Highly flammable liquid and vapour.
H226	Flammable liquid and vapour.
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.
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H335	May cause respiratory irritation.
H336	May cause drowsiness or dizziness.
H360	May damage fertility or the unborn child.
H360D	May damage the unborn child.
H361fd	Suspected of damaging fertility. Suspected of damaging the unborn child.
H372	Causes damage to organs through prolonged or repeated exposure.
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.
H412	Harmful to aquatic life with long lasting effects.
Repr. 1B	Reproductive toxicity, Category 1B
Repr. 2	Reproductive toxicity, Category 2
Resp. Sens. 1	Respiratory sensitisation, Category 1
Skin Corr. 1B	Skin corrosion/irritation, Category 1, Sub-Category 1B
Skin Corr. 1C	Skin corrosion/irritation, Category 1, Sub-Category 1C

Full text of H- and EUH-statements:	
Skin Irrit. 2	Skin corrosion/irritation, Category 2
Skin Sens. 1A	Skin sensitisation, category 1A
STOT RE 1	Specific target organ toxicity – Repeated exposure, Category 1
STOT RE 2	Specific target organ toxicity – Repeated exposure, Category 2
STOT SE 3	Specific target organ toxicity – Single exposure, Category 3, Respiratory tract irritation

Full text of use descriptors	
PC18	Ink and Toners
PROC0	Other
SU0	Other

Classification and procedure used to derive the classification for mixtures according to Regulation (EC) 1272/2008 [CLP]:		
Flam. Liq. 2	H225	On basis of test data
Skin Irrit. 2	H315	Calculation method
Eye Irrit. 2	H319	Calculation method
Skin Sens. 1	H317	Calculation method
Repr. 1B	H360	Calculation method
STOT SE 3	H336	Calculation method
Aquatic Chronic 3	H412	Calculation method

The classification complies with : ATP 12

Safety Data Sheet (SDS), EU

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.