

**Safety data sheet**  
according to 1907/2006/EC, Article 31

Printing date 09.03.2023

Version number 1.2 (replaces version 1.1)

Revision: 09.03.2023

**1 Identification of the substance/mixture and of the company/undertaking**

- **1.1 Product identifier**
- **Trade name:**  
**KREUL Permanent Marker medium Blue**  
**KREUL Permanent Marker edge Blue**  
**KREUL Permanent Marker fine Blue**  
**(Safety data sheet for the included ink.)**
- **Article number:** 47613, 47813, 47713
- **1.2 Relevant identified uses of the substance or mixture and uses advised against**  
 No further relevant information available.
- **Application of the substance / the mixture**  
 Paint  
 For artists and hobby user.
- **1.3 Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**  
 C. KREUL GmbH & Co. KG  
 Carl-Kreul-Straße 2  
 D-91352 HALLERNDORF  
 GERMANY  
 Phone: + 49 (0) 9545/925 - 0  
 Fax: + 49 (0) 9545/925 - 511  
 info@c-kreul.de
- **Further information obtainable from:**  
 Product Safety Department:  
 Treiber, b.treiber@c-kreul.de
- **1.4 Emergency telephone number:** + 44 (0) 171 635 91 91

**2 Hazards identification**

- **2.1 Classification of the substance or mixture**
- **Classification according to Regulation (EC) No 1272/2008**



flame

Flam. Liq. 2 H225 Highly flammable liquid and vapour.



corrosion

Eye Dam. 1 H318 Causes serious eye damage.



Skin Irrit. 2 H315 Causes skin irritation.

Skin Sens. 1 H317 May cause an allergic skin reaction.

· **2.2 Label elements**

EC Regulation 1907/2006 (UK REACH) differentiates between substances, mixtures and articles. In accordance with the definition of articles in UK REACH, the European Writing Instrument Manufacturer's Association (EWIMA) considers writing instruments, marker pens etc. to be articles. However, no safety data sheets are provided for articles. In contrast, safety data sheets are mandatory for substances and mixtures. For this reason, the information in the safety data sheet provided always refers to the basic ink and not to the product as a whole.

· **Labelling according to Regulation (EC) No 1272/2008**

The product is classified and labelled according to the GB CLP regulation.

(Contd. on page 2)

# Safety data sheet

## according to 1907/2006/EC, Article 31

Printing date 09.03.2023

Version number 1.2 (replaces version 1.1)

Revision: 09.03.2023

(Contd. of page 1)

### Hazard pictograms



GHS02

GHS05

GHS07

### Signal word Danger

### Hazard-determining components of labelling:

Phosphoric acid, 2-ethylhexyl ester  
C.I. Solvent Blue 4: less than 0,1% Michler's Ketone

### Hazard statements

H225 Highly flammable liquid and vapour.  
H315 Causes skin irritation.  
H318 Causes serious eye damage.  
H317 May cause an allergic skin reaction.

### Precautionary statements

P101 If medical advice is needed, have product container or label at hand.  
P102 Keep out of reach of children.  
P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.  
P233 Keep container tightly closed.  
P240 Ground and bond container and receiving equipment.  
P241 Use explosion-proof [electrical/ventilating/lighting] equipment.  
P261 Avoid breathing dust/fume/gas/mist/vapours/spray.  
P280 Wear protective gloves/protective clothing/eye protection/face protection/hearing protection.  
P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or 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.  
P310 Immediately call a POISON CENTER/doctor.  
P321 Specific treatment (see on this label).  
P362+P364 Take off contaminated clothing and wash it before reuse.  
P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

### 2.3 Other hazards

### Results of PBT and vPvB assessment

- **PBT:** Not applicable.
- **vPvB:** Not applicable.

## 3 Composition/information on ingredients

### 3.2 Mixtures

• **Description:** Mixture of substances listed below with nonhazardous additions.

