

SECTION 1: Identification of the substance/mixture and of the company/undertaking**1.1. Product identifier**

| | |
|-------------------------------|---------------------------------------|
| Product form | : Mixture |
| Trade name | : KORTHO INK KS-1 BLACK |
| UFI | : KPKE-170M-Y000-H9P5 |
| Product code | : 083265 |
| Product group | : Trade product |
| Other means of identification | : 083265 - Kortho Inkt KS-1 Black 1 L |

1.2. Relevant identified uses of the substance or mixture and uses advised against**1.2.1. Relevant identified uses**

| | |
|------------------------------|------------------------------------|
| Main use category | : Industrial use, Professional use |
| Use of the substance/mixture | : Ink |

| Title | Life cycle stage | Use descriptors |
|-----------------------------|--------------------------|------------------|
| Kortho Inkt KS-1 Black, 1 L | Industrial, Professional | SU7, PC18, PROC0 |

Full text of use descriptors: see section 16

1.2.2. Uses advised against

No additional information available

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 |
| Serious eye damage/eye irritation, Category 1 | H318 |
| Reproductive toxicity, Category 2 | H361 |
| Specific target organ toxicity – Single exposure, Category 3, | H335 |
| Respiratory tract irritation | |

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

Adverse physicochemical, human health and environmental effects

No additional information available

KORTHO INK KS-1 BLACK

Safety Data Sheet

according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878

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 :

4-hydroxy-4-methylpentan-2-one; propan-1-ol

Hazard statements (CLP) :

H225 - Highly flammable liquid and vapour.

H318 - Causes serious eye damage.

H335 - May cause respiratory irritation.

H361 - Suspected of damaging the unborn child. (if swallowed).

Precautionary statements (CLP) :

P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources.

No smoking.

P261 - Avoid breathing vapours.

P280 - Wear protective clothing, eye protection, face protection.

P305+P351+P338+P310 - IF IN EYES: Rinse cautiously with water for several minutes.

Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call Call a POISON CENTER or doctor/physician..

P403+P235 - Store in a well-ventilated place. Keep cool.

EUH-statements

: EUH066 - Repeated exposure may cause skin dryness or cracking.

2.3. Other hazards

Other hazards which do not result in classification : Contains: Nitrocellulose. In use, may form flammable/explosive vapour-air mixture.

This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII

This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII

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

| Component | |
|---|---|
| Substance(s) not meeting the PBT criteria of REACH regulation, in accordance with Annex XIII | ethyl acetate (141-78-6), propan-1-ol (71-23-8) |
| Substance(s) not meeting the vPvB criteria of REACH regulation, in accordance with Annex XIII | propan-1-ol (71-23-8) |

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 %

SECTION 3: Composition/information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

| Product name | Product identifier | % w/w (% w/w) | Classification according to Regulation (EC) No. 1272/2008 [CLP] |
|---|--|------------------|--|
| 4-hydroxy-4-methylpentan-2-one substance with national workplace exposure limit(s) (GB) | CAS-No.: 123-42-2 EC-No.: 204-626-7 EC Index-No.: 603-016-00-1 REACH-no: 01-2119473975- 21 | 50 – 75 | Flam. Liq. 3, H226 Eye Irrit. 2, H319 Repr. 2, H361 STOT SE 3, H335 |

