Diese Datei enthält die Sicherheitsdatenblätter zu allen Farbtönen, Sets und Displays der KREUL Lack Marker. Sie enthält Bestandteile mit unterschiedlicher Kennzeichnung. Die Erstellung eines gemeinsamen Sicherheitsdatenblattes ist daher nicht möglich. Deshalb finden sich im Anhang die Sicherheitsdatenblätter zu den einzelnen Bestandteilen.

This file contains the safety data sheets for all colors, sets and displays of the KREUL Gloss Paint Marker. It contains components with different labels. It is therefore not possible to create a unique safety data sheet. The safety data sheets for the individual components can be found in the appendix.

Folgende Sets und Displays sind enthalten / Following sets and displays are included:

Artikelnummer / Article number **47001**
Handelsname / Trade name **KREUL Lack Marker medium 2er Set / KREUL Gloss Paint Marker medium Set of 2**

Bestandteile / Components:
KREUL Lack Marker medium Weiß / KREUL Gloss Paint Marker medium White
KREUL Lack Marker medium Schwarz / KREUL Gloss Paint Marker medium Black

Artikelnummer / Article number **47002**
Handelsname / Trade name **KREUL Lack Marker medium 4er Set / KREUL Gloss Paint Marker medium Set of 4**

Bestandteile / Components:
KREUL Lack Marker medium Gold / KREUL Gloss Paint Marker medium Gold
KREUL Lack Marker medium Silber / KREUL Gloss Paint Marker medium Silver
KREUL Lack Marker medium Weiß / KREUL Gloss Paint Marker medium White
KREUL Lack Marker medium Schwarz / KREUL Gloss Paint Marker medium Black

Artikelnummer / Article number **470100**
Handelsname / Trade name **KREUL Lack Marker Thekendisplay / KREUL Gloss Paint Marker counter sales display**

Bestandteile / Components:
KREUL Lack Marker medium Weiß / KREUL Gloss Paint Marker medium White
KREUL Lack Marker medium Schwarz / KREUL Gloss Paint Marker medium Black
KREUL Lack Marker medium Gold / KREUL Gloss Paint Marker medium Gold
KREUL Lack Marker medium Silber / KREUL Gloss Paint Marker medium Silver
KREUL Lack Marker medium Rot / KREUL Gloss Paint Marker medium Red
KREUL Lack Marker fine Weiß / KREUL Gloss Paint Marker fine White
KREUL Lack Marker fine Schwarz / KREUL Gloss Paint Marker fine Black
KREUL Lack Marker fine Gold / KREUL Gloss Paint Marker fine Gold
KREUL Lack Marker fine Silber / KREUL Gloss Paint Marker fine Silver
KREUL Lack Marker fine Rot / KREUL Gloss Paint Marker fine Red
KREUL Lack Marker extrafine Weiß / KREUL Gloss Paint Marker extrafine White
KREUL Lack Marker extrafine Schwarz / KREUL Gloss Paint Marker extrafine Black
KREUL Lack Marker extrafine Gold / KREUL Gloss Paint Marker extrafine Gold
KREUL Lack Marker extrafine Silber / KREUL Gloss Paint Marker extrafine Silver
KREUL Lack Marker extrafine Rot / KREUL Gloss Paint Marker extrafine Red
KREUL Lack Marker calligraphy Weiß / KREUL Gloss Paint Marker calligraphy White
KREUL Lack Marker calligraphy Schwarz / KREUL Gloss Paint Marker calligraphy Black
KREUL Lack Marker calligraphy Gold / KREUL Gloss Paint Marker calligraphy Gold
KREUL Lack Marker calligraphy Silber / KREUL Gloss Paint Marker calligraphy Silver

Artikelnummer / Article number **471084**
Handelsname / Trade name **KREUL Lack Marker Thekendisplay / KREUL Gloss Paint Marker counter sales display**

Bestandteile / Components:
KREUL Lack Marker medium Weiß / KREUL Gloss Paint Marker medium White
KREUL Lack Marker medium Gelb / KREUL Gloss Paint Marker medium Yellow
KREUL Lack Marker medium Orange / KREUL Gloss Paint Marker medium Orange
KREUL Lack Marker medium Rot / KREUL Gloss Paint Marker medium Red
KREUL Lack Marker medium Pink / KREUL Gloss Paint Marker medium Pink
KREUL Lack Marker medium Hellblau / KREUL Gloss Paint Marker medium Light Blue
KREUL Lack Marker medium Blau / KREUL Gloss Paint Marker medium Blue
KREUL Lack Marker medium Violett / KREUL Gloss Paint Marker medium Violet
KREUL Lack Marker medium Grün / KREUL Gloss Paint Marker medium Green
KREUL Lack Marker medium Braun / KREUL Gloss Paint Marker medium Brown
KREUL Lack Marker medium Schwarz / KREUL Gloss Paint Marker medium Black
KREUL Lack Marker medium Gold / KREUL Gloss Paint Marker medium Gold
KREUL Lack Marker medium Silber / KREUL Gloss Paint Marker medium Silver
KREUL Lack Marker medium Kupfer / KREUL Gloss Paint Marker medium Copper
KREUL Lack Marker medium Neongelb / KREUL Gloss Paint Marker medium Neon Yellow
KREUL Lack Marker medium Neonorange / KREUL Gloss Paint Marker medium Neon Orange
KREUL Lack Marker medium Neonpink / KREUL Gloss Paint Marker medium Neon Pink

Artikelnummer / Article number **471085**
Handelsname / Trade name **KREUL Lack Marker fine, extrafine, calligraphy Warenpaket für Modul / KREUL Gloss Paint Marker fine, extrafine, calligraphy sales package for module**

Bestandteile / Components:
KREUL Lack Marker fine Weiß / KREUL Gloss Paint Marker fine White
KREUL Lack Marker fine Gelb / KREUL Gloss Paint Marker fine Yellow
KREUL Lack Marker fine Orange / KREUL Gloss Paint Marker fine Orange
KREUL Lack Marker fine Rot / KREUL Gloss Paint Marker fine Red
KREUL Lack Marker fine Pink / KREUL Gloss Paint Marker fine Pink
KREUL Lack Marker fine Hellblau / KREUL Gloss Paint Marker fine Light Blue
KREUL Lack Marker fine Blau / KREUL Gloss Paint Marker fine Blue
KREUL Lack Marker fine Violett / KREUL Gloss Paint Marker fine Violet
KREUL Lack Marker fine Grün / KREUL Gloss Paint Marker fine Green
KREUL Lack Marker fine Braun / KREUL Gloss Paint Marker fine Brown
KREUL Lack Marker fine Schwarz / KREUL Gloss Paint Marker fine Black
KREUL Lack Marker fine Gold / KREUL Gloss Paint Marker fine Gold
KREUL Lack Marker fine Silber / KREUL Gloss Paint Marker fine Silver
KREUL Lack Marker fine Kupfer / KREUL Gloss Paint Marker fine Copper
KREUL Lack Marker extrafine Weiß / KREUL Gloss Paint Marker extrafine White
KREUL Lack Marker extrafine Rot / KREUL Gloss Paint Marker extrafine Red
KREUL Lack Marker extrafine Schwarz / KREUL Gloss Paint Marker extrafine Black
KREUL Lack Marker extrafine Gold / KREUL Gloss Paint Marker extrafine Gold
KREUL Lack Marker extrafine Silber / KREUL Gloss Paint Marker extrafine Silver
KREUL Lack Marker extrafine Kupfer / KREUL Gloss Paint Marker extrafine Copper
KREUL Lack Marker calligraphy Weiß / KREUL Gloss Paint Marker calligraphy White
KREUL Lack Marker calligraphy Schwarz / KREUL Gloss Paint Marker calligraphy Black
KREUL Lack Marker calligraphy Gold / KREUL Gloss Paint Marker calligraphy Gold
KREUL Lack Marker calligraphy Silber / KREUL Gloss Paint Marker calligraphy Silver
KREUL Lack Marker calligraphy Kupfer / KREUL Gloss Paint Marker calligraphy Copper

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

· **1.1 Product identifier**

· **Trade name:**
KREUL Gloss Paint Marker medium Black
KREUL Gloss Paint Marker fine Black
KREUL Gloss Paint Marker extrafine Black
KREUL Gloss Paint Marker extrafine Black
KREUL Gloss Paint Marker medium White
KREUL Gloss Paint Marker fine White
KREUL Gloss Paint Marker extrafine White
KREUL Gloss Paint Marker extrafine White
(Safety data sheet for the included ink.)

· **Article number:** 47010, 47210, 47410, 47510, 47011, 47211, 47411, 47511
· **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

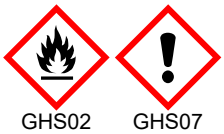
· **2.1 Classification of the substance or mixture**
· **Classification according to Regulation (EC) No 1272/2008**


flame

Flam. Liq. 3 H226 Flammable liquid and vapour.

STOT SE 3 H336 May cause drowsiness or dizziness.

