



**Linx Black Plastic-Adherent Ink 1014**

Date of compilation: 05/04/2022


Revised: 29/10/2024

Version: 24 (Replaced 23)

**SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING**

- 1.1 Product identifier:** Linx Black Plastic-Adherent Ink 1014  
**Other means of identification:**  
Not relevant
- 1.2 Relevant identified uses of the substance or mixture and uses advised against:**  
Relevant uses: Printing ink  
Uses advised against: All uses not specified in this section or in section 7.3
- 1.3 Details of the supplier of the safety data sheet:**
- |  |  |
|--|--|
| Linx Printing Technologies Ltd<br>Linx House, 8 Stocks Bridge Way, Compass Point Business Park<br>PE27 5JL St Ives - Cambridgeshire - UK<br>Phone: +44 (0) 1480 302100<br>sds@linx.co.uk<br>www.linxglobal.com | Supplier:<br>ITW Marking and Coding<br>1 Research Park Drive<br>St. Charles, MO 63304-5685 USA<br>800-526-2531 / 636-300-2000<br><br>Emergency Phone Number:<br>Infotrac: 800-535-5053 (US)<br>+1-352-323-3500 (International) |
|--|--|
- 1.4 Emergency telephone number:** 24HR: (+1)-352-323-3500  
USA: 1-800-535-5053
- UK NPIS For Healthcare Professionals Only: 0344 892 0111

**SECTION 2: HAZARDS IDENTIFICATION**

- 2.1 Classification of the substance or mixture:**  
**GB CLP Regulation (UK S.I. 2019/720 and UK S.I. 2020/1567):**  
Classification of this product has been carried out in accordance with GB CLP Regulation (UK S.I. 2019/720 and UK S.I. 2020/1567).  
Eye Dam. 1: Serious eye damage, Category 1, H318  
Flam. Liq. 2: Flammable liquids, Category 2, H225  
STOT SE 3: Specific toxicity causing drowsiness and dizziness, single exposure, Category 3, H336
- 2.2 Label elements:**  
**GB CLP Regulation (UK S.I. 2019/720 and UK S.I. 2020/1567):**  
Danger
- 
- Hazard statements:**  
Eye Dam. 1: H318 - Causes serious eye damage.  
Flam. Liq. 2: H225 - Highly flammable liquid and vapour.  
STOT SE 3: H336 - May cause drowsiness or dizziness.
- Precautionary statements:**  
P210: Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.  
P280: Wear protective gloves/face protection/protective clothing/respiratory protection/protective footwear.  
P303+P361+P353: IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.  
P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
P370+P378: In case of fire: Use Foam extinguisher (AB), Dry Chemical Powder (ABC) Fire Extinguisher, Carbon dioxide extinguisher (BC) to extinguish.  
P501: Dispose of the contents and/or its container in line with regulations on dangerous waste or packaging and waste packaging respectively.
- Supplementary information:**  
EUH066: Repeated exposure may cause skin dryness or cracking.
- Substances that contribute to the classification**  
Butanone; Ethyl (S)-2-hydroxypropionate
- 2.3 Other hazards:**  
Product does not meet PBT/vPvB criteria



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### SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

#### 3.1 Substance:

Non-applicable

#### 3.2 Mixture:

**Chemical description:** Mixture of substances

#### Components:

In accordance with Annex II of The REACH etc. (Amendment etc.) (EU Exit) Regulations 2020, the product contains:

| Identification    | Chemical name/Classification   | Concentration        |
|-------------------|--|----------------------|
| CAS: 78-93-3      | <b>Butanone</b><br>Eye Irrit. 2: H319; Flam. Liq. 2: H225; STOT SE 3: H336; EUH066 - Danger            | <b>60 - &lt;80 %</b> |
| CAS: 63148-65-2   | <b>Poly(vinyl butyral) resin</b><br>Eye Irrit. 2: H319; Skin Irrit. 2: H315; STOT SE 3: H335 - Warning | <b>5 - &lt;10 %</b>  |
| CAS: 1029600-34-7 | <b>Dye (1:2 Chromium (III) Complex)</b><br>Aquatic Chronic 4: H413                                     | <b>5 - &lt;10 %</b>  |
| CAS: 687-47-8     | <b>Ethyl (S)-2-hydroxypropionate</b><br>Eye Dam. 1: H318; Flam. Liq. 3: H226; STOT SE 3: H335 - Danger | <b>1 - &lt;5 %</b>   |
| CAS: 135-19-3     | <b>2-naphthol</b><br>Acute Tox. 4: H302+H332; Aquatic Acute 1: H400 - Warning                          | <b>0.1 - &lt;1 %</b> |

To obtain more information on the hazards of the substances consult sections 11, 12 and 16.