KORTHO INK KS-1 BLACK

Safety Data Sheet

according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878

| Product name | Product identifier | % w/w (% w/w) | Classification according to Regulation (EC) No. 1272/2008 [CLP] |
|--|---|------------------|---|
| ethanol; ethyl alcohol substance with national workplace exposure limit(s) (GB) | CAS-No.: 64-17-5 EC-No.: 200-578-6 REACH-no: 01-2119457610-43 | 10 – 20 | Flam. Liq. 2, H225 Eye Irrit. 2, H319 |
| propan-1-ol substance with national workplace exposure limit(s) (GB) | CAS-No.: 71-23-8 EC-No.: 200-746-9 EC Index-No.: 603-003-00-0 REACH-no: 01-2119486761-29 | 5 – 10 | Flam. Liq. 2, H225 Eye Dam. 1, H318 STOT SE 3, H336 |
| 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 | 5 – 10 | Flam. Liq. 3, H226 Eye Irrit. 2, H319 STOT SE 3, H336 |
| ethyl acetate substance with national workplace exposure limit(s) (GB) | CAS-No.: 141-78-6 EC-No.: 205-500-4 EC Index-No.: 607-022-00-5 REACH-no: 01-2119475103-46 | 1 – 5 | Flam. Liq. 2, H225 Eye Irrit. 2, H319 STOT SE 3, H336 |
| n-butyl acetate substance with national workplace exposure limit(s) (GB); substance with a Community workplace exposure limit | CAS-No.: 123-86-4 EC-No.: 204-658-1 EC Index-No.: 607-025-00-1 REACH-no: 01-2119485493-29 | 1 – 5 | Flam. Liq. 3, H226 STOT SE 3, H336 |
| 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 |

Specific concentration limits:

| Product name | Product identifier | Specific concentration limits (% w/w (% w/w)) |
|--------------------------------|--|---|
| 4-hydroxy-4-methylpentan-2-one | CAS-No.: 123-42-2 EC-No.: 204-626-7 EC Index-No.: 603-016-00-1 REACH-no: 01-2119473975-21 | (10 ≤ C ≤ 100) Eye Irrit. 2, H319 |
| ethanol; ethyl alcohol | CAS-No.: 64-17-5 EC-No.: 200-578-6 REACH-no: 01-2119457610-43 | (50 ≤ C < 100) Eye Irrit. 2, H319 |

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. |

KORTHO INK KS-1 BLACK

Safety Data Sheet

according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878

| | |
|--------------------------------------|---|
| 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. Draag onafhankelijk ademhalingsapparaat. |

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

6.1.1. For non-emergency personnel

| | |
|----------------------|-----------------------------------|
| Emergency procedures | : Evacuate unnecessary personnel. |
|----------------------|-----------------------------------|

6.1.2. 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.

KORTHO INK KS-1 BLACK

Safety Data Sheet

according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878

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

8.1.1 National occupational exposure and biological limit values

| 4-hydroxy-4-methylpentan-2-one (123-42-2) | |
|--|---------------------------------------|
| United Kingdom - Occupational Exposure Limits | |
| Local name | 4-Hydroxy-4-methylpentan-2-one |
| WEL TWA (OEL TWA) | 241 mg/m ³ |
| | 50 ppm |
| WEL STEL (OEL STEL) | 362 mg/m ³ |
| | 75 ppm |
| Regulatory reference | EH40/2005 (Fourth edition, 2020). HSE |
| Di-"isononyl" phthalate (28553-12-0) | |
| United Kingdom - Occupational Exposure Limits | |
| Local name | Diisononyl phthalate |
| WEL TWA (OEL TWA) | 5 mg/m ³ |
| Regulatory reference | EH40/2005 (Fourth edition, 2020). HSE |
| n-butyl acetate (123-86-4) | |
| EU - Indicative Occupational Exposure Limit (IOEL) | |
| Local name | n-Butyl acetate |
| IOEL TWA | 241 mg/m ³ |
| | 50 ppm |
| IOEL STEL | 723 mg/m ³ |
| | 150 ppm |

KORTHO INK KS-1 BLACK

Safety Data Sheet

according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878

| n-butyl acetate (123-86-4) | |
|--|---|
| Regulatory reference | COMMISSION DIRECTIVE (EU) 2019/1831 |
| United Kingdom - Occupational Exposure Limits | |
| Local name | Butyl acetate |
| WEL TWA (OEL TWA) | 724 mg/m ³ |
| | 150 ppm |
| WEL STEL (OEL STEL) | 966 mg/m ³ |
| | 200 ppm |
| 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/m ³ |
| | 1000 ppm |
| WEL STEL (OEL STEL) | 5760 mg/m ³ (calculated) |
| | 3000 ppm (calculated) |
| Regulatory reference | EH40/2005 (Fourth edition, 2020). HSE |
| ethyl acetate (141-78-6) | |
| United Kingdom - Occupational Exposure Limits | |
| Local name | Ethyl acetate |
| WEL TWA (OEL TWA) | 734 mg/m ³ |
| | 200 ppm |
| WEL STEL (OEL STEL) | 1468 mg/m ³ |
| | 400 ppm |
| Regulatory reference | EH40/2005 (Fourth edition, 2020). HSE |
| propan-1-ol (71-23-8) | |
| United Kingdom - Occupational Exposure Limits | |
| Local name | Propan-1-ol |
| WEL TWA (OEL TWA) | 500 mg/m ³ |
| | 200 ppm |
| WEL STEL (OEL STEL) | 625 mg/m ³ |
| | 250 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 |