· **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.
· **Hazard pictograms**


GHS02 GHS07

· **Signal word** Warning

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· **Hazard-determining components of labelling:**
1-methoxy-2-propanol
· **Hazard statements**
H226 Flammable liquid and vapour.
H336 May cause drowsiness or dizziness.
· **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.
P271 Use only outdoors or in a well-ventilated area.
P370+P378 In case of fire: Use CO2, powder or water spray to extinguish.
P403+P233 Store in a well-ventilated place. Keep container tightly closed.
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.

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3 Composition/information on ingredients

· **3.2 Mixtures**
· **Description:** Mixture of substances listed below with nonhazardous additions.

· **Dangerous components:**		
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	70-<90%
CAS: 1589-47-5 EINECS: 216-455-5 Index number: 603-106-00-0	2-methoxypropanol Flam. Liq. 3, H226; Repr. 1B, H360D; Eye Dam. 1, H318; Skin Irrit. 2, H315; STOT SE 3, H335	<0.25%

· **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**
· **After inhalation:** Supply fresh air; consult doctor in case of complaints.
· **After skin contact:**
Wash with water and acidic soap.
If skin irritation continues, consult a doctor.
· **After eye contact:**
Rinse opened eye for several minutes under running water.
Remove contact lenses.
· **After swallowing:**
If symptoms persist consult doctor.
Rinse out mouth and then drink plenty of water.
· **4.2 Most important symptoms 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:** CO2, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
· **For safety reasons unsuitable extinguishing agents:** Water with full jet
· **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.
· **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.
Dispose of the material collected according to regulations.
· **6.4 Reference to other sections**
See Section 7 for information on safe handling.

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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** No special precautions are necessary if used correctly.
· **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:** No special requirements.
· **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.
· **Storage class:** 3
· **7.3 Specific end use(s)** See chapter 1.2.

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8 Exposure controls/personal protection

· **8.1 Control parameters**

· **Ingredients with limit values that require monitoring at the workplace:**	
107-98-2 1-methoxy-2-propanol	
WEL	Short-term value: 560 mg/m³, 150 ppm Long-term value: 375 mg/m³, 100 ppm Sk

· **DNELs**		
107-98-2 1-methoxy-2-propanol		
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/m³ (general population)
		369 mg/m³ (worker)

· **PNECs**	
107-98-2 1-methoxy-2-propanol	
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.
Avoid contact with the eyes and skin.
Do not inhale gases / fumes / aerosols.
Wash hands before breaks and at the end of work.
· **Respiratory protection:** Use suitable respiratory protective device when high concentrations are present.
· **Hand protection**
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: ≥ 0.4 mm
Value for the permeation: Level ≤ 8h
· **As protection from splashes gloves made of the following materials are suitable:**
Nitrile rubber, NBR

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Recommended thickness of the material: ≥ 0.38 mm
Value for the permeation: Level ≤ 2-4h
· **Eye/face protection**

Tightly sealed goggles

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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:**	Alcohol-like
· **Odour threshold:**	Not determined.
· **Melting point/freezing point:**	Undetermined.
· **Boiling point or initial boiling point and boiling range**	120 °C
· **Flammability**	Flammable.
· **Lower and upper explosion limit**	
· **Lower:**	1.7 Vol %
· **Upper:**	11.5 Vol %
· **Flash point:**	31 °C
· **Ignition temperature:**	250 °C
· **Decomposition temperature:**	Not determined.
· **pH**	Not determined.
· **Viscosity:**	
· **Kinematic viscosity**	Not determined.
· **Dynamic:**	Not determined.
· **Solubility**	
· **water:**	Partly miscible.
· **Partition coefficient n-octanol/water (log value)**	Not determined.
· **Vapour pressure at 20 °C:**	12 hPa
· **Density and/or relative density**	
· **Density:**	Not determined.
· **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.
· **Solvent content:**	
· **Organic solvents:**	<85 %
· **VOC (EC)**	<82.00 %
· **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**	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

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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.

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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:**		
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/m³ (rat) (ECHA)

· **Skin corrosion/irritation** Based on available data, the classification criteria are not met.
· **Serious eye damage/irritation** Based on available data, the classification criteria are not met.
· **Respiratory or skin sensitisation** Based on available data, the classification criteria are not met.
· **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**
May cause drowsiness or dizziness.
· **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.

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12 Ecological information

· **12.1 Toxicity**

· **Aquatic toxicity:**	
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)
1589-47-5 2-methoxypropanol	
EC50/48h	>500 mg/l (daphnia magna)
EC50/72h	>1,000 mg/l (selenastrum capricornutum)
EC50/96h	>1,000 mg/l (pimephales promelas)

· **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 undiluted product or large quantities of it to reach ground water, water course or sewage system.

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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.

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· **Recommended cleansing agents:** Water, if necessary together with cleansing agents.

14 Transport information

· **14.1 UN number or ID number**	
· **ADR, IMDG, IATA**	UN1263
· **14.2 UN proper shipping name**	
· **ADR**	1263 PAINT
· **IMDG, IATA**	PAINT
· **14.3 Transport hazard class(es)**	
· **ADR, IMDG, IATA**	

· **Class**	3 Flammable liquids.
· **Label**	3
· **14.4 Packing group**	
· **ADR, IMDG, IATA**	III
· **14.5 Environmental hazards:**	Not applicable.
· **14.6 Special precautions for user**	Warning: Flammable liquids.
· **Hazard identification number (Kemler code):**	30
· **EMS Number:**	F-E,S-E
· **Stowage Category**	A
· **14.7 Maritime transport in bulk according to IMO instruments**	Not applicable.
· **Transport/Additional information:**	
· **ADR**	
· **Limited quantities (LQ)**	5L
· **Excepted quantities (EQ)**	Code: E1 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml
· **Transport category**	3
· **Tunnel restriction code**	D/E
· **IMDG**	
· **Limited quantities (LQ)**	5L
· **Excepted quantities (EQ)**	Code: E1 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml
· **UN "Model Regulation":**	UN 1263 PAINT, 3, III

*

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

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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**
H226 Flammable liquid and vapour.
H315 Causes skin irritation.
H318 Causes serious eye damage.
H335 May cause respiratory irritation.
H336 May cause drowsiness or dizziness.
H360D May damage the unborn child.

· **Department issuing SDS:** Product Safety Department
· **Contact:** B. Treiber, b.treiber@c-kreul.de

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· **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)
VOC: Volatile Organic Compounds (USA, EU)
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. 3: Flammable liquids – Category 3
Skin Irrit. 2: Skin corrosion/irritation – Category 2
Eye Dam. 1: Serious eye damage/eye irritation – Category 1
Repr. 1B: Reproductive toxicity – Category 1B
STOT SE 3: Specific target organ toxicity (single exposure) – Category 3
· *** Data compared to the previous version altered.**

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

· **1.1 Product identifier**

· **Trade name:**
KREUL Gloss Paint Marker medium Pink, Light Blue
KREUL Gloss Paint Marker fine Pink, Light Blue
(Safety data sheet for the included ink.)

· **Article number:** 47017, 47217, 47019, 47219
· **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. 3 H226 Flammable liquid and vapour.

STOT SE 3 H336 May cause drowsiness or dizziness.

· **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.
· **Hazard pictograms**


GHS02 GHS07

· **Signal word** Warning

· **Hazard-determining components of labelling:**
1-methoxy-2-propanol
· **Hazard statements**
H226 Flammable liquid and vapour.
H336 May cause drowsiness or dizziness.

(Contd. on page 2)

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

Printing date 23.03.2023 Version number 1.1 (replaces version 1.0) Revision: 23.03.2023

(Contd. of page 1)

· **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.
P271 Use only outdoors or in a well-ventilated area.
P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P370+P378 In case of fire: Use CO2, powder or water spray to extinguish.
P403+P233 Store in a well-ventilated place. Keep container tightly closed.
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: 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	50-<70%
CAS: 1589-47-5 EINECS: 216-455-5 Index number: 603-106-00-0	2-methoxypropanol Flam. Liq. 3, H226; Repr. 1B, H360D; Eye Dam. 1, H318; Skin Irrit. 2, H315; STOT SE 3, H335	<0.25%

· **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**
· **After inhalation:** Supply fresh air; consult doctor in case of complaints.
· **After skin contact:**
Wash with water and acidic soap.
If skin irritation continues, consult a doctor.
· **After eye contact:**
Rinse opened eye for several minutes under running water.
Remove contact lenses.
· **After swallowing:**
If symptoms persist consult doctor.
Rinse out mouth and then drink plenty of water.
· **4.2 Most important symptoms 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:** CO2, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
· **For safety reasons unsuitable extinguishing agents:** Water with full jet
· **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.
· **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.
Dispose of the material collected according to regulations.
· **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.

