Safety data sheet
According to UK REACH (S.I. 2019/758)

Linx Black Wet Process Ink 1056

Date of compilation: 29/07/2019 Revised: 30/10/2024 Version: 20 (Replaced 19)

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

1.1 Product identifier: Linx Black Wet Process Ink 1056

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
Linx House, 8 Stocks Bridge Way, Compass Point Business Park
PE27 5JL St Ives - Cambridgeshire - UK
Phone: +44 (0) 1480 302100
sds@Linx.co.uk
www.linxglobal.com

Supplier:
ITW Marking and Coding
1 Research Park Drive
St. Charles, MO 63304-5685 USA
800-526-2531 / 636-300-2000

1.4 Emergency telephone number: 24HR: (+1)-352-323-3500
USA: 1-800-535-5053

Emergency Phone Number:
Infotrac: 800-535-5053 (US)
+1-352-323-3500 (International)

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).

Aquatic Chronic 3: Hazardous to the aquatic environment, long-term hazard, Category 3, H412
Eye Irrit. 2: Eye irritation, Category 2, H319
Flam. Liq. 2: Flammable liquids, Category 2, H225
Repr. 1B: Reproductive toxicity, Category 1B, H360
Skin Sens. 1A: Sensitisation, skin, Category 1A, H317
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:

Aquatic Chronic 3: H412 - Harmful to aquatic life with long lasting effects.
Eye Irrit. 2: H319 - Causes serious eye irritation.
Flam. Liq. 2: H225 - Highly flammable liquid and vapour.
Repr. 1B: H360 - May damage fertility or the unborn child.
Skin Sens. 1A: H317 - May cause an allergic skin reaction.
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.
P308+P313: IF exposed or concerned: Get medical advice/attention.
P370+P378: In case of fire: Use Foam extinguisher (AB), Dry Chemical Powder (ABC) Fire Extinguisher, Carbon dioxide extinguisher (BC) to extinguish.

Supplementary information:

EUH066: Repeated exposure may cause skin dryness or cracking.
EUH205: Contains epoxy constituents. May produce an allergic reaction.

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SECTION 2: HAZARDS IDENTIFICATION (continued)

Substances that contribute to the classification

Butanone; Dye (1:2 Chromium (III) Complex); maleic anhydride

Additional Labelling:

Restricted to professional users

2.3 Other hazards:

Product does not meet PBT/vPvB criteria

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	**Butanone** Eye Irrit. 2: H319; Flam. Liq. 2: H225; STOT SE 3: H336; EUH066 - Danger	**40 - <60 %**
CAS: 64-17-5	**ethanol** Eye Irrit. 2: H319; Flam. Liq. 2: H225 - Danger	**10 - <20 %**
CAS: 117527-94-3	**Dye (1:2 Chromium (III) Complex)** Aquatic Chronic 2: H411; Repr. 1B: H360 - Danger	**5 - <10 %**
CAS: 108-31-6	**maleic anhydride** Acute Tox. 4: H302; Eye Dam. 1: H318; Resp. Sens. 1: H334; Skin Corr. 1B: H314; Skin Sens. 1A: H317; STOT RE 1: H372; EUH071 - Danger	**<0.1 %**

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

Other information:

Identification	Specific concentration limit
ethanol CAS: 64-17-5	% (w/w) >=50: Eye Irrit. 2 - H319
maleic anhydride CAS: 108-31-6	% (w/w) >=0.001: Skin Sens. 1A - H317

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
maleic anhydride	LD50 oral	1090 mg/kg	Rat
CAS: 108-31-6	LD50 dermal	Not relevant	
	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:

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SECTION 4: FIRST AID MEASURES (continued)

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

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:

Avoid at all cost any type of spillage into an aqueous medium. Contain the product absorbed appropriately in hermetically sealed containers. Notify the relevant authority in case of exposure to the general public or the environment.

6.3 Methods and material for containment and cleaning up:

It is recommended:

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SECTION 6: ACCIDENTAL RELEASE MEASURES (continued)

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

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

PREGNANT WOMEN SHOULD NOT BE EXPOSED TO THIS PRODUCT. Transfer in designated areas that comply with the necessary safety conditions (emergency showers and eyewash stations in close proximity), using personal protection equipment, especially on the hands and face (See section 8). Limit manual transfers to small amounts only. Do not eat or drink during the process, washing hands afterwards with suitable cleaning products.