8.1.2. Recommended monitoring procedures

No additional information available

8.1.3. Air contaminants formed

No additional information available

KORTHO INK KS-1 BLACK

Safety Data Sheet

according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878

8.1.4. DNEL and PNEC

| 4-hydroxy-4-methylpentan-2-one (123-42-2) | |
|---|--------------------------|
| DNEL/DMEL (Workers) | |
| Acute - local effects, inhalation | 240 mg/m ³ |
| Long-term - systemic effects, dermal | 9.4 mg/kg bodyweight/day |
| Long-term - systemic effects, inhalation | 66.4 mg/m ³ |
| Long-term - local effects, inhalation | 66.4 mg/m ³ |
| DNEL/DMEL (General population) | |
| Acute - local effects, inhalation | 120 mg/m ³ |
| Long-term - systemic effects, oral | 3.4 mg/kg bodyweight/day |
| Long-term - systemic effects, inhalation | 11.8 mg/m ³ |
| Long-term - systemic effects, dermal | 3.4 mg/kg bodyweight/day |
| Long-term - local effects, inhalation | 11.8 mg/m ³ |
| PNEC (Water) | |
| PNEC aqua (freshwater) | 2 mg/l |
| PNEC aqua (marine water) | 0.2 mg/l |
| PNEC aqua (intermittent, freshwater) | 1 mg/l |
| PNEC (Sediment) | |
| PNEC sediment (freshwater) | 9.06 mg/kg dwt |
| PNEC sediment (marine water) | 0.91 mg/kg dwt |
| PNEC (Soil) | |
| PNEC soil | 0.63 mg/kg dwt |
| PNEC (STP) | |
| PNEC sewage treatment plant | 10 mg/l |

8.1.5. Control banding

No additional information available

8.2. Exposure controls

8.2.1. Appropriate engineering controls

No additional information available

8.2.2. Personal protection equipment

Personal protective equipment:

Avoid all unnecessary exposure. Gloves. Protective clothing. Safety glasses.

Personal protective equipment symbol(s):



8.2.2.1. Eye and face protection

Eye protection:

Wear eye glasses with side protection according to EN 166.

KORTHO INK KS-1 BLACK

Safety Data Sheet

according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878

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

8.2.2.2. Skin protection

Skin and body protection:

Wear suitable protective clothing

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

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. The protective gloves to be used must comply with the specifications of the regulation 2016/425 and the resultant standard ISO 374-1

| Hand protection | | | | | |
|-----------------|--------------|------------------|----------------|-------------|------------|
| Type | Material | Permeation | Thickness (mm) | Penetration | Standard |
| Reusable gloves | Butyl rubber | 3 (> 60 minutes) | > 0.4 | | EN ISO 374 |

8.2.2.3. Respiratory protection

Respiratory protection:

Not necessary with sufficient ventilation. In case of insufficient ventilation, wear suitable respiratory equipment. An approved organic vapour respirator/supplied air or self-contained breathing apparatus must be used when vapour concentration exceeds applicable exposure limits

| 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 |

8.2.2.4. Thermal hazards

No additional information available

8.2.3. 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 | : Alcohol odour. |
| Odour threshold | : Not available |
| Melting point | : Not available |
| Freezing point | : Not available |
| Boiling point | : > 64.7 °C |
| Flammability | : Highly flammable liquid and vapour. |
| Lower explosion limit | : 0.4 vol % |
| Upper explosion limit | : 13.5 vol % |
| Flash point | : 22 °C Closed cup |
| Auto-ignition temperature | : 287 °C |