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

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7 Handling and storage

· **7.1 Precautions for safe handling** No special precautions are necessary if used correctly.
· **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:** No special requirements.
· **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.
· **Storage class:** 3
· **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:**	
107-98-2 1-methoxy-2-propanol	
WEL	Short-term value: 560 mg/m³, 150 ppm Long-term value: 375 mg/m³, 100 ppm Sk

· **DNELs**		
107-98-2 1-methoxy-2-propanol		
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/m³ (general population)
		369 mg/m³ (worker)

· **PNECs**	
107-98-2 1-methoxy-2-propanol	
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.
Avoid contact with the eyes and skin.
Do not inhale gases / fumes / aerosols.
Wash hands before breaks and at the end of work.
· **Respiratory protection:** Use suitable respiratory protective device when high concentrations are present.
· **Hand protection**
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: ≥ 0.4 mm
Value for the permeation: Level ≤ 8h
· **As protection from splashes gloves made of the following materials are suitable:**
Nitrile rubber, NBR
Recommended thickness of the material: ≥ 0.38 mm
Value for the permeation: Level ≤ 2-4h

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· **Eye/face protection**

Tightly sealed goggles

*

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:**	Alcohol-like
· **Odour threshold:**	Not determined.
· **Melting point/freezing point:**	Undetermined.
· **Boiling point or initial boiling point and boiling range**	120 °C
· **Flammability**	Flammable.
· **Lower and upper explosion limit**	
· **Lower:**	1.7 Vol %
· **Upper:**	11.5 Vol %
· **Flash point:**	31 °C
· **Ignition temperature:**	250 °C
· **Decomposition temperature:**	Not determined.
· **pH**	Not determined.
· **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:**	12 hPa
· **Density and/or relative density**	
· **Density:**	Not determined.
· **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.
· **Solvent content:**	
· **VOC (EC)**	<82.00 %
· **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**	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.

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· **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.

*
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:**		
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/m³ (rat) (ECHA)

· **Skin corrosion/irritation** Based on available data, the classification criteria are not met.
· **Serious eye damage/irritation** Based on available data, the classification criteria are not met.
· **Respiratory or skin sensitisation** Based on available data, the classification criteria are not met.
· **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**
May cause drowsiness or dizziness.
· **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:**	
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)
1589-47-5 2-methoxypropanol	
EC50/48h	>500 mg/l (daphnia magna)
EC50/72h	>1,000 mg/l (selenastrum capricornutum)
EC50/96h	>1,000 mg/l (pimephales promelas)

· **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 undiluted product or large quantities of it to reach ground water, water course or sewage system.

*
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.
· **Recommended cleansing agents:** Water, if necessary together with cleansing agents.

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14 Transport information

· **14.1 UN number or ID number**	
· **ADR, IMDG, IATA**	UN1263
· **14.2 UN proper shipping name**	
· **ADR**	1263 PAINT
· **IMDG, IATA**	PAINT
· **14.3 Transport hazard class(es)**	
· **ADR, IMDG, IATA**	

· **Class**	3 Flammable liquids.
· **Label**	3
· **14.4 Packing group**	
· **ADR, IMDG, IATA**	III
· **14.5 Environmental hazards:**	Not applicable.
· **14.6 Special precautions for user**	Warning: Flammable liquids.
· **Hazard identification number (Kemler code):**	30
· **EMS Number:**	F-E,S-E
· **Stowage Category**	A
· **14.7 Maritime transport in bulk according to IMO instruments**	Not applicable.
· **Transport/Additional information:**	
· **ADR**	
· **Limited quantities (LQ)**	5L
· **Excepted quantities (EQ)**	Code: E1 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml
· **Transport category**	3
· **Tunnel restriction code**	D/E
· **IMDG**	
· **Limited quantities (LQ)**	5L
· **Excepted quantities (EQ)**	Code: E1 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml
· **UN "Model Regulation":**	UN 1263 PAINT, 3, III

*

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

*

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**
H226 Flammable liquid and vapour.
H315 Causes skin irritation.
H318 Causes serious eye damage.
H335 May cause respiratory irritation.
H336 May cause drowsiness or dizziness.
H360D May damage the unborn child.

· **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

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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)
VOC: Volatile Organic Compounds (USA, EU)
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. 3: Flammable liquids – Category 3
Skin Irrit. 2: Skin corrosion/irritation – Category 2
Eye Dam. 1: Serious eye damage/eye irritation – Category 1
Repr. 1B: Reproductive toxicity – Category 1B
STOT SE 3: Specific target organ toxicity (single exposure) – Category 3
· *** Data compared to the previous version altered.**

Safety data sheet
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*
1 Identification of the substance/mixture and of the company/undertaking

· **1.1 Product identifier**

· **Trade name:**
KREUL Gloss Paint Marker medium Red, Blue, Brown
KREUL Gloss Paint Marker fine Red, Blue, Brown
(Safety data sheet for the included ink.)

· **Article number:** 47012, 47013, 47018, 47212, 47213, 47218
· **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. 3 H226 Flammable liquid and vapour.

STOT SE 3 H336 May cause drowsiness or dizziness.

· **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.
· **Hazard pictograms**


GHS02 GHS07

· **Signal word** Warning

· **Hazard-determining components of labelling:**
1-methoxy-2-propanol
· **Hazard statements**
H226 Flammable liquid and vapour.
H336 May cause drowsiness or dizziness.

(Contd. on page 2)

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

Printing date 23.03.2023 Version number 1.1 (replaces version 1.0) Revision: 23.03.2023

(Contd. of page 1)

· **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.
P271 Use only outdoors or in a well-ventilated area.
P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P370+P378 In case of fire: Use CO2, powder or water spray to extinguish.
P403+P233 Store in a well-ventilated place. Keep container tightly closed.
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: 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	50-<70%
CAS: 9004-70-0	nitrocellulose solutions, with not more than 12.6% nitrogen, by dry mass, and not more than 55% nitrocellulose Flam. Sol. 1, H228	<2.5%
CAS: 1589-47-5 EINECS: 216-455-5 Index number: 603-106-00-0	2-methoxypropanol Flam. Liq. 3, H226; Repr. 1B, H360D; Eye Dam. 1, H318; Skin Irrit. 2, H315; STOT SE 3, H335	<0.25%
CAS: 68391-04-8 EINECS: 269-923-6 Reg.nr.: 01-2119485586-22-XXXX	amines, alkyl(C=12~18)dimethyl Skin Corr. 1B, H314; Aquatic Acute 1, H400; Aquatic Chronic 1, H410; Acute Tox. 4, H302	<0.25%

· **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**
· **After inhalation:** Supply fresh air; consult doctor in case of complaints.
· **After skin contact:**
Wash with water and acidic soap.
If skin irritation continues, consult a doctor.
· **After eye contact:**
Rinse opened eye for several minutes under running water.
Remove contact lenses.
· **After swallowing:**
If symptoms persist consult doctor.
Rinse out mouth and then drink plenty of water.
· **4.2 Most important symptoms 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:** CO2, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
· **For safety reasons unsuitable extinguishing agents:** Water with full jet
· **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.
· **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.
Dispose of the material collected according to regulations.

(Contd. on page 3)

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

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· **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** No special precautions are necessary if used correctly.
· **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:** No special requirements.
· **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.
· **Storage class:** 3
· **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:**	
107-98-2 1-methoxy-2-propanol	
WEL	Short-term value: 560 mg/m³, 150 ppm Long-term value: 375 mg/m³, 100 ppm Sk

· **DNELs**		
107-98-2 1-methoxy-2-propanol		
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/m³ (general population)
		369 mg/m³ (worker)

· **PNECs**	
107-98-2 1-methoxy-2-propanol	
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.
Avoid contact with the eyes and skin.
Do not inhale gases / fumes / aerosols.
Wash hands before breaks and at the end of work.
· **Respiratory protection:** Use suitable respiratory protective device when high concentrations are present.
· **Hand protection**
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: ≥ 0.4 mm
Value for the permeation: Level ≤ 8h

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· **As protection from splashes gloves made of the following materials are suitable:**
Nitrile rubber, NBR
Recommended thickness of the material: ≥ 0.38 mm
Value for the permeation: Level ≤ 2-4h
· **Eye/face protection**

Tightly sealed goggles

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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:**	Alcohol-like
· **Odour threshold:**	Not determined.
· **Melting point/freezing point:**	Undetermined.
· **Boiling point or initial boiling point and boiling range**	120 °C
· **Flammability**	Flammable.
· **Lower and upper explosion limit**	
· **Lower:**	1.7 Vol %
· **Upper:**	11.5 Vol %
· **Flash point:**	31 °C
· **Ignition temperature:**	250 °C
· **Decomposition temperature:**	Not determined.
· **pH**	Not determined.
· **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:**	12 hPa
· **Density and/or relative density**	
· **Density:**	Not determined.
· **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.
· **Solvent content:**	
· **VOC (EC)**	<82.00 %
· **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**	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

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· **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.

*
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:**		
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/m³ (rat) (ECHA)
68391-04-8 amines, alkyl(C=12~18)dimethyl		
Oral	LD50	500 mg/kg (ATE)

· **Skin corrosion/irritation** Based on available data, the classification criteria are not met.
· **Serious eye damage/irritation** Based on available data, the classification criteria are not met.
· **Respiratory or skin sensitisation** Based on available data, the classification criteria are not met.
· **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**
May cause drowsiness or dizziness.
· **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:**	
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)
1589-47-5 2-methoxypropanol	
EC50/48h	>500 mg/l (daphnia magna)
EC50/72h	>1,000 mg/l (selenastrum capricornutum)
EC50/96h	>1,000 mg/l (pimephales promelas)

· **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 undiluted product or large quantities of it to reach ground water, water course or sewage system.