Acute toxicity estimate for the substance in Part 3 of Annex VI to Regulation (EC) No 1272/2008 or as determined in accordance with Annex I to that Regulation:

| Identification              | Acute toxicity  |              | Genus |
|-----------------------------|-----------------|--------------|-------|
|                             | LD50 oral       | LD50 dermal  |       |
| 2-naphthol<br>CAS: 135-19-3 | 500 mg/kg       | Not relevant | Rat   |
|                             | LC50 inhalation | Not relevant |       |

### SECTION 4: FIRST AID MEASURES

#### 4.1 Description of first aid measures:

The symptoms resulting from intoxication can appear after exposure, therefore, in case of doubt, seek medical attention for direct exposure to the chemical product or persistent discomfort, showing the SDS of this product.

##### By inhalation:

Remove the person affected from the area of exposure, provide with fresh air and keep at rest. In serious cases such as cardiorespiratory failure, artificial resuscitation techniques will be necessary (mouth to mouth resuscitation, cardiac massage, oxygen supply, etc.) requiring immediate medical assistance.

##### By skin contact:

Remove contaminated clothing and footwear, rinse skin or shower the person affected if appropriate with plenty of cold water and neutral soap. In serious cases see a doctor. If the product causes burns or freezing, clothing should not be removed as this could worsen the injury caused if it is stuck to the skin. If blisters form on the skin, these should never be burst as this will increase the risk of infection.

##### By eye contact:

Rinse eyes thoroughly with lukewarm water for at least 15 minutes. Do not allow the person affected to rub or close their eyes. If the injured person uses contact lenses, these should be removed unless they are stuck to the eyes, in which case this could cause further damage. In all cases, after cleaning, a doctor should be consulted as quickly as possible with the SDS of the product.

##### By ingestion/aspiration:

Do not induce vomiting, but if it does happen keep the head down to avoid aspiration. Keep the person affected at rest. Rinse out the mouth and throat, as they may have been affected during ingestion.

#### 4.2 Most important symptoms and effects, both acute and delayed:

Acute and delayed effects are indicated in sections 2 and 11.

#### 4.3 Indication of any immediate medical attention and special treatment needed:

Not relevant



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### SECTION 5: FIREFIGHTING MEASURES

#### 5.1 Extinguishing media:

##### Suitable extinguishing media:

Foam extinguisher (AB), Dry Chemical Powder (ABC) Fire Extinguisher, Carbon dioxide extinguisher (BC)

##### Unsuitable extinguishing media:

Water jet

#### 5.2 Special hazards arising from the substance or mixture:

As a result of combustion or thermal decomposition reactive sub-products are created that can become highly toxic and, consequently, can present a serious health risk.

#### 5.3 Advice for firefighters:

Depending on the magnitude of the fire it may be necessary to use full protective clothing and self-contained breathing apparatus (SCBA). Minimum emergency facilities and equipment should be available (fire blankets, portable first aid kit,...).

##### Additional provisions:

Act in accordance with the Internal Emergency Plan and the Information Sheets on actions to take after an accident or other emergencies. Eliminate all sources of ignition. In case of fire, cool the storage containers and tanks for products susceptible to combustion, explosion or BLEVE as a result of high temperatures. Avoid spillage of the products used to extinguish the fire into an aqueous medium.

### SECTION 6: ACCIDENTAL RELEASE MEASURES

#### 6.1 Personal precautions, protective equipment and emergency procedures:

##### For non-emergency personnel:

Isolate leaks provided that there is no additional risk for the people performing this task. Evacuate the area and keep out those without protection. Personal protection equipment must be used against potential contact with the spilt product (See section 8). Above all prevent the formation of any vapour-air flammable mixtures, through either ventilation or the use of an inert medium. Remove any source of ignition. Eliminate electrostatic charges by interconnecting all the conductive surfaces on which static electricity could form, and also ensuring that all surfaces are connected to the ground.

##### For emergency responders:

Wear protective equipment. Keep unprotected persons away. See section 8.

#### 6.2 Environmental precautions:

It is recommended to avoid environmental spillage of both the product and its container.