KORTHO INK KS-1 BLACK

Safety Data Sheet

according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878

| | |
|---|----------------------------|
| Decomposition temperature | : Not available |
| pH | : Not available |
| Viscosity, kinematic | : Not available |
| Viscosity, dynamic | : 15 – 30 Seconds DinCup4 |
| Solubility | : Poorly soluble in water. |
| Partition coefficient n-octanol/water (Log Kow) | : Not available |
| Vapour pressure | : 169.3 hPa |
| Vapour pressure at 50°C | : Not available |
| Density | : ≈ 0.9 kg/l |
| Relative density | : Not available |
| Relative vapour density at 20°C | : Not available |
| Particle characteristics | : Not applicable |

9.2. Other information

9.2.1. Information with regard to physical hazard classes

No additional information available

9.2.2. Other safety characteristics

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 |

4-hydroxy-4-methylpentan-2-one (123-42-2)

| | |
|-----------------|---|
| LD50 oral rat | 3002 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 401 (Acute Oral Toxicity), 95% CL: 2738 - 3290 |
| LD50 dermal rat | > 1875 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 402 (Acute Dermal Toxicity) |
| ATE oral | 3002 mg/kg bodyweight |

KORTHO INK KS-1 BLACK

Safety Data Sheet

according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878

| Di-"isononyl" phthalate (28553-12-0) | |
|---|--|
| LD50 oral rat | 10000 mg/kg |
| LD50 dermal rabbit | 3160 mg/kg |
| LC50 Inhalation - Rat | 4.4 mg/l/4h |
| n-butyl acetate (123-86-4) | |
| LD50 oral rat | 10760 mg/kg bodyweight |
| LD50 dermal rabbit | 16 ml/kg |
| LC50 Inhalation - Rat | 740 – 71500 mg/m ³ |
| LC50 Inhalation - Rat [ppm] | 1087 – 1109 ppm |
| 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 |
| ethyl acetate (141-78-6) | |
| LD50 oral rat | 11.3 ml/kg |
| LD50 oral | 4934 mg/kg bodyweight Animal: rabbit, Guideline: OECD Guideline 401 (Acute Oral Toxicity) |
| LD50 dermal rabbit | > 20000 mg/kg bodyweight Animal: rabbit, Animal sex: male |
| LC50 Inhalation - Rat [ppm] | 6000 ppm/4h |
| ATE dust/mist | 57700 mg/l/4h |
| propan-1-ol (71-23-8) | |
| LD50 oral rat | 8000 mg/kg bodyweight |
| LD50 dermal rabbit | 4032 mg/kg bodyweight Animal: rabbit, Animal sex: male, Guideline: OECD Guideline 402 (Acute Dermal Toxicity), 95% CL: 2720 - 5968 |
| ATE oral | 8000 mg/kg bodyweight |
| ATE dermal | 4032 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)) |
| Skin corrosion/irritation | : Not classified |
| Additional information | : Repeated exposure may cause skin dryness or cracking |
| n-butyl acetate (123-86-4) | |
| pH | 6.2 Temp.: 20 °C Concentration: 5,3 g/L |
| Serious eye damage/irritation | : Causes serious eye damage. |