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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.
· **Recommended cleansing agents:** Water, if necessary together with cleansing agents.

14 Transport information

· **14.1 UN number or ID number**	
· **ADR, IMDG, IATA**	UN1263
· **14.2 UN proper shipping name**	
· **ADR**	1263 PAINT
· **IMDG, IATA**	PAINT
· **14.3 Transport hazard class(es)**	
· **ADR, IMDG, IATA**	

· **Class**	3 Flammable liquids.
· **Label**	3
· **14.4 Packing group**	
· **ADR, IMDG, IATA**	III
· **14.5 Environmental hazards:**	Not applicable.
· **14.6 Special precautions for user**	Warning: Flammable liquids.
· **Hazard identification number (Kemler code):**	30
· **EMS Number:**	F-E,S-E
· **Stowage Category**	A
· **14.7 Maritime transport in bulk according to IMO instruments**	Not applicable.
· **Transport/Additional information:**	
· **ADR**	
· **Limited quantities (LQ)**	5L
· **Excepted quantities (EQ)**	Code: E1 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml
· **Transport category**	3
· **Tunnel restriction code**	D/E
· **IMDG**	
· **Limited quantities (LQ)**	5L
· **Excepted quantities (EQ)**	Code: E1 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml
· **UN "Model Regulation":**	UN 1263 PAINT, 3, III

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

*
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**
H226 Flammable liquid and vapour.
H228 Flammable solid.

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H302 Harmful if swallowed.
H314 Causes severe skin burns and eye damage.
H315 Causes skin irritation.
H318 Causes serious eye damage.
H335 May cause respiratory irritation.
H336 May cause drowsiness or dizziness.
H360D May damage the unborn child.
H400 Very toxic to aquatic life.
H410 Very toxic 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)
VOC: Volatile Organic Compounds (USA, EU)
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. 3: Flammable liquids – Category 3
Flam. Sol. 1: Flammable solids – Category 1
Acute Tox. 4: Acute toxicity – Category 4
Skin Corr. 1B: Skin corrosion/irritation – Category 1B
Skin Irrit. 2: Skin corrosion/irritation – Category 2
Eye Dam. 1: Serious eye damage/eye irritation – Category 1
Repr. 1B: Reproductive toxicity – Category 1B
STOT SE 3: Specific target organ toxicity (single exposure) – Category 3
Aquatic Acute 1: Hazardous to the aquatic environment - acute aquatic hazard – Category 1
Aquatic Chronic 1: Hazardous to the aquatic environment - long-term aquatic hazard – Category 1
· *** Data compared to the previous version altered.**

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

· **1.1 Product identifier**

· **Trade name:**
KREUL Gloss Paint Marker medium Orange, Green, Yellow, Violet
KREUL Gloss Paint Marker fine Orange, Green, Yellow, Violet
(Safety data sheet for the included ink.)

· **Article number:** 47009, 47014, 47015, 47016, 47209, 47214, 47215, 47216
· **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. 3 H226 Flammable liquid and vapour.

STOT SE 3 H336 May cause drowsiness or dizziness.

· **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.
· **Hazard pictograms**


GHS02 GHS07

· **Signal word** Warning

· **Hazard-determining components of labelling:**
1-methoxy-2-propanol
· **Hazard statements**
H226 Flammable liquid and vapour.
H336 May cause drowsiness or dizziness.

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· **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.
P271 Use only outdoors or in a well-ventilated area.
P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P370+P378 In case of fire: Use CO2, powder or water spray to extinguish.
P403+P233 Store in a well-ventilated place. Keep container tightly closed.
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: 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	50-<70%
CAS: 1589-47-5 EINECS: 216-455-5 Index number: 603-106-00-0	2-methoxypropanol Flam. Liq. 3, H226; Repr. 1B, H360D; Eye Dam. 1, H318; Skin Irrit. 2, H315; STOT SE 3, H335	<0.25%
CAS: 68391-04-8 EINECS: 269-923-6 Reg.nr.: 01-2119485586-22-XXXX	amines, alkyl(C=12~18)dimethyl Skin Corr. 1B, H314; Aquatic Acute 1, H400; Aquatic Chronic 1, H410; Acute Tox. 4, H302	<0.25%

· **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**
· **After inhalation:** Supply fresh air; consult doctor in case of complaints.
· **After skin contact:**
Wash with water and acidic soap.
If skin irritation continues, consult a doctor.
· **After eye contact:**
Rinse opened eye for several minutes under running water.
Remove contact lenses.
· **After swallowing:**
If symptoms persist consult doctor.
Rinse out mouth and then drink plenty of water.
· **4.2 Most important symptoms 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:** CO2, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
· **For safety reasons unsuitable extinguishing agents:** Water with full jet
· **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.
· **6.3 Methods and material for containment and cleaning up:**
Dispose of the material collected according to regulations.
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.

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See Section 13 for disposal information.

7 Handling and storage

· **7.1 Precautions for safe handling** No special precautions are necessary if used correctly.
· **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:** No special requirements.
· **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.
· **Storage class:** 3
· **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:**	
107-98-2 1-methoxy-2-propanol	
WEL	Short-term value: 560 mg/m³, 150 ppm Long-term value: 375 mg/m³, 100 ppm Sk

· **DNELs**		
107-98-2 1-methoxy-2-propanol		
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/m³ (general population)
		369 mg/m³ (worker)

· **PNECs**	
107-98-2 1-methoxy-2-propanol	
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.
Avoid contact with the eyes and skin.
Do not inhale gases / fumes / aerosols.
Wash hands before breaks and at the end of work.
· **Respiratory protection:** Use suitable respiratory protective device when high concentrations are present.
· **Hand protection**
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: ≥ 0.4 mm
Value for the permeation: Level ≤ 8h
· **As protection from splashes gloves made of the following materials are suitable:**
Nitrile rubber, NBR
Recommended thickness of the material: ≥ 0.38 mm

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Value for the permeation: Level ≤ 2-4h
· **Eye/face protection**

Tightly sealed goggles

*
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:**	Alcohol-like
· **Odour threshold:**	Not determined.
· **Melting point/freezing point:**	Undetermined.
· **Boiling point or initial boiling point and boiling range**	120 °C
· **Flammability**	Flammable.
· **Lower and upper explosion limit**	
· **Lower:**	1.7 Vol %
· **Upper:**	11.5 Vol %
· **Flash point:**	31 °C
· **Ignition temperature:**	250 °C
· **Decomposition temperature:**	Not determined.
· **pH**	Not determined.
· **Viscosity:**	
· **Kinematic viscosity**	Not determined.
· **Dynamic:**	Not determined.
· **Solubility**	
· **water:**	Partly miscible.
· **Partition coefficient n-octanol/water (log value)**	Not determined.
· **Vapour pressure at 20 °C:**	12 hPa
· **Density and/or relative density**	
· **Density at 20 °C:**	0.9–1.3 g/cm³
· **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.
· **Solvent content:**	
· **VOC (EC)**	<82.00 %
· **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**	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

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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.

*
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:**		
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/m³ (rat) (ECHA)
68391-04-8 amines, alkyl(C=12~18)dimethyl		
Oral	LD50	500 mg/kg (ATE)

· **Skin corrosion/irritation** Based on available data, the classification criteria are not met.
· **Serious eye damage/irritation** Based on available data, the classification criteria are not met.
· **Respiratory or skin sensitisation** Based on available data, the classification criteria are not met.
· **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** May cause drowsiness or dizziness.
· **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:**	
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)
1589-47-5 2-methoxypropanol	
EC50/48h	>500 mg/l (daphnia magna)
EC50/72h	>1,000 mg/l (selenastrum capricornutum)
EC50/96h	>1,000 mg/l (pimephales promelas)

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

*
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.

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· **Recommended cleansing agents:** Water, if necessary together with cleansing agents.

14 Transport information

· **14.1 UN number or ID number**	
· **ADR, IMDG, IATA**	UN1263
· **14.2 UN proper shipping name**	
· **ADR**	1263 PAINT
· **IMDG, IATA**	PAINT
· **14.3 Transport hazard class(es)**	
· **ADR, IMDG, IATA**	
· **Class**	3 Flammable liquids.
· **Label**	3
· **14.4 Packing group**	
· **ADR, IMDG, IATA**	III
· **14.5 Environmental hazards:**	Not applicable.
· **14.6 Special precautions for user**	Warning: Flammable liquids.
· **Hazard identification number (Kemler code):**	30
· **EMS Number:**	F-E,S-E
· **Stowage Category**	A
· **14.7 Maritime transport in bulk according to IMO instruments**	Not applicable.
· **Transport/Additional information:**	
· **ADR**	
· **Limited quantities (LQ)**	5L
· **Excepted quantities (EQ)**	Code: E1 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml
· **Transport category**	3
· **Tunnel restriction code**	D/E
· **IMDG**	
· **Limited quantities (LQ)**	5L
· **Excepted quantities (EQ)**	Code: E1 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml
· **UN "Model Regulation":**	UN 1263 PAINT, 3, III

*

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

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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**
H226 Flammable liquid and vapour.
H302 Harmful if swallowed.
H314 Causes severe skin burns and eye damage.
H315 Causes skin irritation.
H318 Causes serious eye damage.
H335 May cause respiratory irritation.
H336 May cause drowsiness or dizziness.
H360D May damage the unborn child.
H400 Very toxic to aquatic life.