#### 6.3 Methods and material for containment and cleaning up:

It is recommended:

Absorb the spillage using sand or inert absorbent and move it to a safe place. Do not absorb in sawdust or other combustible absorbents. For any concern related to disposal consult section 13.

#### 6.4 Reference to other sections:

See sections 8 and 13.

### SECTION 7: HANDLING AND STORAGE

#### 7.1 Precautions for safe handling:

A.- General precautions for safe use

Comply with the current legislation concerning the prevention of industrial risks. Keep containers hermetically sealed. Control spills and residues, destroying them with safe methods (section 6). Avoid leakages from the container. Maintain order and cleanliness where dangerous products are used.

B.- Technical recommendations for the prevention of fires and explosions



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**SECTION 7: HANDLING AND STORAGE (continued)**

Transfer in well ventilated areas, preferably through localized extraction. Fully control sources of ignition (mobile phones, sparks,...) and ventilate during cleaning operations. Avoid the existence of dangerous atmospheres inside containers, applying inertization systems where possible. Transfer at a slow speed to avoid the creation of electrostatic charges. Against the possibility of electrostatic charges: ensure a perfect equipotential connection, always use groundings, do not wear work clothes made of acrylic fibres, preferably wearing cotton clothing and conductive footwear. Comply with the essential security requirements for equipment and systems defined in The Equipment and Protective Systems Intended for Use in Potentially Explosive Atmospheres Regulations 2016 and with the minimum requirements for protecting the security and health of workers under the selection criteria of The Dangerous Substances and Explosive Atmospheres Regulations 2002, 2002 No. 2776. Consult section 10 for conditions and materials that should be avoided.

C.- Technical recommendations on general occupational hygiene

Do not eat or drink during the process, washing hands afterwards with suitable cleaning products.

D.- Technical recommendations to prevent environmental risks

It is recommended to have absorbent material available at close proximity to the product (See subsection 6.3)

**7.2 Conditions for safe storage, including any incompatibilities:**

A.- Specific storage requirements

Store in a cool, dry, well-ventilated location

B.- General conditions for storage

Avoid sources of heat, radiation, static electricity and contact with food. For additional information see subsection 10.5

**7.3 Specific end use(s):**

Except for the instructions already specified it is not necessary to provide any special recommendation regarding the uses of this product.

**SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION**

**8.1 Control parameters:**

Substances whose occupational exposure limits have to be assessed in the workplace:

EH40/2005 Workplace exposure limits, fourth edition, published 2020:

| Identification | Occupational exposure limits |          |                       |
|----------------|------------------------------|----------|-----------------------|
|                | Butanone<br>CAS: 78-93-3     | WEL (8h) | 200 ppm               |
|                | WEL (15 min)                 | 300 ppm  | 899 mg/m <sup>3</sup> |

**Biological limit values:**

BIOLOGICAL MONITORING GUIDANCE VALUES (BMGVs) - EH40/2005

| Identification           | NULL   | NULL                 | NULL       |
|--------------------------|--------|----------------------|------------|
| Butanone<br>CAS: 78-93-3 | 5 mg/L | Butan-2-one in urine | Post shift |

**DNEL (Workers):**

| Identification                            |            | Short exposure |              | Long exposure         |              |
|---|------------|----------------|--------------|-----------------------|--------------|
|   |            | Systemic       | Local        | Systemic              | Local        |
| Butanone<br>CAS: 78-93-3<br>EC: 201-159-0 | Oral       | Not relevant   | Not relevant | Not relevant          | Not relevant |
|   | Dermal     | Not relevant   | Not relevant | 1161 mg/kg            | Not relevant |
|   | Inhalation | Not relevant   | Not relevant | 600 mg/m <sup>3</sup> | Not relevant |

**DNEL (General population):**

| Identification                            |            | Short exposure |              | Long exposure         |              |
|---|------------|----------------|--------------|-----------------------|--------------|
|   |            | Systemic       | Local        | Systemic              | Local        |
| Butanone<br>CAS: 78-93-3<br>EC: 201-159-0 | Oral       | Not relevant   | Not relevant | 31 mg/kg              | Not relevant |
|   | Dermal     | Not relevant   | Not relevant | 412 mg/kg             | Not relevant |
|   | Inhalation | Not relevant   | Not relevant | 106 mg/m <sup>3</sup> | Not relevant |