### Dangerous components:

CAS: 64-17-5 EINECS: 200-578-6 Index number: 603-002-00-5 Reg.nr.: 01-2119457610-43-XXXX	ethanol ⚠ Flam. Liq. 2, H225; ⚠ Eye Irrit. 2, H319 Specific concentration limit: Eye Irrit. 2; H319: C ≥ 50 %	50-<100%
CAS: 107-98-2 EINECS: 203-539-1 Index number: 603-064-00-3	1-methoxy-2-propanol ⚠ Flam. Liq. 3, H226; ⚠ STOT SE 3, H336	10-<20%
CAS: 12645-31-7 EINECS: 235-741-0	Phosphoric acid, 2-ethylhexyl ester ⚠ Skin Corr. 1C, H314	2.5-<10%
CAS: 68411-04-1 EINECS: 270-096-9 Reg.nr.: 01-2119979101-41-XXXX	C.I. Solven Blue 51 Aquatic Chronic 3, H412	2.5-<10%
CAS: 6786-83-0 EINECS: 229-851-8 Reg.nr.: 01-2119950688-22-XXXX	C.I. Solvent Blue 4: less than 0,1% Michler's Ketone ⚠ Eye Dam. 1, H318; ⚠ Skin Sens. 1B, H317	<2.5%

### SVHC

6786-83-0 | C.I. Solvent Blue 4: less than 0,1% Michler's Ketone

• **Additional information:** For the wording of the listed hazard phrases refer to section 16.

## 4 First aid measures

### 4.1 Description of first aid measures

• **General information:** Immediately remove any clothing soiled by the product.

#### After inhalation:

Supply fresh air and to be sure call for a doctor.  
In case of unconsciousness place patient stably in side position for transportation.

#### After skin contact:

Immediately wash with water and soap and rinse thoroughly.  
If skin irritation continues, consult a doctor.

(Contd. on page 3)

GB

# Safety data sheet

## according to 1907/2006/EC, Article 31

Printing date 09.03.2023

Version number 1.2 (replaces version 1.1)

Revision: 09.03.2023

(Contd. of page 2)

- **After eye contact:**  
Remove contact lenses.  
Rinse opened eye for several minutes under running water. Then consult a doctor.
- **After swallowing:**  
If symptoms persist consult doctor.  
Rinse out mouth and then drink plenty of water.
- **4.2 Most important hazards and effects, both acute and delayed** No further relevant information available.
- **4.3 Indication of any immediate medical attention and special treatment needed**  
No further relevant information available.

### 5 Firefighting measures

- **5.1 Extinguishing media**
- **Suitable extinguishing agents:** CO<sub>2</sub>, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- **5.2 Special hazards arising from the substance or mixture**  
Formation of toxic gases is possible during heating or in case of fire.
- **5.3 Advice for firefighters**
- **Protective equipment:** Mouth respiratory protective device.
- **Additional information** Dispose of fire debris and contaminated fire fighting water in accordance with official regulations.

### 6 Accidental release measures

- **6.1 Personal precautions, protective equipment and emergency procedures**  
Wear protective equipment. Keep unprotected persons away.
- **6.2 Environmental precautions:**  
Do not allow to enter sewers/ surface or ground water.  
Keep contaminated washing water and dispose of appropriately.
- **6.3 Methods and material for containment and cleaning up:**  
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).  
Dispose contaminated material as waste according to item 13.  
Ensure adequate ventilation.
- **6.4 Reference to other sections**  
See Section 7 for information on safe handling.  
See Section 8 for information on personal protection equipment.  
See Section 13 for disposal information.

### 7 Handling and storage

- **7.1 Precautions for safe handling**  
Ensure good ventilation/exhaustion at the workplace.  
Prevent formation of aerosols.
- **Information about fire - and explosion protection:**  
Keep ignition sources away - Do not smoke.  
Protect against electrostatic charges.
- **7.2 Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** Store in a cool location.
- **Information about storage in one common storage facility:**  
Do not store together with reducing agents, heavy-metal compounds, acids and alkalis.
- **Further information about storage conditions:**  
Keep container tightly sealed.  
Store in cool, dry conditions in well sealed receptacles.  
Protect from frost.  
Protect from heat and direct sunlight.
- **7.3 Specific end use(s)** See chapter 1.2.

### 8 Exposure controls/personal protection

- **8.1 Control parameters**

- **Ingredients with limit values that require monitoring at the workplace:**

#### 64-17-5 ethanol

WEL Long-term value: 1920 mg/m<sup>3</sup>, 1000 ppm

#### 107-98-2 1-methoxy-2-propanol

WEL Short-term value: 560 mg/m<sup>3</sup>, 150 ppm  
Long-term value: 375 mg/m<sup>3</sup>, 100 ppm  
Sk

- **DNELs**

#### 64-17-5 ethanol

Oral long-term exposure-systemic effects 87 mg/kg (general population)

(Contd. on page 4)