D.- Technical recommendations to prevent environmental risks

Due to the danger of this product for the environment it is recommended to use it within an area containing contamination control barriers in case of spillage, as well as having absorbent material in close proximity.

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	WEL (8h)	200 ppm	600 mg/m³
CAS: 78-93-3	WEL (15 min)	300 ppm	899 mg/m³
ethanol	WEL (8h)	1000 ppm	1920 mg/m³
CAS: 64-17-5	WEL (15 min)		
maleic anhydride	WEL (8h)		1 mg/m³
CAS: 108-31-6	WEL (15 min)		3 mg/m³

Biological limit values:

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SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION (continued)

BIOLOGICAL MONITORING GUIDANCE VALUES (BMGVS) - EH40/2005

Identification	NULL	NULL	NULL
Butanone 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	Oral	Not relevant	Not relevant	Not relevant	Not relevant
CAS: 78-93-3	Dermal	Not relevant	Not relevant	1161 mg/kg	Not relevant
EC: 201-159-0	Inhalation	Not relevant	Not relevant	600 mg/m³	Not relevant
ethanol	Oral	Not relevant	Not relevant	Not relevant	Not relevant
CAS: 64-17-5	Dermal	Not relevant	Not relevant	343 mg/kg	Not relevant
EC: 200-578-6	Inhalation	Not relevant	Not relevant	950 mg/m³	Not relevant
Dye (1:2 Chromium (III) Complex)	Oral	Not relevant	Not relevant	Not relevant	Not relevant
CAS: 117527-94-3	Dermal	Not relevant	Not relevant	0.13 mg/kg	Not relevant
EC: 938-781-3	Inhalation	Not relevant	Not relevant	0.94 mg/m³	Not relevant
maleic anhydride	Oral	Not relevant	Not relevant	Not relevant	Not relevant
CAS: 108-31-6	Dermal	Not relevant	Not relevant	Not relevant	Not relevant
EC: 203-571-6	Inhalation	0.2 mg/m³	0.2 mg/m³	0.081 mg/m³	0.081 mg/m³

DNEL (General population):

Identification		Short exposure		Long exposure	
		Systemic	Local	Systemic	Local
Butanone	Oral	Not relevant	Not relevant	31 mg/kg	Not relevant
CAS: 78-93-3	Dermal	Not relevant	Not relevant	412 mg/kg	Not relevant
EC: 201-159-0	Inhalation	Not relevant	Not relevant	106 mg/m³	Not relevant
ethanol	Oral	Not relevant	Not relevant	87 mg/kg	Not relevant
CAS: 64-17-5	Dermal	Not relevant	Not relevant	206 mg/kg	Not relevant
EC: 200-578-6	Inhalation	Not relevant	Not relevant	114 mg/m³	Not relevant
Dye (1:2 Chromium (III) Complex)	Oral	Not relevant	Not relevant	0.07 mg/kg	Not relevant
CAS: 117527-94-3	Dermal	Not relevant	Not relevant	0.07 mg/kg	Not relevant
EC: 938-781-3	Inhalation	Not relevant	Not relevant	0.23 mg/m³	Not relevant

PNEC:

Identification				
Butanone	STP	709 mg/L	Fresh water	55.8 mg/L
CAS: 78-93-3	Soil	22.5 mg/kg	Marine water	55.8 mg/L
EC: 201-159-0	Intermittent	55.8 mg/L	Sediment (Fresh water)	284.74 mg/kg
	Oral	1 g/kg	Sediment (Marine water)	284.7 mg/kg
ethanol	STP	580 mg/L	Fresh water	0.96 mg/L
CAS: 64-17-5	Soil	0.63 mg/kg	Marine water	0.79 mg/L
EC: 200-578-6	Intermittent	2.75 mg/L	Sediment (Fresh water)	3.6 mg/kg
	Oral	0.38 g/kg	Sediment (Marine water)	2.9 mg/kg
maleic anhydride	STP	44.6 mg/L	Fresh water	0.038 mg/L
CAS: 108-31-6	Soil	0.037 mg/kg	Marine water	0.004 mg/L
EC: 203-571-6	Intermittent	0.379 mg/L	Sediment (Fresh water)	0.296 mg/kg
	Oral	Not relevant	Sediment (Marine water)	0.03 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.