**PNEC:**

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**SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION (continued)**


| Identification  |              |              |                         |              |
|---|--------------|--------------|-------------------------|--------------|
| Butanone<br>CAS: 78-93-3<br>EC: 201-159-0                       | STP          | 709 mg/L     | Fresh water             | 55.8 mg/L    |
|   | Soil         | 22.5 mg/kg   | Marine water            | 55.8 mg/L    |
|   | Intermittent | 55.8 mg/L    | Sediment (Fresh water)  | 284.74 mg/kg |
|   | Oral         | 1 g/kg       | Sediment (Marine water) | 284.7 mg/kg  |
| Ethyl (S)-2-hydroxypropionate<br>CAS: 687-47-8<br>EC: 211-694-1 | STP          | Not relevant | Fresh water             | 0.32 mg/L    |
|   | Soil         | 0.145 mg/kg  | Marine water            | 0.032 mg/L   |
|   | Intermittent | 3.2 mg/L     | Sediment (Fresh water)  | 1.66 mg/kg   |
|   | Oral         | Not relevant | Sediment (Marine water) | 0.166 mg/kg  |

**8.2 Exposure controls:**


**A.- Individual protection measures, such as personal protective equipment**

As a preventative measure it is recommended to use basic Personal Protective Equipment, with the corresponding <<UKCA marking>> or <<CE marking>>. For more information on Personal Protective Equipment (storage, use, cleaning, maintenance, class of protection,...) consult the information leaflet provided by the manufacturer. For more information see subsection 7.1. All information contained herein is a recommendation which needs some specification from the labour risk prevention services as it is not known whether the company has additional measures at its disposal.

**B.- Respiratory protection**


| Pictogram  | PPE                               | Remarks  |
|--|-----------------------------------|--|
| <br>Mandatory respiratory tract protection | Filter mask for gases and vapours | Replace when there is a taste or smell of the contaminant inside the face mask. If the contaminant comes with warnings it is recommended to use isolation equipment. |

**C.- Specific protection for the hands**



| Pictogram  | PPE   | Remarks  |
|--|---|--|
| <br>Mandatory hand protection | Chemical protective gloves (Material: Linear low-density polyethylene (LLDPE), Breakthrough time: > 480 min, Thickness: 0.062 mm) | Replace the gloves at any sign of deterioration. |

As the product is a mixture of several substances, the resistance of the glove material can not be calculated in advance with total reliability and has therefore to be checked prior to the application.

**D.- Eye and face protection**

| Pictogram  | PPE         | Remarks   |
|--|-------------|---|
| <br>Mandatory face protection | Face shield | Clean daily and disinfect periodically according to the manufacturer's instructions. Use if there is a risk of splashing. |

**E.- Body protection**

| Pictogram   | PPE   | Remarks   |
|---|---|---|
| <br>Mandatory complete body protection | Disposable clothing for protection against chemical risks, with antistatic and fireproof properties | For professional use only. Clean periodically according to the manufacturer's instructions. |
| <br>Mandatory foot protection          | Safety footwear for protection against chemical risk, with antistatic and heat resistant properties | Replace boots at any sign of deterioration.   |

**F.- Additional emergency measures**



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**SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION (continued)**

| Emergency measure   | Standards                                       | Emergency measure  | Standards                                      |
|---|---|--|--|
| <br>Emergency shower | ANSI Z358-1<br>ISO 3864-1:2011, ISO 3864-4:2011 | <br>Eyewash stations | DIN 12 899<br>ISO 3864-1:2011, ISO 3864-4:2011 |

**Environmental exposure controls:**

In accordance with the community legislation for the protection of the environment it is recommended to avoid environmental spillage of both the product and its container. For additional information see subsection 7.1.D

**SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES**

**9.1 Information on basic physical and chemical properties:**

**Appearance:**

Physical state at 20 °C: Liquid  
Appearance: Fluid  
Colour: Black  
Odour: Characteristic  
Odour threshold: Not relevant \*

**Volatility:**

Boiling point at atmospheric pressure: 81 °C  
Vapour pressure at 25 °C: 11819 Pa  
Vapour pressure at 50 °C: 34396.29 Pa (34.4 kPa)  
Evaporation rate at 25 °C: >1

**Product description:**

Density at 25 °C: 854.9 kg/m<sup>3</sup>  
Relative density at 25 °C: 0.82 - 0.96  
Dynamic viscosity at 25 °C: 2 - 5 cP  
Kinematic viscosity at 25 °C: Not relevant \*  
Kinematic viscosity at 40 °C: Not relevant \*  
Concentration: Not relevant \*  
pH: Not relevant \*  
Vapour density at 25 °C: 2.4 kg/m<sup>3</sup>  
Partition coefficient n-octanol/water 25 °C: ca. 0.3  
Solubility in water at 25 °C: Not relevant \*  
Solubility properties: Slightly soluble in cold water  
Decomposition temperature: Not relevant \*  
Melting point/freezing point: -86 °C