# Safety data sheet

## according to 1907/2006/EC, Article 31

Printing date 09.03.2023

Version number 1.2 (replaces version 1.1)

Revision: 09.03.2023

(Contd. of page 3)

Dermal	long-term exposure-systemic effects	206 mg/kg bw/d (general population) 343 mg/kg bw/d (worker)
Inhalative	long-term exposure-systemic effects	114 mg/m <sup>3</sup> (general population) 950 mg/m <sup>3</sup> (worker)
<b>107-98-2 1-methoxy-2-propanol</b>		
Oral	long-term exposure-systemic effects	33 mg/kg (general population)
Dermal	long-term exposure-systemic effects	183 mg/kg bw/d (general population) 78 mg/kg bw/d (worker)
Inhalative	long-term exposure-systemic effects	43.9 mg/m <sup>3</sup> (general population) 369 mg/m <sup>3</sup> (worker)
<b>· PNECs</b>		
<b>64-17-5 ethanol</b>		
water		2.75 mg/l
freshwater		0.96 mg/l
marine water		0.79 mg/l
sewage treatment plant (STP)		580 mg/l
freshwater sediment		3.6 mg/kg
soil		0.63 mg/kg
<b>107-98-2 1-methoxy-2-propanol</b>		
water		100 mg/l
freshwater		10 mg/l
marine water		1 mg/l
sewage treatment plant (STP)		100 mg/l
freshwater sediment		52.3 mg/kg
marine sediment		5.2 mg/kg
soil		4.59 mg/kg

· **Additional information:** The lists valid during the making were used as basis.

### · 8.2 Exposure controls

· **Appropriate engineering controls** No further data; see item 7.

· **Individual protection measures, such as personal protective equipment**

· **General protective and hygienic measures:**

Do not eat, drink, smoke or sniff while working.

Immediately remove all soiled and contaminated clothing

Wash hands before breaks and at the end of work.

Avoid contact with the eyes and skin.

Do not inhale gases / fumes / aerosols.

· **Respiratory protection:**

In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device.

· **Hand protection**



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

· **Material of gloves**

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

· **Penetration time of glove material**

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

· **For the permanent contact gloves made of the following materials are suitable:**

Butyl rubber, BR

Recommended thickness of the material:  $\geq 0.4$  mm

Value for the permeation: Level  $\leq 4$  h

· **Eye/face protection**



Tightly sealed goggles

# Safety data sheet

## according to 1907/2006/EC, Article 31

Printing date 09.03.2023

Version number 1.2 (replaces version 1.1)

Revision: 09.03.2023

(Contd. of page 4)

### 9 Physical and chemical properties

#### 9.1 Information on basic physical and chemical properties

##### General Information

· Physical state	Fluid
· Colour:	According to product specification
· Odour:	Characteristic
· Odour threshold:	Not determined.
· Melting point/freezing point:	Undetermined.
· Boiling point or initial boiling point and boiling range	78 °C
· Flammability	Highly flammable.
· Lower and upper explosion limit	
· Lower:	1.7 Vol %
· Upper:	15 Vol %
· Flash point:	13 °C
· Ignition temperature:	287 °C
· Decomposition temperature:	Not determined.
· pH at 20 °C	6.3
· Viscosity:	
· Kinematic viscosity	Not determined.
· Dynamic:	Not determined.
· Solubility	
· water:	Fully miscible.
· Partition coefficient n-octanol/water (log value)	Not determined.
· Vapour pressure at 20 °C:	59 hPa
· Density and/or relative density	
· Density at 20 °C:	0.8 g/cm <sup>3</sup>
· Relative density	Not determined.
· Vapour density	Not determined.

#### 9.2 Other information

· Appearance:	
· Form:	Fluid
· Important information on protection of health and environment, and on safety.	
· Auto-ignition temperature:	Product is not selfigniting.
· Explosive properties:	Product is not explosive. However, formation of explosive air/vapour mixtures are possible.
· Change in condition	
· Evaporation rate	Not determined.