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SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION (continued)

B.- Respiratory protection

Pictogram	PPE	Remarks
 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
 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
 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
 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.
 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

Emergency measure	Standards	Emergency measure	Standards
 Emergency shower	ANSI Z358-1 ISO 3864-1:2011, ISO 3864-4:2011	 Eyewash stations	DIN 12 899 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 ºC:	Liquid
Appearance:	Fluid
Colour:	Black

*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)

Odour:	Characteristic
Odour threshold:	Not relevant *
Volatility:	
Boiling point at atmospheric pressure:	79 ºC
Vapour pressure at 25 ºC:	10922 Pa
Vapour pressure at 50 ºC:	33790.43 Pa (33.79 kPa)
Evaporation rate at 25 ºC:	>1
Product description:	
Density at 25 ºC:	883.8 kg/m³
Relative density at 25 ºC:	0.814 - 0.954
Dynamic viscosity at 25 ºC:	2 - 5 cP
Kinematic viscosity at 25 ºC:	Not relevant *
Kinematic viscosity at 40 ºC:	Not relevant *
Concentration:	Not relevant *
pH:	Not relevant *
Vapour density at 25 ºC:	2.4 kg/m³
Partition coefficient n-octanol/water 25 ºC:	ca. 0.3
Solubility in water at 25 ºC:	Not relevant *
Solubility properties:	Slightly soluble in cold water
Decomposition temperature:	Not relevant *
Melting point/freezing point:	-86 ºC
Flammability:	
Flash Point:	1 ºC
Flammability (solid, gas):	Not relevant *
Autoignition temperature:	>210 ºC
Lower flammability limit:	1.8 % Volume
Upper flammability limit:	11.5 % Volume
Particle characteristics:	
Median equivalent diameter:	Non-applicable

9.2 Other information:

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 ºC:	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:

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SECTION 10: STABILITY AND REACTIVITY (continued)

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_2), 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, as it does not contain substances classified as hazardous for inhalation. For more information see section 3.
- Corrosivity/Irritability: Prolonged inhalation of the product is corrosive to mucous membranes and the upper respiratory tract

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 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: propan-2-ol (3); ethanol (1); phenol (3)
- 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: May damage fertility or the unborn child

E- Sensitizing effects:

- Respiratory: Based on available data, the classification criteria are not met. However, it contains substances classified as dangerous with sensitising effects. For more information see section 3.
- Skin: Prolonged contact with the skin can result in episodes of allergic contact dermatitis.

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

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SECTION 11: TOXICOLOGICAL INFORMATION (continued)

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. However, it contains substances classified as hazardous for inhalation. 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
Butanone CAS: 78-93-3	LD50 oral	4000 mg/kg	Rat
	LD50 dermal	6400 mg/kg	Rabbit
	LC50 inhalation	23.5 mg/L (4 h)	Rat
ethanol CAS: 64-17-5	LD50 oral	6200 mg/kg	Rat
	LD50 dermal	20000 mg/kg	Rabbit
	LC50 inhalation	124.7 mg/L (4 h)	Rat
Dye (1:2 Chromium (III) Complex) CAS: 117527-94-3	LD50 oral	>5000 mg/kg	Rat
	LD50 dermal		
	LC50 inhalation		
maleic anhydride CAS: 108-31-6	LD50 oral	1090 mg/kg	Rat
	LD50 dermal		
	LC50 inhalation		

Acute Toxicity Estimate (ATE mix):

ATE mix		Ingredient(s) of unknown toxicity
Oral	6095.42 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

Harmful to aquatic life with long lasting effects.

12.1 Toxicity:

Acute toxicity:

Identification	Concentration		Species	Genus
Butanone 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
ethanol CAS: 64-17-5	LC50	11000 mg/L (96 h)	Alburnus alburnus	Fish
	EC50	9268 mg/L (48 h)	Daphnia magna	Crustacean
	EC50	1450 mg/L (192 h)	Microcystis aeruginosa	Algae
Dye (1:2 Chromium (III) Complex) CAS: 117527-94-3	LC50	>1 - 10 mg/L (96 h)		Fish
	EC50	>1 - 10 mg/L (48 h)		Crustacean
	EC50	>1 - 10 mg/L (72 h)		Algae

Chronic toxicity:

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SECTION 12: ECOLOGICAL INFORMATION (continued)

Identification	Concentration		Species	Genus
ethanol	NOEC	250 mg/L	Danio rerio	Fish
CAS: 64-17-5	NOEC	2 mg/L	Ceriodaphnia dubia	Crustacean

12.2 Persistence and degradability:

Substance-specific information:

Identification	Degradability		Biodegradability	
Butanone	BOD5	2.03 g O2/g	Concentration	Not relevant
CAS: 78-93-3	COD	2.31 g O2/g	Period	20 days
	BOD5/COD	0.88	% Biodegradable	89 %
ethanol	BOD5	Not relevant	Concentration	100 mg/L
CAS: 64-17-5	COD	Not relevant	Period	14 days
	BOD5/COD	Not relevant	% Biodegradable	89 %
Dye (1:2 Chromium (III) Complex)	BOD5	Not relevant	Concentration	20 mg/L
CAS: 117527-94-3	COD	Not relevant	Period	28 days
	BOD5/COD	Not relevant	% Biodegradable	14.1 %
maleic anhydride	BOD5	Not relevant	Concentration	33.33 mg/L
CAS: 108-31-6	COD	Not relevant	Period	29 days
	BOD5/COD	Not relevant	% Biodegradable	98.19 %

12.3 Bioaccumulative potential:

Substance-specific information:

Identification	Bioaccumulation potential	
Butanone	BCF	3
CAS: 78-93-3	Pow Log	0.29
	Potential	Low
ethanol	BCF	3
CAS: 64-17-5	Pow Log	-0.31
	Potential	Low
Dye (1:2 Chromium (III) Complex)	BCF	
CAS: 117527-94-3	Pow Log	2.29
	Potential	
maleic anhydride	BCF	
CAS: 108-31-6	Pow Log	-2.61
	Potential	

12.4 Mobility in soil:

Identification	Absorption/desorption		Volatility	
Butanone	Koc	30	Henry	5.77 Pa·m³/mol
CAS: 78-93-3	Conclusion	Very High	Dry soil	Yes
	Surface tension	2.396E-2 N/m (25 ºC)	Moist soil	Yes
ethanol	Koc	1	Henry	4.61E-1 Pa·m³/mol
CAS: 64-17-5	Conclusion	Very High	Dry soil	Yes
	Surface tension	2.339E-2 N/m (25 ºC)	Moist soil	Yes
Dye (1:2 Chromium (III) Complex)	Koc	18	Henry	Not relevant
CAS: 117527-94-3	Conclusion	Very High	Dry soil	Not relevant
	Surface tension	Not relevant	Moist soil	Not relevant
maleic anhydride	Koc	42	Henry	0E+0 Pa·m³/mol
CAS: 108-31-6	Conclusion	Very High	Dry soil	Not relevant
	Surface tension	1.673E-2 N/m (250.21 ºC)	Moist soil	Not relevant

12.5 Results of PBT and vPvB assessment:

Product does not meet PBT/vPvB criteria

12.6 Other adverse effects:

Not described

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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:

HP14 Ecotoxic, HP3 Flammable, HP5 Specific Target Organ Toxicity (STOT)/Aspiration Toxicity, HP10 Toxic for reproduction, HP4 Irritant — skin irritation and eye damage

Waste management (disposal and evaluation):

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)

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**	
	Physico-Chemical properties:	see section 9
14.7	**Transport in bulk according to Annex II of Marpol and the IBC Code:**	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 ....):

Product classified hazardous under the CMR. Sale and distribution to the general public is prohibited. Due to its CMR category, it is essential to apply the specific measures for workplace hazard prevention covered in articles 4 and 5 of the 2004/37/EC Directive and later modifications.
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:

H319: Causes serious eye irritation.
H336: May cause drowsiness or dizziness.
H317: May cause an allergic skin reaction.
H360: May damage fertility or the unborn child.
H412: Harmful to aquatic life with long lasting effects.
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 - Harmful if swallowed.
Aquatic Chronic 2: H411 - Toxic to aquatic life with long lasting effects.
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.
Repr. 1B: H360 - May damage fertility or the unborn child.
Resp. Sens. 1: H334 - May cause allergy or asthma symptoms or breathing difficulties if inhaled.
Skin Corr. 1B: H314 - Causes severe skin burns and eye damage.
Skin Sens. 1A: H317 - May cause an allergic skin reaction.
STOT RE 1: H372 - Causes damage to organs through prolonged or repeated exposure (Inhalation).
STOT SE 3: H336 - May cause drowsiness or dizziness.

Classification procedure:

Eye Irrit. 2: Calculation method
STOT SE 3: Calculation method
Skin Sens. 1A: Calculation method
Repr. 1B: Calculation method
Aquatic Chronic 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 -