**Flammability:**

Flash Point: 5 °C  
Flammability (solid, gas): Not relevant \*  
Autoignition temperature: >230 °C  
Lower flammability limit: 1.8 % Volume  
Upper flammability limit: 11.5 % Volume

**Particle characteristics:**

Median equivalent diameter: Non-applicable

**9.2 Other information:**

\*Not relevant due to the nature of the product, not providing information property of its hazards.

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### SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES (continued)

#### Information with regard to physical hazard classes:

|  |                |
|--|----------------|
| Explosive properties:  | Not relevant * |
| Oxidising properties:  | Not relevant * |
| Corrosive to metals:   | Not relevant * |
| Heat of combustion:  | Not relevant * |
| Aerosols-total percentage (by mass) of flammable components: | Not relevant * |

#### Other safety characteristics:

|                           |                |
|---------------------------|----------------|
| Surface tension at 25 °C: | Not relevant * |
| Refraction index:         | Not relevant * |

\*Not relevant due to the nature of the product, not providing information property of its hazards.

### SECTION 10: STABILITY AND REACTIVITY

#### 10.1 Reactivity:

No hazardous reactions are expected because the product is stable under recommended storage conditions. See section 7 from Safety Data Sheet.

#### 10.2 Chemical stability:

Chemically stable under the indicated conditions of storage, handling and use.

#### 10.3 Possibility of hazardous reactions:

Under the specified conditions, hazardous reactions that lead to excessive temperatures or pressure are not expected.

#### 10.4 Conditions to avoid:

Applicable for handling and storage at room temperature:

| Shock and friction | Contact with air | Increase in temperature | Sunlight            | Humidity       |
|--------------------|------------------|-------------------------|---------------------|----------------|
| Not applicable     | Not applicable   | Risk of combustion      | Avoid direct impact | Not applicable |

#### 10.5 Incompatible materials:

| Acids              | Water          | Oxidising materials | Combustible materials | Others                        |
|--------------------|----------------|---------------------|-----------------------|-------------------------------|
| Avoid strong acids | Not applicable | Avoid direct impact | Not applicable        | Avoid alkalis or strong bases |

#### 10.6 Hazardous decomposition products:

See subsection 10.3, 10.4 and 10.5 to find out the specific decomposition products. Depending on the decomposition conditions, complex mixtures of chemical substances can be released: carbon dioxide (CO<sub>2</sub>), carbon monoxide and other organic compounds.

### SECTION 11: TOXICOLOGICAL INFORMATION

#### 11.1 Information on toxicological effects:

The experimental information related to the toxicological properties of the product itself is not available

#### Dangerous health implications:

In case of exposure that is repetitive, prolonged or at concentrations higher than the recommended occupational exposure limits, adverse effects on health may result, depending on the means of exposure:

##### A- Ingestion (acute effect):

- Acute toxicity: Based on available data, the classification criteria are not met, however, it contains substances classified as dangerous for consumption. For more information see section 3.
- Corrosivity/Irritability: Based on available data, the classification criteria are not met. However, it does contain substances classified as hazardous for this effect. For more information see section 3.

##### B- Inhalation (acute effect):

- Acute toxicity : Based on available data, the classification criteria are not met. However, it contains substances classified as hazardous for inhalation. For more information see section 3.
- Corrosivity/Irritability: Based on available data, the classification criteria are not met. However, it contains substances classified as hazardous for inhalation. For more information see section 3.

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**SECTION 11: TOXICOLOGICAL INFORMATION (continued)**

C- Contact with the skin and the eyes (acute effect):

- Contact with the skin: Based on available data, the classification criteria are not met. However, it contains substances classified as hazardous for skin contact. For more information see section 3.
- Contact with the eyes: Produces serious eye damage after contact.

D- CMR effects (carcinogenicity, mutagenicity and toxicity to reproduction):

- Carcinogenicity: Based on available data, the classification criteria are not met, as it does not contain substances classified as hazardous for the effects mentioned. For more information see section 3.  
IARC: Not relevant
- Mutagenicity: Based on available data, the classification criteria are not met, as it does not contain substances classified as hazardous for this effect. For more information see section 3.
- Reproductive toxicity: Based on available data, the classification criteria are not met, as it does not contain substances classified as hazardous for this effect. For more information see section 3.