KORTHO INK KS-1 BLACK

Safety Data Sheet

according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878

| | |
|--|--|
| n-butyl acetate (123-86-4) | |
| pH | 6.2 Temp.: 20 °C Concentration: 5,3 g/L |
| Respiratory or skin sensitisation | : Not classified |
| Additional information | : Based on available data, the classification criteria are not met |
| Germ cell mutagenicity | : Not classified |
| Additional information | : Based on available data, the classification criteria are not met |
| Carcinogenicity | : Not classified |
| Additional information | : Based on available data, the classification criteria are not met |
| 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), Remarks on results: other:Effect type: toxicity (migrated information) |
| NOAEL (chronic, oral, animal/female, 2 years) | 108.6 mg/kg bodyweight Animal: rat, Animal sex: female, Guideline: EPA OTS 798.3300 (Carcinogenicity), Remarks on results: other:Effect type: toxicity (migrated information) |
| Reproductive toxicity | : Suspected of damaging the unborn child. (if swallowed). |
| 4-hydroxy-4-methylpentan-2-one (123-42-2) | |
| NOAEL (animal/male, F0/P) | 300 mg/kg bodyweight rabbit |
| NOAEL (animal/male, F1) | 100 mg/kg bodyweight rabbit |
| Di-"isononyl" phthalate (28553-12-0) | |
| NOAEL (animal/female, F1) | 200 – 260 mg/kg bodyweight Animal: rat, Animal sex: female, Guideline: other:EC Dangerous Substances Directive (67/548/EEC), Annex V, Part B; 1987, Guideline: EPA OTS 798.4700 (Reproduction and Fertility Effects) |
| ethanol; ethyl alcohol (64-17-5) | |
| NOAEL (animal/male, F0/P) | 13800 mg/kg bodyweight |
| STOT-single exposure | : May cause respiratory irritation. |
| 4-hydroxy-4-methylpentan-2-one (123-42-2) | |
| STOT-single exposure | May cause respiratory irritation. |
| n-butyl acetate (123-86-4) | |
| STOT-single exposure | May cause drowsiness or dizziness. |
| ethyl acetate (141-78-6) | |
| STOT-single exposure | May cause drowsiness or dizziness. |
| propan-1-ol (71-23-8) | |
| 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 |
| Additional information | : Based on available data, the classification criteria are not met |
| 4-hydroxy-4-methylpentan-2-one (123-42-2) | |
| LOAEL (oral, rat, 90 days) | 1000 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 408 (Repeated Dose 90-Day Oral Toxicity in Rodents) |
| NOAEL (oral, rat, 90 days) | 250 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 408 (Repeated Dose 90-Day Oral Toxicity in Rodents) |

KORTHO INK KS-1 BLACK

Safety Data Sheet

according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878

| 4-hydroxy-4-methylpentan-2-one (123-42-2) | |
|--|--|
| NOAEC (inhalation, rat, vapour, 90 days) | ≥ 4.106 mg/l air Animal: mouse, Guideline: OECD Guideline 413 (Subchronic Inhalation Toxicity: 90-Day Study) |
| Di-"isononyl" phthalate (28553-12-0) | |
| NOAEL (dermal, rat/rabbit, 90 days) | ≈ 500 mg/kg bodyweight Animal: rabbit |
| n-butyl acetate (123-86-4) | |
| LOAEL (oral, rat, 90 days) | 500 mg/kg bodyweight Animal: rat, Guideline: EPA OTS 798.2650 (90-Day Oral Toxicity in Rodents) |
| NOAEL (oral, rat, 90 days) | 125 mg/kg bodyweight Animal: rat, Guideline: EPA OTS 798.2650 (90-Day Oral Toxicity in Rodents) |
| 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 |
| 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) |
| ethyl acetate (141-78-6) | |
| LOAEL (oral, rat, 90 days) | 3600 mg/kg bodyweight Animal: rat, Guideline: EPA OTS 795.2600 (Subchronic Oral Toxicity Test) |
| LOAEC (inhalation, rat, vapour, 90 days) | 350 ppm |
| NOAEL (oral, rat, 90 days) | 900 mg/kg bodyweight Animal: rat, Guideline: EPA OTS 795.2600 (Subchronic Oral Toxicity Test) |
| NOAEC (inhalation, rat, vapour, 90 days) | 350 ppm |
| propan-1-ol (71-23-8) | |
| NOAEC (inhalation, rat, dust/mist/fume, 90 days) | 8 mg/l |
| 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) |
| NOAEL (oral, rat, 90 days) | 1000 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 408 (Repeated Dose 90-Day Oral Toxicity in Rodents) |
| NOAEC (inhalation, rat, vapour, 90 days) | 1.266 mg/l air Animal: rat, Guideline: OECD Guideline 413 (Subchronic Inhalation Toxicity: 90-Day Study) |
| Aspiration hazard | : Not classified |
| Additional information | : Based on available data, the classification criteria are not met |
| 4-hydroxy-4-methylpentan-2-one (123-42-2) | |
| Viscosity, kinematic | 2976.596 mm ² /s |
| n-butyl acetate (123-86-4) | |
| Viscosity, kinematic | 0.83 mm ² /s Temp.: '20°C' Parameter: 'kinematic viscosity (in mm ² /s)' |