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H410 Very toxic 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)
VOC: Volatile Organic Compounds (USA, EU)
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. 3: Flammable liquids – Category 3
Acute Tox. 4: Acute toxicity – Category 4
Skin Corr. 1B: Skin corrosion/irritation – Category 1B
Skin Irrit. 2: Skin corrosion/irritation – Category 2
Eye Dam. 1: Serious eye damage/eye irritation – Category 1
Repr. 1B: Reproductive toxicity – Category 1B
STOT SE 3: Specific target organ toxicity (single exposure) – Category 3
Aquatic Acute 1: Hazardous to the aquatic environment - acute aquatic hazard – Category 1
Aquatic Chronic 1: Hazardous to the aquatic environment - long-term aquatic hazard – Category 1
· *** Data compared to the previous version altered.**

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

· **1.1 Product identifier**

· **Trade name:**
KREUL Gloss Paint Marker medium Gold
KREUL Gloss Paint Marker fine Gold
KREUL Gloss Paint Marker extrafine Gold
KREUL Gloss Paint Marker calligraphy Gold
(Safety data sheet for the included ink.)

· **Article number:** 47020, 47220, 47420, 47520
· **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**
Lacquer
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. 3 H226 Flammable liquid and vapour.


environment

Aquatic Acute 1 H400 Very toxic to aquatic life.
Aquatic Chronic 2 H411 Toxic to aquatic life with long lasting effects.

STOT SE 3 H336 May cause drowsiness or dizziness.

· **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.

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· **Hazard pictograms**

GHS02 GHS07 GHS09

· **Signal word** Warning

· **Hazard-determining components of labelling:**
1-methoxy-2-propanol
· **Hazard statements**
H226 Flammable liquid and vapour.
H336 May cause drowsiness or dizziness.
H410 Very toxic to aquatic life with long lasting effects.
· **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.
P271 Use only outdoors or in a well-ventilated area.
P370+P378 In case of fire: Use CO2, powder or water spray to extinguish.
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.

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3 Composition/information on ingredients

· **3.2 Mixtures**
· **Description:** Mixture of substances listed below with nonhazardous additions.

· **Dangerous components:**		
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	50-<75%
CAS: 7440-50-8 EINECS: 231-159-6 Reg.nr.: 01-2119480154-42-XXXX	copper Aquatic Acute 1, H400; Aquatic Chronic 2, H411; Acute Tox. 4, H302	10-<25%
CAS: 7440-66-6 EINECS: 231-175-3 Index number: 030-001-01-9 Reg.nr.: 01-2119467174-37-XXXX	zinc powder -zinc dust (stabilized) Aquatic Acute 1, H400; Aquatic Chronic 1, H410	2.5-<10%
CAS: 1589-47-5 EINECS: 216-455-5 Index number: 603-106-00-0	2-methoxypropanol Flam. Liq. 3, H226; Repr. 1B, H360D; Eye Dam. 1, H318; Skin Irrit. 2, H315; STOT SE 3, H335	<0.25%

· **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**
· **After inhalation:** Supply fresh air; consult doctor in case of complaints.
· **After skin contact:**
Wash with water and acidic soap.
If skin irritation continues, consult a doctor.
· **After eye contact:**
Remove contact lenses.
Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.
· **After swallowing:**
If symptoms persist consult doctor.
Rinse out mouth and then drink plenty of water.
· **4.2 Most important symptoms 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:** CO2, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
· **For safety reasons unsuitable extinguishing agents:** Water with full jet
· **5.2 Special hazards arising from the substance or mixture** No further relevant information available.
· **5.3 Advice for firefighters**
· **Protective equipment:** No special measures required.

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· **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:**
Inform respective authorities in case of seepage into water course or sewage system.
Do not allow to enter sewers/ surface or ground water.
· **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**
No special precautions are necessary if used correctly.
Keep away from heat and direct sunlight.
Use only in well ventilated areas.
· **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:** No special requirements.
· **Information about storage in one common storage facility:** Store away from oxidising agents.
· **Further information about storage conditions:** Keep container tightly sealed.
· **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:**	
107-98-2 1-methoxy-2-propanol	
WEL	Short-term value: 560 mg/m³, 150 ppm Long-term value: 375 mg/m³, 100 ppm Sk
7440-50-8 copper	
WEL	Short-term value: 2** mg/m³ Long-term value: 0.2* 1** mg/m³ *fume **dusts and mists (as Cu)

· **DNELs**		
107-98-2 1-methoxy-2-propanol		
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/m³ (general population)
		369 mg/m³ (worker)
7440-50-8 copper		
Oral	long-term exposure-systemic effects	0.16 mg/kg (general population)
Dermal	long-term exposure-systemic effects	137 mg/kg bw/d (general population)
		137 mg/kg bw/d (worker)
Inhalative	long-term exposure-systemic effects	18.2 mg/m³ (general population)
		18.2 mg/m³ (worker)
7440-66-6 zinc powder -zinc dust (stabilized)		
Oral	long-term exposure-systemic effects	0.83 mg/kg (general population)
Dermal	long-term exposure-systemic effects	83 mg/kg bw/d (general population)
		83 mg/kg bw/d (worker)
Inhalative	long-term exposure-systemic effects	2.5 mg/m³ (general population)
		5 mg/m³ (worker)

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· **PNECs**

107-98-2 1-methoxy-2-propanol	
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
7440-50-8 copper	
freshwater	0.0078 mg/l
marine water	0.0052 mg/l
sewage treatment plant (STP)	0.23 mg/l
freshwater sediment	87 mg/kg
marine sediment	676 mg/kg
soil	65.5 mg/kg
7440-66-6 zinc powder -zinc dust (stabilized)	
freshwater	0.0206 mg/l
marine water	0.0061 mg/l
sewage treatment plant (STP)	0.0052 mg/l
freshwater sediment	87 mg/kg
marine sediment	56.5 mg/kg
soil	35.6 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.
Avoid contact with the eyes and skin.
Do not inhale gases / fumes / aerosols.
Wash hands before breaks and at the end of work.
· **Respiratory protection:** Use suitable respiratory protective device when high concentrations are present.
· **Hand protection**
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: ≥ 0.5 mm
Value for the permeation: Level ≤ 8h
· **Eye/face protection**

Tightly sealed goggles

*
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:**	Ether-like
· **Odour threshold:**	Not determined.
· **Melting point/freezing point:**	Undetermined.
· **Boiling point or initial boiling point and boiling range**	120 °C
· **Flammability**	Flammable.
· **Lower and upper explosion limit**	
· **Lower:**	1.7 Vol %

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· **Upper:**	11.5 Vol %
· **Flash point:**	31 °C
· **Ignition temperature:**	>250 °C
· **Decomposition temperature:**	Not determined.
· **pH**	Not determined.
· **Viscosity:**	
· **Kinematic viscosity**	Not determined.
· **Dynamic:**	Not determined.
· **Solubility**	
· **water:**	Partly miscible.
· **Partition coefficient n-octanol/water (log value)**	Not determined.
· **Vapour pressure at 20 °C:**	12 hPa
· **Density and/or relative density**	
· **Density at 20 °C:**	~1.2 g/cm³
· **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.
· **Solvent content:**	
· **Organic solvents:**	<70 %
· **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**	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.

*
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:**

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/m³ (rat) (ECHA)

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7440-50-8 copper		
Oral	LD50	500 mg/kg (ATE)
7440-66-6 zinc powder -zinc dust (stabilized)		
Oral	LD50	>2,000 mg/kg (rat)
Inhalative	LC50/4h	5.41 mg/l (rat)

· **Skin corrosion/irritation** Based on available data, the classification criteria are not met.
· **Serious eye damage/irritation** Based on available data, the classification criteria are not met.
· **Respiratory or skin sensitisation** Based on available data, the classification criteria are not met.
· **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**
May cause drowsiness or dizziness.
· **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:**	
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)
1589-47-5 2-methoxypropanol	
EC50/48h	>500 mg/l (daphnia magna)
EC50/72h	>1,000 mg/l (selenastrum capricornutum)
EC50/96h	>1,000 mg/l (pimephales promelas)

· **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**
· **Remark:**
Very toxic for fish
Toxic for fish
· **Additional ecological information:**
· **General notes:**
Do not allow product to reach ground water, water course or sewage system.
Danger to drinking water if even small quantities leak into the ground.
Also poisonous for fish and plankton in water bodies.
Very toxic for aquatic organisms
Toxic for aquatic organisms

*
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

· **14.1 UN number or ID number**	
· **ADR, IMDG, IATA**	UN1263
· **14.2 UN proper shipping name**	
· **ADR**	1263 PAINT, ENVIRONMENTALLY HAZARDOUS
· **IMDG**	PAINT (copper, zinc powder -zinc dust (stabilized)), MARINE POLLUTANT
· **IATA**	PAINT

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· **14.3 Transport hazard class(es)**