E- Sensitizing effects:

- Respiratory: Based on available data, the classification criteria are not met, as it does not contain substances classified as hazardous with sensitising effects. For more information see section 3.
- Skin: Based on available data, the classification criteria are not met, as it does not contain substances classified as hazardous for this effect. For more information see section 3.

F- Specific target organ toxicity (STOT) - single exposure:

Exposure in high concentration can interfere with the central nervous system causing headache, dizziness, vertigo, nausea, vomiting, confusion, and in serious cases, loss of consciousness.

G- Specific target organ toxicity (STOT)-repeated exposure:

- Specific target organ toxicity (STOT)-repeated exposure: Based on available data, the classification criteria are not met, as it does not contain substances classified as hazardous for this effect. For more information see section 3.
- Skin: Repeated exposure may cause skin dryness or cracking

H- Aspiration hazard:

Based on available data, the classification criteria are not met, as it does not contain substances classified as hazardous for this effect. For more information see section 3.

**Other information:**

Not relevant

**Specific toxicology information on the substances:**

| Identification              | Acute toxicity  |             | Genus  |
|-----------------------------|-----------------|-------------|--------|
|                             | LD50 oral       | LD50 dermal |        |
| Butanone<br>CAS: 78-93-3    | 4000 mg/kg      | 6400 mg/kg  | Rat    |
|                             | 23.5 mg/L (4 h) |             | Rabbit |
|                             |                 |             | Rat    |
| 2-naphthol<br>CAS: 135-19-3 | 500 mg/kg       |             | Rat    |
|                             |                 |             |        |
|                             |                 |             |        |

**Acute Toxicity Estimate (ATE mix):**

|            | ATE mix                             | Ingredient(s) of unknown toxicity |
|------------|-------------------------------------|-----------------------------------|
| Oral       | 4014.84 mg/kg (Calculation method)  | Non-applicable                    |
| Dermal     | >5000 mg/kg (Calculation method)    | Non-applicable                    |
| Inhalation | >20 mg/L (4 h) (Calculation method) | Non-applicable                    |

**SECTION 12: ECOLOGICAL INFORMATION**

The experimental information related to the eco-toxicological properties of the product itself is not available

Based on available data, the classification criteria are not met. However, it does contain substances classified as hazardous for this effect. For more information see section 3.

**12.1 Toxicity:**

**Acute toxicity:**





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**SECTION 12: ECOLOGICAL INFORMATION (continued)**

| Identification  | Concentration |                      | Species                 | Genus      |
|---|---------------|----------------------|-------------------------|------------|
| Butanone<br>CAS: 78-93-3                              | LC50          | 3220 mg/L (96 h)     | Pimephales promelas     | Fish       |
|   | EC50          | 5091 mg/L (48 h)     | Daphnia magna           | Crustacean |
|   | EC50          | 4300 mg/L (168 h)    | Scenedesmus quadricauda | Algae      |
| Dye (1:2 Chromium (III) Complex)<br>CAS: 1029600-34-7 | LC50          | Not relevant         |                         |            |
|   | EC50          | >1000 mg/L (48 h)    | Daphnia magna           | Crustacean |
|   | EC50          | Not relevant         |                         |            |
| 2-naphthol<br>CAS: 135-19-3                           | LC50          | >0.1 - 1 mg/L (96 h) |                         | Fish       |
|   | EC50          | >0.1 - 1 mg/L (48 h) |                         | Crustacean |
|   | EC50          | >0.1 - 1 mg/L (72 h) |                         | Algae      |

**12.2 Persistence and degradability:**

**Substance-specific information:**

| Identification              | Degradability |              | Biodegradability |              |
|-----------------------------|---------------|--------------|------------------|--------------|
| Butanone<br>CAS: 78-93-3    | BOD5          | 2.03 g O2/g  | Concentration    | Not relevant |
|                             | COD           | 2.31 g O2/g  | Period           | 20 days      |
|                             | BOD5/COD      | 0.88         | % Biodegradable  | 89 %         |
| 2-naphthol<br>CAS: 135-19-3 | BOD5          | Not relevant | Concentration    | 100 mg/L     |
|                             | COD           | Not relevant | Period           | 14 days      |
|                             | BOD5/COD      | Not relevant | % Biodegradable  | 68.4 %       |