KORTHO INK KS-1 BLACK

Safety Data Sheet

according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878

propan-1-ol (71-23-8)

| | |
|----------------------|--------------------------|
| Viscosity, kinematic | 2.875 mm ² /s |
|----------------------|--------------------------|

11.2. Information on other hazards

11.2.1. Endocrine disrupting properties

No additional information available

11.2.2. 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) : Not classified

4-hydroxy-4-methylpentan-2-one (123-42-2)

| | |
|----------------------|--|
| LC50 - Fish [1] | > 100 mg/l Test organisms (species): <i>Oryzias latipes</i> |
| EC50 - Crustacea [1] | > 1000 mg/l Test organisms (species): <i>Daphnia magna</i> |
| EC50 72h - Algae [1] | > 1000 mg/l Test organisms (species): <i>Pseudokirchneriella subcapitata</i> (previous names: <i>Raphidocelis subcapitata</i> , <i>Selenastrum capricornutum</i>) |
| LOEC (chronic) | > 100 mg/l Test organisms (species): <i>Daphnia magna</i> Duration: '21 d' |
| NOEC (chronic) | 100 mg/l Test organisms (species): <i>Daphnia magna</i> Duration: '21 d' |

Di-"isononyl" phthalate (28553-12-0)

| | |
|----------------------|-------------------|
| LC50 - Fish [1] | 102 mg/l (4 days) |
| EC50 - Crustacea [1] | 74 mg/l (48 h) |
| EC50 72h - Algae [1] | 88 mg/l |

n-butyl acetate (123-86-4)

| | |
|----------------------|---|
| LC50 - Fish [1] | 18 mg/l Test organisms (species): <i>Pimephales promelas</i> |
| EC50 - Crustacea [1] | 44 mg/l Test organisms (species): <i>Daphnia</i> sp. |
| EC50 72h - Algae [1] | 397 mg/l Test organisms (species): <i>Pseudokirchneriella subcapitata</i> (previous names: <i>Raphidocelis subcapitata</i> , <i>Selenastrum capricornutum</i>) |
| EC50 72h - Algae [2] | 246 mg/l Test organisms (species): <i>Pseudokirchneriella subcapitata</i> (previous names: <i>Raphidocelis subcapitata</i> , <i>Selenastrum capricornutum</i>) |
| LOEC (chronic) | 47.6 mg/l Test organisms (species): <i>Daphnia magna</i> Duration: '21 d' |
| NOEC (chronic) | 23.2 mg/l Test organisms (species): <i>Daphnia magna</i> Duration: '21 d' |

ethanol; ethyl alcohol (64-17-5)

| | |
|------------------------------------|---|
| LC50 - Fish [1] | 14.2 g/l Test organisms (species): <i>Pimephales promelas</i> |
| LC50 - Fish [2] | 13000 mg/l (<i>Oncorhynchus mykiss</i> (Rainbow trout)) |
| EC50 - Crustacea [1] | > 10000 mg/l Test organisms (species): <i>Daphnia magna</i> |
| 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 <i>Chlorella vulgaris</i> |

KORTHO INK KS-1 BLACK

Safety Data Sheet

according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878

| ethanol; ethyl alcohol (64-17-5) | |
|---|--|
| 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 |
| ethyl acetate (141-78-6) | |
| LC50 - Fish [1] | 230 mg/l Test organisms (species): Pimephales promelas |
| EC50 - Other aquatic organisms [1] | 165 mg/l |
| EC50 72h - Algae [1] | 5600 mg/l |
| NOEC (chronic) | 2.4 mg/l Test organisms (species): Daphnia magna Duration: '21 d' |
| NOEC chronic crustacea | 2.4 mg/l 21 d |
| propan-1-ol (71-23-8) | |
| LC50 - Fish [1] | 4555 mg/l Test organisms (species): Pimephales promelas |
| EC50 - Crustacea [1] | 3644 mg/l Test organisms (species): Daphnia magna |
| EC50 72h - Algae [1] | 9.17 g/l |
| NOEC (chronic) | > 100 mg/l Test organisms (species): Daphnia magna Duration: '21 d' |
| NOEC chronic crustacea | 68.3 mg/l (21 d) |
| NOEC chronic algae | 1150 mg/l 48 h |
| 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' |