· **ADR, IMDG**

· **Class**	3 Flammable liquids.
· **Label**	3

· **IATA**

· **Class**	3 Flammable liquids.
· **Label**	3
· **14.4 Packing group**	
· **ADR, IMDG, IATA**	III
· **14.5 Environmental hazards:**	
· **Marine pollutant:**	Symbol (fish and tree)
· **Special marking (ADR):**	Symbol (fish and tree)
· **14.6 Special precautions for user**	Warning: Flammable liquids.
· **Hazard identification number (Kemler code):**	30
· **EMS Number:**	F-E,S-E
· **Stowage Category**	A
· **14.7 Maritime transport in bulk according to IMO instruments**	Not applicable.
· **Transport/Additional information:**	
· **ADR**	
· **Limited quantities (LQ)**	5L
· **Excepted quantities (EQ)**	Code: E1 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml
· **Transport category**	3
· **Tunnel restriction code**	D/E
· **IMDG**	
· **Limited quantities (LQ)**	5L
· **Excepted quantities (EQ)**	Code: E1 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml
· **UN "Model Regulation":**	UN 1263 PAINT, 3, III, ENVIRONMENTALLY HAZARDOUS

*
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**
E1 Hazardous to the Aquatic Environment
P5c FLAMMABLE LIQUIDS
· **Qualifying quantity (tonnes) for the application of lower-tier requirements** 100 t
· **Qualifying quantity (tonnes) for the application of upper-tier requirements** 200 t
· **15.2 Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

*
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**
H226 Flammable liquid and vapour.
H302 Harmful if swallowed.
H315 Causes skin irritation.
H318 Causes serious eye damage.
H335 May cause respiratory irritation.
H336 May cause drowsiness or dizziness.
H360D May damage the unborn child.

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H400 Very toxic to aquatic life.
H410 Very toxic to aquatic life with long lasting effects.
H411 Toxic 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. 3: Flammable liquids – Category 3
Acute Tox. 4: Acute toxicity – Category 4
Skin Irrit. 2: Skin corrosion/irritation – Category 2
Eye Dam. 1: Serious eye damage/eye irritation – Category 1
Repr. 1B: Reproductive toxicity – Category 1B
STOT SE 3: Specific target organ toxicity (single exposure) – Category 3
Aquatic Acute 1: Hazardous to the aquatic environment - acute aquatic hazard – Category 1
Aquatic Chronic 1: Hazardous to the aquatic environment - long-term aquatic hazard – Category 1
Aquatic Chronic 2: Hazardous to the aquatic environment - long-term aquatic hazard – Category 2
· *** Data compared to the previous version altered.**

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

· **1.1 Product identifier**

· **Trade name:**
KREUL Gloss Paint Marker medium Silver
KREUL Gloss Paint Marker fine Silver
KREUL Gloss Paint Marker extrafine Silver
KREUL Gloss Paint Marker calligraphy Silver
(Safety data sheet for the included ink.)

· **Article number:** 47221, 47021, 47421, 47521
· **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**
Lacquer
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

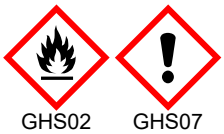
· **2.1 Classification of the substance or mixture**
· **Classification according to Regulation (EC) No 1272/2008**


flame

Flam. Liq. 3 H226 Flammable liquid and vapour.

STOT SE 3 H336 May cause drowsiness or dizziness.

· **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.
· **Hazard pictograms**


GHS02 GHS07

· **Signal word** Warning

· **Hazard-determining components of labelling:**
1-methoxy-2-propanol
· **Hazard statements**
H226 Flammable liquid and vapour.

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

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H336 May cause drowsiness or dizziness.
· **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.
P271 Use only outdoors or in a well-ventilated area.
P370+P378 In case of fire: Use CO_2, powder or water spray to extinguish.
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: 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	70-<90%
CAS: 7429-90-5 EINECS: 231-072-3 Index number: 013-002-00-1 Reg.nr.: 01-2119529243-45-XXXX	aluminium powder (stabilised) Flam. Sol. 1, H228	5-<10%
CAS: 1589-47-5 EINECS: 216-455-5 Index number: 603-106-00-0	2-methoxypropanol Flam. Liq. 3, H226; Repr. 1B, H360D; Eye Dam. 1, H318; Skin Irrit. 2, H315; STOT SE 3, H335	<0.25%

· **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**
· **After inhalation:** Supply fresh air; consult doctor in case of complaints.
· **After skin contact:**
Wash with water and acidic soap.
Generally the product does not irritate the skin.
· **After eye contact:**
Remove contact lenses.
Rinse opened eye for several minutes under running water.
· **After swallowing:**
If symptoms persist consult doctor.
Rinse out mouth and then drink plenty of water.
· **4.2 Most important symptoms 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_2, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
· **For safety reasons unsuitable extinguishing agents:** Water with full jet
· **5.2 Special hazards arising from the substance or mixture** No further relevant information available.
· **5.3 Advice for firefighters**
· **Protective equipment:** No special measures required.
· **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.
· **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.

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See Section 13 for disposal information.

7 Handling and storage

· **7.1 Precautions for safe handling**
No special precautions are necessary if used correctly.
Use only in well ventilated areas.
Keep away from heat and direct sunlight.
· **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:** No special requirements.
· **Information about storage in one common storage facility:** Store away from oxidising agents.
· **Further information about storage conditions:** Keep container tightly sealed.
· **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:**	
107-98-2 1-methoxy-2-propanol	
WEL	Short-term value: 560 mg/m³, 150 ppm Long-term value: 375 mg/m³, 100 ppm Sk

· **DNELs**		
107-98-2 1-methoxy-2-propanol		
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/m³ (general population)
		369 mg/m³ (worker)

· **PNECs**	
107-98-2 1-methoxy-2-propanol	
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:**
Wash hands before breaks and at the end of work.
Do not eat, drink, smoke or sniff while working.
Avoid contact with the eyes and skin.
Do not inhale gases / fumes / aerosols.
· **Respiratory protection:** Use suitable respiratory protective device when high concentrations are present.
· **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.

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· **For the permanent contact gloves made of the following materials are suitable:**
Butyl rubber, BR
Recommended thickness of the material: ≥ 0.5 mm
Value for the permeation: Level ≤ 8h
· **Eye/face protection**

Tightly sealed goggles

*

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:**	Ether-like
· **Odour threshold:**	Not determined.
· **Melting point/freezing point:**	Undetermined.
· **Boiling point or initial boiling point and boiling range**	120 °C
· **Flammability**	Flammable.
· **Lower and upper explosion limit**	
· **Lower:**	1.7 Vol %
· **Upper:**	11.5 Vol %
· **Flash point:**	31 °C
· **Ignition temperature:**	>250 °C
· **Decomposition temperature:**	Not determined.
· **pH**	Not determined.
· **Viscosity:**	
· **Kinematic viscosity**	Not determined.
· **Dynamic:**	Not determined.
· **Solubility**	
· **water:**	Partly miscible.
· **Partition coefficient n-octanol/water (log value)**	Not determined.
· **Vapour pressure at 20 °C:**	12 hPa
· **Density and/or relative density**	
· **Density at 20 °C:**	~1 g/cm³
· **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.
· **Solvent content:**	
· **Organic solvents:**	<82 %
· **VOC (EC)**	<82.00 %
· **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**	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

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· **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:** Keep away from oxidizing agents, strong alkaline and acidic materials.
· **10.6 Hazardous decomposition products:** No dangerous decomposition products known.

*
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:**		
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/m³ (rat) (ECHA)
7429-90-5 aluminium powder (stabilised)		
Oral	LD50	>2,000 mg/kg (rat)
Inhalative	LC50/4h	888 mg/m³ (rat)

· **Skin corrosion/irritation** Based on available data, the classification criteria are not met.
· **Serious eye damage/irritation** Based on available data, the classification criteria are not met.
· **Respiratory or skin sensitisation** Based on available data, the classification criteria are not met.
· **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**
May cause drowsiness or dizziness.
· **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:**	
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)
1589-47-5 2-methoxypropanol	
EC50/48h	>500 mg/l (daphnia magna)
EC50/72h	>1,000 mg/l (selenastrum capricornutum)
EC50/96h	>1,000 mg/l (pimephales promelas)

· **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 undiluted product or large quantities of it to reach ground water, water course or sewage system.

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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

· **14.1 UN number or ID number**	
· **ADR, IMDG, IATA**	UN1263
· **14.2 UN proper shipping name**	
· **ADR**	1263 PAINT
· **IMDG, IATA**	PAINT
· **14.3 Transport hazard class(es)**	
· **ADR, IMDG, IATA**	
· **Class**	3 Flammable liquids.
· **Label**	3
· **14.4 Packing group**	
· **ADR, IMDG, IATA**	III
· **14.5 Environmental hazards:**	Not applicable.
· **14.6 Special precautions for user**	Warning: Flammable liquids.
· **Hazard identification number (Kemler code):**	30
· **EMS Number:**	F-E,S-E
· **Stowage Category**	A
· **14.7 Maritime transport in bulk according to IMO instruments**	Not applicable.
· **Transport/Additional information:**	
· **ADR**	
· **Limited quantities (LQ)**	5L
· **Excepted quantities (EQ)**	Code: E1 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml
· **Transport category**	3
· **Tunnel restriction code**	D/E
· **IMDG**	
· **Limited quantities (LQ)**	5L
· **Excepted quantities (EQ)**	Code: E1 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml
· **UN "Model Regulation":**	UN 1263 PAINT, 3, III

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

*
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**
H226 Flammable liquid and vapour.
H228 Flammable solid.
H315 Causes skin irritation.