**12.3 Bioaccumulative potential:**

**Substance-specific information:**

| Identification              | Bioaccumulation potential |      |
|-----------------------------|---------------------------|------|
| Butanone<br>CAS: 78-93-3    | BCF                       | 3    |
|                             | Pow Log                   | 0.29 |
|                             | Potential                 | Low  |
| 2-naphthol<br>CAS: 135-19-3 | BCF                       | 0.26 |
|                             | Pow Log                   | 2.7  |
|                             | Potential                 | Low  |

**12.4 Mobility in soil:**

| Identification              | Absorption/desorption |                      | Volatility |                                 |
|-----------------------------|-----------------------|----------------------|------------|---------------------------------|
| Butanone<br>CAS: 78-93-3    | Koc                   | 30                   | Henry      | 5.77 Pa·m <sup>3</sup> /mol     |
|                             | Conclusion            | Very High            | Dry soil   | Yes                             |
|                             | Surface tension       | 2.396E-2 N/m (25 °C) | Moist soil | Yes                             |
| 2-naphthol<br>CAS: 135-19-3 | Koc                   | 0.45                 | Henry      | 4.661E-3 Pa·m <sup>3</sup> /mol |
|                             | Conclusion            | Very High            | Dry soil   | No                              |
|                             | Surface tension       | Not relevant         | Moist soil | No                              |

**12.5 Results of PBT and vPvB assessment:**

Product does not meet PBT/vPvB criteria

**12.6 Other adverse effects:**

Not described

**SECTION 13: DISPOSAL CONSIDERATIONS**

**13.1 Waste treatment methods:**

| Code      | Description                               | Waste class |
|-----------|---|-------------|
| 08 03 12* | waste ink containing hazardous substances | Hazardous   |

**Type of waste:**

HP3 Flammable, HP5 Specific Target Organ Toxicity (STOT)/Aspiration Toxicity, HP4 Irritant — skin irritation and eye damage

**Waste management (disposal and evaluation):**

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**SECTION 13: DISPOSAL CONSIDERATIONS (continued)**

Consult the authorized waste service manager on the assessment and disposal operations in accordance The Waste (England & Wales) Regulations 2011, 2011 No. 988. As under 15 01 of the code and in case the container has been in direct contact with the product, it will be processed the same way as the actual product. Otherwise, it will be processed as non-hazardous residue. Waste should not be disposed of to drains. See paragraph 6.2.

**Regulations related to waste management:**

In accordance with Annex II of UK REACH the provisions related to waste management are stated:

UK legislation: The Waste (England & Wales) Regulations 2011.

**SECTION 14: TRANSPORT INFORMATION**

**Transport of dangerous goods by land:**

With regard to ADR 2023 and RID 2023:



- 14.1 UN number:** UN1210
- 14.2 UN proper shipping name:** PRINTING INK
- 14.3 Transport hazard class(es):** 3
- Labels:** 3
- 14.4 Packing group:** II
- 14.5 Environmental hazards:** No
- 14.6 Special precautions for user**
  - Tunnel restriction code: D/E
  - Physico-Chemical properties: see section 9
  - Limited quantities: 5 L
- 14.7 Transport in bulk according to Annex II of Marpol and the IBC Code:** Not relevant

**Transport of dangerous goods by sea:**

With regard to IMDG 41-22:



- 14.1 UN number:** UN1210
- 14.2 UN proper shipping name:** PRINTING INK
- 14.3 Transport hazard class(es):** 3
- Labels:** 3
- 14.4 Packing group:** II
- 14.5 Marine pollutant:** No
- 14.6 Special precautions for user**
  - Special regulations: 367, 163
  - EmS Codes: F-E, S-D
  - Physico-Chemical properties: see section 9
  - Limited quantities: 5 L
  - Segregation group: Not relevant
- 14.7 Transport in bulk according to Annex II of Marpol and the IBC Code:** Not relevant

**Transport of dangerous goods by air:**

With regard to IATA/ICAO 2024:

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**SECTION 14: TRANSPORT INFORMATION (continued)**



|   |               |
|---|---------------|
| <b>14.1 UN number:</b>  | UN1210        |
| <b>14.2 UN proper shipping name:</b>  | PRINTING INK  |
| <b>14.3 Transport hazard class(es):</b>   | 3             |
| Labels:   | 3             |
| <b>14.4 Packing group:</b>  | II            |
| <b>14.5 Environmental hazards:</b>  | No            |
| <b>14.6 Special precautions for user</b>  |               |
| Physico-Chemical properties:  | see section 9 |
| <b>14.7 Transport in bulk according to Annex II of Marpol and the IBC Code:</b> | Not relevant  |