12.2. Persistence and degradability

| KORTHO INK KS-1 BLACK | |
|--|----------------------------|
| Persistence and degradability | Not established. |
| 4-hydroxy-4-methylpentan-2-one (123-42-2) | |
| Persistence and degradability | Rapidly degradable |
| Biodegradation | 98.51 % (OECD 301A method) |
| Di-"isononyl" phthalate (28553-12-0) | |
| Persistence and degradability | Rapidly degradable |
| n-butyl acetate (123-86-4) | |
| Persistence and degradability | Rapidly degradable |
| ethanol; ethyl alcohol (64-17-5) | |
| Persistence and degradability | Readily biodegradable. |
| ethyl acetate (141-78-6) | |
| Persistence and degradability | Rapidly degradable |

KORTHO INK KS-1 BLACK

Safety Data Sheet

according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878

| propan-1-ol (71-23-8) | |
|--|----------------------------|
| Persistence and degradability | Rapidly degradable |
| Biodegradation | 75 % 20 d |
| 1-Ethoxypropan-2-ol (1569-02-4) | |
| Persistence and degradability | Rapidly degradable |
| Biodegradation | 68 % (OECD 301D method) |
| 12.3. Bioaccumulative potential | |
| KORTHO INK KS-1 BLACK | |
| Bioaccumulative potential | Not established. |
| 4-hydroxy-4-methylpentan-2-one (123-42-2) | |
| Partition coefficient n-octanol/water (Log Pow) | -0.09 @ 20 °C |
| Di-"isononyl" phthalate (28553-12-0) | |
| Partition coefficient n-octanol/water (Log Pow) | 8.8 – 9.7 @ 25 °C / pH 4.6 |
| n-butyl acetate (123-86-4) | |
| Partition coefficient n-octanol/water (Log Pow) | 1.81 – 2.3 @ 25 °C |
| ethanol; ethyl alcohol (64-17-5) | |
| BCF - Fish [1] | 3 |
| Partition coefficient n-octanol/water (Log Pow) | -0.32 |
| Bioaccumulative potential | No bioaccumulation. |
| ethyl acetate (141-78-6) | |
| Partition coefficient n-octanol/water (Log Pow) | 0.7 |
| propan-1-ol (71-23-8) | |
| Partition coefficient n-octanol/water (Log Pow) | 0.2 @ 25 °C and pH 7 |
| Partition coefficient n-octanol/water (Log Kow) | 0.2 @ 25 °C and pH 7 |
| 1-Ethoxypropan-2-ol (1569-02-4) | |
| Partition coefficient n-octanol/water (Log Pow) | < 3 |
| 12.4. Mobility in soil | |
| 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 | |
| KORTHO INK KS-1 BLACK | |
| This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII | |
| This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII | |

KORTHO INK KS-1 BLACK

Safety Data Sheet

according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878

| Component | |
|---|---|
| Substance(s) not meeting the PBT criteria of REACH regulation, in accordance with Annex XIII | ethyl acetate (141-78-6), propan-1-ol (71-23-8) |
| Substance(s) not meeting the vPvB criteria of REACH regulation, in accordance with Annex XIII | propan-1-ol (71-23-8) |

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 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.
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.
HP4 - "Irritant – skin irritation and eye damage:" waste which on application can cause skin irritation or damage to the eye.
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.