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H318 Causes serious eye damage.
H335 May cause respiratory irritation.
H336 May cause drowsiness or dizziness.
H360D May damage the unborn child.

· **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)
VOC: Volatile Organic Compounds (USA, EU)
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. 3: Flammable liquids – Category 3
Flam. Sol. 1: Flammable solids – Category 1
Skin Irrit. 2: Skin corrosion/irritation – Category 2
Eye Dam. 1: Serious eye damage/eye irritation – Category 1
Repr. 1B: Reproductive toxicity – Category 1B
STOT SE 3: Specific target organ toxicity (single exposure) – Category 3
· *** Data compared to the previous version altered.**

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

· **1.1 Product identifier**

· **Trade name:**
KREUL Gloss Paint Marker medium Copper
KREUL Gloss Paint Marker fine Copper
KREUL Gloss Paint Marker extrafine Copper
KREUL Gloss Paint Marker calligraphy Copper
(Safety data sheet for the included ink.)

· **Article number:** 47022, 47222, 47422, 47522
· **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**
Lacquer
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. 3 H226 Flammable liquid and vapour.


environment

Aquatic Chronic 2 H411 Toxic to aquatic life with long lasting effects.

Eye Irrit. 2 H319 Causes serious eye irritation.
STOT SE 3 H336 May cause drowsiness or dizziness.

· **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.

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· **Hazard pictograms**

GHS02 GHS07 GHS09

· **Signal word** Warning

· **Hazard-determining components of labelling:**
1-methoxy-2-propanol
· **Hazard statements**
H226 Flammable liquid and vapour.
H319 Causes serious eye irritation.
H336 May cause drowsiness or dizziness.
H411 Toxic to aquatic life with long lasting effects.
· **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.
P271	Use only outdoors or in a well-ventilated area.
P280	Wear protective gloves/protective clothing/eye protection/face protection/hearing protection.
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 CO_2, powder or water spray to extinguish.
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: 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	50-<100%
CAS: 7440-50-8 EINECS: 231-159-6 Reg.nr.: 01-2119480154-42-XXX	copper Aquatic Acute 1, H400; Aquatic Chronic 1, H410; Acute Tox. 4, H302; Eye Irrit. 2, H319	10-<25%

· **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**
· **After inhalation:** Supply fresh air; consult doctor in case of complaints.
· **After skin contact:**
Wash with water and acidic soap.
If skin irritation continues, consult a doctor.
· **After eye contact:**
Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.
Rinse opened eye for several minutes under running water.
Remove contact lenses.
· **After swallowing:**
If symptoms persist consult doctor.
Rinse out mouth and then drink plenty of water.
· **4.2 Most important symptoms 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_2, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
· **For safety reasons unsuitable extinguishing agents:** Water with full jet
· **5.2 Special hazards arising from the substance or mixture** No further relevant information available.
· **5.3 Advice for firefighters**
· **Protective equipment:** No special measures required.

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· **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:**
Inform respective authorities in case of seepage into water course or sewage system.
Do not allow to enter sewers/ surface or ground water.
· **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.
Dispose of the material collected according to regulations.
· **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**
No special precautions are necessary if used correctly.
Keep away from heat and direct sunlight.
Use only in well ventilated areas.
· **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:** No special requirements.
· **Information about storage in one common storage facility:** Store away from oxidising agents.
· **Further information about storage conditions:** Keep container tightly sealed.
· **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:**	
107-98-2 1-methoxy-2-propanol	
WEL	Short-term value: 560 mg/m³, 150 ppm Long-term value: 375 mg/m³, 100 ppm Sk
7440-50-8 copper	
WEL	Short-term value: 2** mg/m³ Long-term value: 0.2* 1** mg/m³ *fume **dusts and mists (as Cu)

· **DNELs**		
107-98-2 1-methoxy-2-propanol		
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/m³ (general population)
		369 mg/m³ (worker)
7440-50-8 copper		
Oral	long-term exposure-systemic effects	0.16 mg/kg (general population)
Dermal	long-term exposure-systemic effects	137 mg/kg bw/d (general population)
		137 mg/kg bw/d (worker)
Inhalative	long-term exposure-systemic effects	18.2 mg/m³ (general population)
		18.2 mg/m³ (worker)

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

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marine sediment	5.2 mg/kg
soil	4.59 mg/kg
7440-50-8 copper	
freshwater	0.0078 mg/l
marine water	0.0052 mg/l
sewage treatment plant (STP)	0.23 mg/l
freshwater sediment	87 mg/kg
marine sediment	676 mg/kg
soil	65.5 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:** Use suitable respiratory protective device when high concentrations are present.
· **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: ≥ 0.5 mm
Value for the permeation: Level ≤ 8 h
· **Eye/face protection**

Tightly sealed goggles

*
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:**	Ether-like
· **Odour threshold:**	Not determined.
· **Melting point/freezing point:**	Undetermined.
· **Boiling point or initial boiling point and boiling range**	120 °C
· **Flammability**	Flammable.
· **Lower and upper explosion limit**	
· **Lower:**	1.5 Vol %
· **Upper:**	13.7 Vol %
· **Flash point:**	31 °C
· **Ignition temperature:**	287 °C
· **Decomposition temperature:**	Not determined.
· **pH**	Not determined.
· **Viscosity:**	
· **Kinematic viscosity**	Not determined.
· **Dynamic:**	Not determined.
· **Solubility**	
· **water:**	Fully miscible.
· **Partition coefficient n-octanol/water (log value)**	Not determined.

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· **Vapour pressure at 20 °C:**	13.3 hPa
· **Density and/or relative density**	
· **Density at 20 °C:**	~1.1 g/cm³
· **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.
· **Solvent content:**	
· **Organic solvents:**	63.4 %
· **Solids content:**	36.5 %
· **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**	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.

*
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:**		
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/m³ (rat) (ECHA)
7440-50-8 copper		
Oral	LD50	500 mg/kg (ATE)

· **Skin corrosion/irritation** Based on available data, the classification criteria are not met.
· **Serious eye damage/irritation**
Causes serious eye irritation.
· **Respiratory or skin sensitisation** Based on available data, the classification criteria are not met.
· **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**
May cause drowsiness or dizziness.
· **STOT-repeated exposure** Based on available data, the classification criteria are not met.

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· **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:**	
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**
· **Remark:** Toxic for fish
· **Additional ecological information:**
· **General notes:**
Do not allow product to reach ground water, water course or sewage system, even in small quantities.
Danger to drinking water if even extremely small quantities leak into the ground.
Also poisonous for fish and plankton in water bodies.
Toxic for aquatic organisms

*
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

· **14.1 UN number or ID number**	
· **ADR, IMDG, IATA**	UN1263
· **14.2 UN proper shipping name**	
· **ADR**	1263 PAINT, ENVIRONMENTALLY HAZARDOUS
· **IMDG**	PAINT (copper), MARINE POLLUTANT
· **IATA**	PAINT
· **14.3 Transport hazard class(es)**	
· **ADR, IMDG**	
· **Class**	3 Flammable liquids.
· **Label**	3
· **IATA**	
· **Class**	3 Flammable liquids.
· **Label**	3
· **14.4 Packing group**	
· **ADR, IMDG, IATA**	III
· **14.5 Environmental hazards:**	
· **Marine pollutant:**	Symbol (fish and tree)

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· **Special marking (ADR):**	Symbol (fish and tree)
· **14.6 Special precautions for user**	Warning: Flammable liquids.
· **Hazard identification number (Kemler code):**	30
· **EMS Number:**	F-E,S-E
· **Stowage Category**	A
· **14.7 Maritime transport in bulk according to IMO instruments**	Not applicable.
· **Transport/Additional information:**	
· **ADR**	
· **Limited quantities (LQ)**	5L
· **Excepted quantities (EQ)**	Code: E1 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml
· **Transport category**	3
· **Tunnel restriction code**	D/E
· **IMDG**	
· **Limited quantities (LQ)**	5L
· **Excepted quantities (EQ)**	Code: E1 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml
· **UN "Model Regulation":**	UN 1263 PAINT, 3, III, ENVIRONMENTALLY HAZARDOUS

*
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**
E2 Hazardous to the Aquatic Environment
P5c FLAMMABLE LIQUIDS
· **Qualifying quantity (tonnes) for the application of lower-tier requirements** 200 t
· **Qualifying quantity (tonnes) for the application of upper-tier requirements** 500 t
· **15.2 Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

*
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**
H226 Flammable liquid and vapour.
H302 Harmful if swallowed.
H319 Causes serious eye irritation.
H336 May cause drowsiness or dizziness.
H400 Very toxic to aquatic life.
H410 Very toxic 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. 3: Flammable liquids – Category 3
Acute Tox. 4: Acute toxicity – Category 4
Eye Irrit. 2: Serious eye damage/eye irritation – Category 2
STOT SE 3: Specific target organ toxicity (single exposure) – Category 3
Aquatic Acute 1: Hazardous to the aquatic environment - acute aquatic hazard – Category 1
Aquatic Chronic 1: Hazardous to the aquatic environment - long-term aquatic hazard – Category 1
Aquatic Chronic 2: Hazardous to the aquatic environment - long-term aquatic hazard – Category 2
· *** Data compared to the previous version altered.**

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

· **1.1 Product identifier**

· **Trade name:**
KREUL Gloss Paint Marker medium Neon
(Safety data sheet for the included ink.)