#### Information with regard to physical hazard classes

· Explosives	Void
· Flammable gases	Void
· Aerosols	Void
· Oxidising gases	Void
· Gases under pressure	Void
· Flammable liquids	Highly flammable liquid and vapour.
· Flammable solids	Void
· Self-reactive substances and mixtures	Void
· Pyrophoric liquids	Void
· Pyrophoric solids	Void
· Self-heating substances and mixtures	Void
· Substances and mixtures, which emit flammable gases in contact with water	Void
· Oxidising liquids	Void
· Oxidising solids	Void
· Organic peroxides	Void
· Corrosive to metals	Void
· Desensitised explosives	Void

### 10 Stability and reactivity

- **10.1 Reactivity** No further relevant information available.
- **10.2 Chemical stability**
- **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
- **10.3 Possibility of hazardous reactions** No dangerous reactions known.
- **10.4 Conditions to avoid** No further relevant information available.
- **10.5 Incompatible materials:** No further relevant information available.
- **10.6 Hazardous decomposition products:** No dangerous decomposition products known.

GB  
(Contd. on page 6)

# Safety data sheet

## according to 1907/2006/EC, Article 31

Printing date 09.03.2023

Version number 1.2 (replaces version 1.1)

Revision: 09.03.2023

(Contd. of page 5)

### 11 Toxicological information

- **11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008**
- **Acute toxicity** Based on available data, the classification criteria are not met.

- **LD/LC50 values relevant for classification:**

**64-17-5 ethanol**

Oral	LD50	10,470 mg/kg (rat) (OECD 403)
Dermal	LD50	>2,000 mg/kg (rat) 12,800 mg/kg (rabbit)
Inhalative	LC50/4h	124.7 mg/m <sup>3</sup> (rat) (OECD 403)

**107-98-2 1-methoxy-2-propanol**

Oral	LD50	4,016 mg/kg (rat) (EU B.1, ECHA)
Dermal	LD50	13,000 mg/kg (rab) >2,000 mg/kg (rat) (EU B.3, ECHA)
Inhalative	LC50/4h	30.04 mg/m <sup>3</sup> (rat) (ECHA)

- **Skin corrosion/irritation**  
Causes skin irritation.
- **Serious eye damage/irritation**  
Causes serious eye damage.
- **Respiratory or skin sensitisation**  
May cause an allergic skin reaction.
- **Germ cell mutagenicity** Based on available data, the classification criteria are not met.
- **Carcinogenicity** Based on available data, the classification criteria are not met.
- **Reproductive toxicity** Based on available data, the classification criteria are not met.
- **STOT-single exposure** Based on available data, the classification criteria are not met.
- **STOT-repeated exposure** Based on available data, the classification criteria are not met.
- **Aspiration hazard** Based on available data, the classification criteria are not met.
- **11.2 Information on other hazards**

- **Endocrine disrupting properties**

None of the ingredients is listed.

### 12 Ecological information

- **12.1 Toxicity**

- **Aquatic toxicity:**

**64-17-5 ethanol**

LC50/96h	14,200 mg/l (pimephales promelas) (US EPA method E03-0)
	13,000 mg/l (oncorhynchus mykiss)
LC50/48h	5,012 mg/l (ceriodaphnia dubia) (ASTM E729-80)
	12,340 mg/l (daphnia magna)
EC50/48h	12,900 mg/l (algae)
	>10,000 mg/l (ceriodaphnia dubia) (DIN 38412 Teil 11)
	9,950 mg/l (crustaceans)
EC50/96h	12,900 mg/l (pimephales promelas) (US EPA method E03-0)
NOEC	2 mg/l /10d (ceriodaphnia dubia) (ECHA)
	250 mg/l /120h (danio rerio) (OECD 212)
ErC50	275 mg/l /72h (algae) (OECD 201)
ErCx 10%	11.5 mg/l /3d (algae) (OECD 201)
LC50	1,806 mg/l /10d (ceriodaphnia dubia) (ECHA)
	454 mg/l /9d (daphnia magna) (ECHA)

**107-98-2 1-methoxy-2-propanol**

LC50/96h	1,000 mg/l (oncorhynchus mykiss) (OECD 203)
LC50/48h	21,100–25,900 mg/l (daphnia magna) (ESR-ES-15)
ErC50	>1,000 mg/l /7d (pseudokirchneriella subcapitata) (ECHA)

- **12.2 Persistence and degradability** No further relevant information available.
- **12.3 Bioaccumulative potential** No further relevant information available.
- **12.4 Mobility in soil** No further relevant information available.
- **12.5 Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **12.6 Endocrine disrupting properties** The product does not contain substances with endocrine disrupting properties.
- **12.7 Other adverse effects**
- **Additional ecological information:**
- **General notes:**  
Do not allow product to reach ground water, water course or sewage system.  
Must not reach sewage water or drainage ditch undiluted or unneutralised.