**SECTION 15: REGULATORY INFORMATION**

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

- Substances listed in UK candidate list of substances of very high concern (SVHCs): Not relevant
- Substances listed in UK REACH Authorisation List (Annex 14): Not relevant

**Restrictions to commercialisation and the use of certain dangerous substances and mixtures (Annex XVII UK REACH, etc ....):**

Shall not be used in:

- ornamental articles intended to produce light or colour effects by means of different phases, for example in ornamental lamps and ashtrays,
- tricks and jokes,
- games for one or more participants, or any article intended to be used as such, even with ornamental aspects.

**Specific provisions in terms of protecting people or the environment:**

It is recommended to use the information included in this safety data sheet as a basis for conducting workplace-specific risk assessments in order to establish the necessary risk prevention measures for the handling, use, storage and disposal of this product.

**Other legislation:**

The REACH etc. (Amendment etc.) (EU Exit) Regulations 2020.

The Chemicals (Health and Safety) and Genetically Modified Organisms (Contained Use) (Amendment etc.) (EU Exit) Regulations 2020.

Control of Substances Hazardous to Health Regulations 2002 (as amended)

EH40/2005 Workplace exposure limits.

**SECTION 16: OTHER INFORMATION**

**Legislation related to safety data sheets:**

This safety data sheet has been designed in accordance with ANNEX II-The REACH etc. (Amendment etc.) (EU Exit) Regulations 2020.

**Texts of the legislative phrases mentioned in section 2:**

- H318: Causes serious eye damage.
- H336: May cause drowsiness or dizziness.
- H225: Highly flammable liquid and vapour.

**Texts of the legislative phrases mentioned in section 3:**

The phrases indicated do not refer to the product itself; they are present merely for informative purposes and refer to the individual components which appear in section 3

**GB CLP Regulation (UK S.I. 2019/720 and UK S.I. 2020/1567):**



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### SECTION 16: OTHER INFORMATION (continued)

Acute Tox. 4: H302+H332 - Harmful if swallowed or if inhaled.  
Aquatic Acute 1: H400 - Very toxic to aquatic life.  
Aquatic Chronic 4: H413 - May cause long lasting harmful effects to aquatic life.  
Eye Dam. 1: H318 - Causes serious eye damage.  
Eye Irrit. 2: H319 - Causes serious eye irritation.  
Flam. Liq. 2: H225 - Highly flammable liquid and vapour.  
Flam. Liq. 3: H226 - Flammable liquid and vapour.  
Skin Irrit. 2: H315 - Causes skin irritation.  
STOT SE 3: H335 - May cause respiratory irritation.  
STOT SE 3: H336 - May cause drowsiness or dizziness.

#### Classification procedure:

Eye Dam. 1: Calculation method  
STOT SE 3: Calculation method  
Flam. Liq. 2: Calculation method (2.6.4.3)

#### Advice related to training:

Training is recommended in order to prevent industrial risks for staff using this product and to facilitate their comprehension and interpretation of this safety data sheet, as well as the label on the product.

#### Principal bibliographical sources:

<http://echa.europa.eu>  
<http://eur-lex.europa.eu>

#### Abbreviations and acronyms:

ADR: European agreement concerning the international carriage of dangerous goods by road  
IMDG: International maritime dangerous goods code  
IATA: International Air Transport Association  
ICAO: International Civil Aviation Organisation  
COD: Chemical Oxygen Demand  
BOD5: 5day biochemical oxygen demand  
BCF: Bioconcentration factor  
LD50: Lethal Dose 50  
LC50: Lethal Concentration 50  
EC50: Effective concentration 50  
LogPOW: Octanolwater partition coefficient  
Koc: Partition coefficient of organic carbon  
UFI: unique formula identifier  
IARC: International Agency for Research on Cancer

The information contained in this safety data sheet is based on sources, technical knowledge and current legislation at UK, without being able to guarantee its accuracy. This information cannot be considered a guarantee of the properties of the product, it is simply a description of the security requirements. The occupational methodology and conditions for users of this product are not within our awareness or control, and it is ultimately the responsibility of the user to take the necessary measures to obtain the legal requirements concerning the manipulation, storage, use and disposal of chemical products. The information on this safety data sheet only refers to this product, which should not be used for needs other than those specified.

- END OF SAFETY DATA SHEET -