· **Article number:** 47035, 47036, 47037
· **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

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2 Hazards identification

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

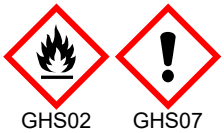

flame

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

Eye Irrit. 2 H319 Causes serious eye irritation.

Aquatic Chronic 3 H412 Harmful to aquatic life with long lasting effects.

· **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.
· **Hazard pictograms**


GHS02 GHS07

· **Signal word** Danger
· **Hazard statements**
H225 Highly flammable liquid and vapour.
H319 Causes serious eye irritation.
H412 Harmful to aquatic life with long lasting effects.
· **Precautionary statements**
P101 If medical advice is needed, have product container or label at hand.

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P102 Keep out of reach of children.
P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P280 Wear eye protection / face protection.
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P403+P235 Store in a well-ventilated place. Keep cool.
P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

· **Additional information:**
EUH208 Contains 3,6-bis(ethylamino)-9-[2-(methoxycarbonyl)phenyl]-2,7-dimethylxanthylium chloride. May produce an allergic reaction.
· **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	50-<75%
CAS: 67-63-0 EINECS: 200-661-7 Index number: 603-117-00-0	propan-2-ol Flam. Liq. 2, H225; Eye Irrit. 2, H319; STOT SE 3, H336	10-<20%
CAS: 3068-39-1 EINECS: 221-326-1 Reg.nr.: 01-2120107344-68-XXXX	3,6-bis(ethylamino)-9-[2-(methoxycarbonyl)phenyl]-2,7-dimethylxanthylium chloride Acute Tox. 2, H330; Eye Dam. 1, H318; Aquatic Acute 1, H400; Aquatic Chronic 1, H410; Acute Tox. 4, H302; Skin Sens. 1, H317	0-<0.5%

· **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; consult doctor in case of complaints.
· **After skin contact:**
Wash with water and acidic soap.
If skin irritation continues, consult a doctor.
· **After eye contact:**
Rinse opened eye for several minutes under running water.
Remove contact lenses.
· **After swallowing:**
If symptoms persist consult doctor.
Rinse out mouth and then drink plenty of water.
· **4.2 Most important symptoms 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:** CO2, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
· **For safety reasons unsuitable extinguishing agents:** Water with full jet
· **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.
No special measures required.
· **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:**
Dilute with plenty of water.
Do not allow to enter sewers/ surface or ground water.

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· **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.
Dispose of the material collected according to regulations.
· **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.

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7 Handling and storage

· **7.1 Precautions for safe handling**
No special precautions are necessary if used correctly.
Ensure good ventilation/exhaustion at the workplace.
· **Information about fire - and explosion protection:**
Keep ignition sources away - Do not smoke.
Protect against electrostatic charges.
Protect from heat.

· **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.
· **Storage class:** 3
· **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/m³, 1000 ppm
67-63-0 propan-2-ol	
WEL	Short-term value: 1250 mg/m³, 500 ppm Long-term value: 999 mg/m³, 400 ppm

· **DNELs**		
64-17-5 ethanol		
Oral	long-term exposure-systemic effects	87 mg/kg (general population)
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/m³ (general population)
		950 mg/m³ (worker)
67-63-0 propan-2-ol		
Oral	long-term exposure-systemic effects	26 mg/kg (general population)
Dermal	long-term exposure-systemic effects	319 mg/kg bw/d (general population)
		888 mg/kg bw/d (worker)
Inhalative	long-term exposure-systemic effects	89 mg/m³ (general population)
		500 mg/m³ (worker)

· **PNECs**	
64-17-5 ethanol	
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
67-63-0 propan-2-ol	
freshwater	140.9 mg/l
marine water	140.9 mg/l
sewage treatment plant (STP)	2,251 mg/l
freshwater sediment	552 mg/kg
marine sediment	552 mg/kg

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soil	28 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:**
Immediately remove all soiled and contaminated clothing
Do not eat, drink, smoke or sniff while working.
Avoid contact with the eyes and skin.
Do not inhale gases / fumes / aerosols.
Wash hands before breaks and at the end of work.
· **Respiratory protection:** Use suitable respiratory protective device when high concentrations are present.
· **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: ≥ 0.5 mm
Value for the permeation: Level ≤ 8h
· **As protection from splashes gloves made of the following materials are suitable:**
Nitrile rubber, NBR
Recommended thickness of the material: ≥ 0.38 mm mm
Value for the permeation: Level ≤ 2-4h
· **Eye/face protection**

Tightly sealed goggles

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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:**	Like alcohol
· **Odour threshold:**	Not determined.
· **Melting point/freezing point:**	-114.5 °C
· **Boiling point or initial boiling point and boiling range**	78.3 °C
· **Flammability**	Highly flammable.
· **Lower and upper explosion limit**	
· **Lower:**	3.5 Vol %
· **Upper:**	12 Vol %
· **Flash point:**	13 °C
· **Ignition temperature:**	425 °C
· **Decomposition temperature:**	Not determined.
· **pH**	Not determined.
· **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:**	Not determined.
· **Relative density**	Not determined.
· **Vapour density**	Not determined.

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· **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.
· **Solvent content:**	
· **VOC (EC)**	<89.00 %
· **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.

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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/m³ (rat) (OECD 403)
67-63-0 propan-2-ol		
Oral	LD50	5,045 mg/kg (rat)
Dermal	LD50	12,800 mg/kg (rabbit)
Inhalative	LC50/4h	30 mg/m³ (rat)
3068-39-1 3,6-bis(ethylamino)-9-[2-(methoxycarbonyl)phenyl]-2,7-dimethylxanthylium chloride		
Oral	LD50	500 mg/kg (ATE)
Inhalative	LC50/4h	0.5 mg/m³ (ATE)

· **Skin corrosion/irritation** Based on available data, the classification criteria are not met.
· **Serious eye damage/irritation**
Causes serious eye irritation.
· **Respiratory or skin sensitisation** Based on available data, the classification criteria are not met.
· **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.

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· **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.

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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)
67-63-0 propan-2-ol	
EC50/48h	10,100 mg/l (daphnia magna)

· **12.2 Persistence and degradability**	
67-63-0 propan-2-ol	
Biodegradability	>70 % /10d

· **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 undiluted product or large quantities of it to reach ground water, water course or sewage system.

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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.
· **Recommended cleansing agents:** Water, if necessary together with cleansing agents.

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14 Transport information

· **14.1 UN number or ID number**
· **ADR, IMDG, IATA** UN1993

· **14.2 UN proper shipping name**
· **ADR** 1993 FLAMMABLE LIQUID, N.O.S. (ETHANOL (ETHYL ALCOHOL))
· **IMDG, IATA** FLAMMABLE LIQUID, N.O.S.

· **14.3 Transport hazard class(es)**

· **ADR, IMDG, IATA**

· **Class** 3 Flammable liquids.

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· **Label**	3
· **14.4 Packing group** · **ADR, IMDG, IATA**	I
· **14.5 Environmental hazards:**	Not applicable.
· **14.6 Special precautions for user** · **Hazard identification number (Kemler code):** · **EMS Number:** · **Stowage Category**	Warning: Flammable liquids. 33 F-E,S-E E
· **14.7 Maritime transport in bulk according to IMO instruments**	Not applicable.
· **Transport/Additional information:**	
· **ADR** · **Limited quantities (LQ)** · **Excepted quantities (EQ)** · **Transport category** · **Tunnel restriction code**	 0 Code: E3 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 300 ml 1 D/E
· **IMDG** · **Limited quantities (LQ)** · **Excepted quantities (EQ)**	 0 Code: E3 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 300 ml
· **UN "Model Regulation":**	UN 1993 FLAMMABLE LIQUID, N.O.S. (ETHANOL (ETHYL ALCOHOL)), 3, III

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

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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.
H302 Harmful if swallowed.
H317 May cause an allergic skin reaction.
H318 Causes serious eye damage.
H319 Causes serious eye irritation.
H330 Fatal if inhaled.
H336 May cause drowsiness or dizziness.
H400 Very toxic to aquatic life.
H410 Very toxic 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)
VOC: Volatile Organic Compounds (USA, EU)
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
Acute Tox. 4: Acute toxicity – Category 4
Acute Tox. 2: Acute toxicity – 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

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STOT SE 3: Specific target organ toxicity (single exposure) – Category 3
Aquatic Acute 1: Hazardous to the aquatic environment - acute aquatic hazard – Category 1
Aquatic Chronic 1: Hazardous to the aquatic environment - long-term aquatic hazard – Category 1
Aquatic Chronic 3: Hazardous to the aquatic environment - long-term aquatic hazard – Category 3
· *** Data compared to the previous version altered.**