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 RELATED MATERIAL | PRINTING INK RELATED MATERIAL |

KORTHO INK KS-1 BLACK

Safety Data Sheet

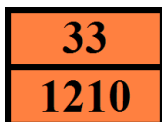
according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878

| ADR | IMDG | IATA | ADN | RID |
|---|---|---|---|---|
| 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 RELATED MATERIAL, 3, II | UN 1210 PRINTING INK RELATED MATERIAL, 3, II |
| 14.3. Transport hazard class(es) | | | | |
| 3 | 3 | 3 | 3 | 3 |
|  |  |  |  |  |
| 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 | 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) | : 5I |
| 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 |
| EmS-No. (Fire) | : F-E |
| EmS-No. (Spillage) | : S-D |
| Stowage category (IMDG) | : B |

KORTHO INK KS-1 BLACK

Safety Data Sheet

according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878

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

15.1.1. EU-Regulations

REACH Annex XVII (Restriction List)

| EU restriction list (REACH Annex XVII) | | |
|--|--|--|
| Reference code | Applicable on | Entry title or description |
| 3(a) | KORTHO INK KS-1 BLACK ; 4-hydroxy-4-methylpentan-2-one ; n-butyl acetate ; ethanol ; ethyl alcohol ; ethyl acetate ; propan-1-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 |

KORTHO INK KS-1 BLACK

Safety Data Sheet

according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878

| EU restriction list (REACH Annex XVII) | | |
|--|---|---|
| Reference code | Applicable on | Entry title or description |
| 3(b) | KORTHO INK KS-1 BLACK ; 4-hydroxy-4-methylpentan-2-one ; n-butyl acetate ; ethanol; ethyl alcohol ; ethyl acetate ; propan-1-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 |

REACH Annex XIV (Authorisation List)

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

REACH Candidate List (SVHC)

Contains no substance(s) listed on the REACH Candidate List

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)

Dual-Use Regulation (428/2009)

Contains no substance subject to the COUNCIL REGULATION (EC) No 428/2009 of 5 May 2009 setting up a Community regime for the control of exports, transfer, brokering and transit of dual-use items.

VOC Directive (2004/42)

Organic solvent : Yes

Seveso Directive (Disaster Risk Reduction)

Seveso Additional information : Hazard category P5 - The Seveso category depends on the processing conditions.

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)

15.1.2. National regulations

No additional information available

15.2. Chemical safety assessment

No chemical safety assessment has been carried out

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: | |
|-----------------------------|---|
| ADR | European Agreement concerning the International Carriage of Dangerous Goods by Road |
| ATE | Acute Toxicity Estimate |
| CLP | Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008 |
| DNEL | Derived-No Effect Level |
| EC50 | Median effective concentration |

KORTHO INK KS-1 BLACK

Safety Data Sheet

according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878

Abbreviations and acronyms:

| | |
|-------|---|
| IATA | International Air Transport Association |
| IMDG | International Maritime Dangerous Goods |
| LC50 | Median lethal concentration |
| LD50 | Median lethal dose |
| 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 |
| vPvB | Very Persistent and Very Bioaccumulative |
| | CSA - Chemical Safety Assessment |
| | WEL TWA (mg/m ³) |
| NOAEL | No-Observed Adverse Effect Level |
| LOAEL | Lowest Observed Adverse Effect Level |
| NOAEC | No-Observed Adverse Effect Concentration |

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:

| | |
|--------------|--|
| EUH066 | Repeated exposure may cause skin dryness or cracking. |
| 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. |
| H318 | Causes serious eye damage. |
| H319 | Causes serious eye irritation. |
| H335 | May cause respiratory irritation. |
| H336 | May cause drowsiness or dizziness. |
| H361 | Suspected of damaging fertility or the unborn child. |
| Repr. 2 | Reproductive toxicity, Category 2 |
| STOT SE 3 | Specific target organ toxicity – Single exposure, Category 3, Respiratory tract irritation |

KORTHO INK KS-1 BLACK

Safety Data Sheet

according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878

Full text of use descriptors

| | |
|-------|---|
| PC18 | Ink and Toners |
| PROC0 | Other |
| SU7 | Printing and reproduction of recorded media |

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 |
| Eye Dam. 1 | H318 | Calculation method |
| Repr. 2 | H361 | Calculation method |
| STOT SE 3 | H335 | 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.