(Contd. on page 7)

GB

# Safety data sheet

## according to 1907/2006/EC, Article 31

Printing date 09.03.2023

Version number 1.2 (replaces version 1.1)

Revision: 09.03.2023


Danger to drinking water if even small quantities leak into the ground.

(Contd. of page 6)

### 13 Disposal considerations

- **13.1 Waste treatment methods**
- **Recommendation** Must not be disposed together with household garbage. Do not allow product to reach sewage system.
- **Uncleaned packaging:**
- **Recommendation:** Disposal must be made according to official regulations.

### 14 Transport information

· <b>14.1 UN number or ID number</b> · <b>ADR, IMDG, IATA</b>	UN1263
· <b>14.2 UN proper shipping name</b> · <b>ADR</b> · <b>IMDG, IATA</b>	1263 PAINT PAINT
· <b>14.3 Transport hazard class(es)</b> · <b>ADR, IMDG, IATA</b>	
· <b>Class</b> · <b>Label</b>	3 Flammable liquids. 3
· <b>14.4 Packing group</b> · <b>ADR, IMDG, IATA</b>	II
· <b>14.5 Environmental hazards:</b>	Not applicable.
· <b>14.6 Special precautions for user</b> · <b>Hazard identification number (Kemler code):</b> · <b>EMS Number:</b> · <b>Stowage Category</b>	Warning: Flammable liquids. 33 F-E, S-E B
· <b>14.7 Maritime transport in bulk according to IMO instruments</b>	Not applicable.
· <b>Transport/Additional information:</b>	
· <b>ADR</b> · <b>Limited quantities (LQ)</b> · <b>Excepted quantities (EQ)</b>	5L Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml
· <b>Transport category</b> · <b>Tunnel restriction code</b>	2 D/E
· <b>IMDG</b> · <b>Limited quantities (LQ)</b> · <b>Excepted quantities (EQ)</b>	5L Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml
· <b>UN "Model Regulation":</b>	UN 1263 PAINT, 3, II

### 15 Regulatory information

- **15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**
- **Directive 2012/18/EU**
- **Named dangerous substances - ANNEX I** None of the ingredients is listed.
- **Seveso category P5c** FLAMMABLE LIQUIDS
- **Qualifying quantity (tonnes) for the application of lower-tier requirements** 5,000 t
- **Qualifying quantity (tonnes) for the application of upper-tier requirements** 50,000 t
- **National regulations:**

#### Substances of very high concern (SVHC) according to UK REACH

6786-83-0 | C.I. Solvent Blue 4: less than 0,1% Michler's Ketone

- **15.2 Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

GB  
(Contd. on page 8)

# Safety data sheet

## according to 1907/2006/EC, Article 31

Printing date 09.03.2023

Version number 1.2 (replaces version 1.1)

Revision: 09.03.2023

(Contd. of page 7)

### 16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· **Relevant phrases**

H225 Highly flammable liquid and vapour.  
 H226 Flammable liquid and vapour.  
 H314 Causes severe skin burns and eye damage.  
 H317 May cause an allergic skin reaction.  
 H318 Causes serious eye damage.  
 H319 Causes serious eye irritation.  
 H336 May cause drowsiness or dizziness.  
 H412 Harmful to aquatic life with long lasting effects.

· **Department issuing SDS:** Product Safety Department

· **Contact:** B. Treiber, b.treiber@c-kreul.de

· **Abbreviations and acronyms:**

ADR: Accord relatif au transport international des marchandises dangereuses par route (European Agreement Concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

GHS: Globally Harmonised System of Classification and Labelling of Chemicals

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

DNEL: Derived No-Effect Level (UK REACH)

PNEC: Predicted No-Effect Concentration (UK REACH)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

Flam. Liq. 2: Flammable liquids – Category 2

Flam. Liq. 3: Flammable liquids – Category 3

Skin Corr. 1C: Skin corrosion/irritation – Category 1C

Skin Irrit. 2: Skin corrosion/irritation – Category 2

Eye Dam. 1: Serious eye damage/eye irritation – Category 1

Eye Irrit. 2: Serious eye damage/eye irritation – Category 2

Skin Sens. 1: Skin sensitisation – Category 1

Skin Sens. 1B: Skin sensitisation – Category 1B

STOT SE 3: Specific target organ toxicity (single exposure) – Category 3

Aquatic Chronic 3: Hazardous to the aquatic environment - long-term aquatic hazard – Category 3

· **\* Data compared to the previous version altered.**

GB