

## Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 25.01.2019

Version number 1.0

Revision: 25.01.2019

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

- **1.1 Product identifier**
- **Trade name:**  
**KREUL Transfer Marker edge, XXL**  
**(Safety data sheet for the included ink.)**
- **Article number:** 49931, 49932, 49933, 499300
- **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**  
Transfer Marker.  
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  
DEUTSCHLAND  
Tel. + 49 (0)9545 / 925 - 0  
Fax + 49 (0)9545 / 925 - 511  
E-Mail: 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**



GHS02 flame

Flam. Liq. 3 H226 Flammable liquid and vapour.



GHS07

STOT SE 3 H336 May cause drowsiness or dizziness.

- **2.2 Label elements**

EU Regulation 1907/2006 (REACH) differentiates between substances, mixtures and articles. According to the definition of articles in REACH, the European Writing Instrument Manufacturer's Association (EWIMA) views writing instruments, markers, etc. as articles. Whilst safety data sheets are not required for articles, they are compulsory for substances and mixtures. For this reason, details in the safety data sheets we provide always refer to the ink alone and not the actual writing instrument.

- **Labelling according to Regulation (EC) No 1272/2008**  
The product is classified and labelled according to the CLP regulation.
- **Hazard pictograms**



GHS02



GHS07

- **Signal word** Warning

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- **Hazard-determining components of labelling:**

- 2-methoxy-1-methylethyl acetate

- **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 for extinction: CO<sub>2</sub>, powder or water spray.

- 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 Chemical characterisation: Mixtures**

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

- **Dangerous components:**

CAS: 108-65-6 EINECS: 203-603-9 Index number: 607-195-00-7 Reg.nr.: 01-2119475791-29-xxxx	2-methoxy-1-methylethyl acetate ⚠ Flam. Liq. 3, H226; ⚠ STOT SE 3, H336	25-<50%
CAS: 687-47-8 EINECS: 211-694-1 Index number: 607-129-00-7 Reg.nr.: 01-2119516234-49-XXXX	ethyl (S)-2-hydroxypropionate ⚠ Flam. Liq. 3, H226; ⚠ Eye Dam. 1, H318; ⚠ STOT SE 3, H335	15-<25%
	Ester of inorganic acid ⚠ Eye Irrit. 2, H319	15-<25%
	Ester of aliphatic acid ⚠ Flam. Liq. 3, H226	5-<15%
CAS: 112-07-2 EINECS: 203-933-3 Index number: 607-038-00-2 Reg.nr.: 01-21194475112-47-XXXX	2-butoxyethyl acetate ⚠ Acute Tox. 4, H312; Acute Tox. 4, H332	5-<15%

- **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:**

- Remove contact lenses.

- Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.

- **After swallowing:**

- Rinse out mouth and then drink plenty of water.

- If symptoms persist consult doctor.

- **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.

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### 5 Firefighting measures

- **5.1 Extinguishing media**
- **Suitable extinguishing agents:**  
CO<sub>2</sub>, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- **For safety reasons unsuitable extinguishing agents:** Water with full jet
- **5.2 Special hazards arising from the substance or mixture**  
Under certain fire conditions, traces of other toxic gases cannot be excluded, e.g.:  
Carbon monoxide (CO)
- **5.3 Advice for firefighters**
- **Protective equipment:** Wear self-contained respiratory protective device.
- **Additional information**  
Cool endangered receptacles with water spray.  
Collect contaminated fire fighting water separately. It must not enter the sewage system.

### 6 Accidental release measures

- **6.1 Personal precautions, protective equipment and emergency procedures**  
Ensure adequate ventilation  
Keep away from ignition sources.  
Wear protective equipment. Keep unprotected persons away.
- **6.2 Environmental precautions:**  
Keep contaminated washing water and dispose of appropriately.  
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**  
Keep receptacles tightly sealed.  
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:** Store in a cool location.
- **Information about storage in one common storage facility:**  
Do not store together with oxidising and acidic materials.
- **Further information about storage conditions:**  
Store receptacle in a well ventilated area.  
Keep container tightly sealed.
- **Storage class:** 3
- **7.3 Specific end use(s)** See chapter 1.2.

### 8 Exposure controls/personal protection

- **Additional information about design of technical facilities:** No further data; see item 7.
- **8.1 Control parameters**

#### Ingredients with limit values that require monitoring at the workplace:

108-65-6 2-methoxy-1-methylethyl acetate	
WEL	Short-term value: 548 mg/m <sup>3</sup> , 100 ppm
	Long-term value: 274 mg/m <sup>3</sup> , 50 ppm
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<b>112-07-2 2-butoxyethyl acetate</b>		
WEL	Short-term value: 332 mg/m <sup>3</sup> , 50 ppm Long-term value: 133 mg/m <sup>3</sup> , 20 ppm Sk	
<b>· DNELs</b>		
<b>108-65-6 2-methoxy-1-methylethyl acetate</b>		
Oral	long-term exposure-systemic effects	1.67 mg/kg (general population)
Dermal	long-term exposure-systemic effects	54.8 mg/kg bw/d (general population) 153.5 mg/kg bw/d (worker)
Inhalative	long-term exposure-systemic effects	33 mg/m <sup>3</sup> (general population) 275 mg/m <sup>3</sup> (worker)
<b>· PNECs</b>		
<b>108-65-6 2-methoxy-1-methylethyl acetate</b>		
freshwater		0.635 mg/l
marine water		0.0635 mg/l
sewage treatment plant (STP)		100 mg/l
freshwater sediment		3.29 mg/kg
soil		0.29 mg/kg
<b>112-07-2 2-butoxyethyl acetate</b>		
freshwater		0.304 mg/l
freshwater sediment		2.03 mg/kg
marine sediment		0.203 mg/kg
marine water		0.03 mg/l
sewage treatment plant (STP)		90mg/l
soil		0.415 mg/kg
water		0.56 mg/l

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

· **8.2 Exposure controls**

· **Personal protective equipment:**

· **General protective and hygienic measures:**

The usual precautionary measures are to be adhered to when handling chemicals.

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

Wash hands before breaks and at the end of work.

· **Respiratory protection:** Not necessary if room is well-ventilated.

· **Protection of hands:**

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

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

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

· **Material of gloves**

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

· **Penetration time of glove material**

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

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

Butyl rubber, BR

Recommended thickness of the material:  $\geq 0.7$  mm

Value for the permeation: Level  $\leq 480$  min

· **As protection from splashes gloves made of the following materials are suitable:**

Butyl rubber, BR

Recommended thickness of the material:  $\geq 0.7$  mm

Value for the permeation: Level  $\leq 480$  min

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· **Eye protection:**

Tightly sealed goggles

· **Body protection:** Protective work clothing

### 9 Physical and chemical properties

· **9.1 Information on basic physical and chemical properties**· **General Information**· **Appearance:**

· <b>Form:</b>	Fluid
· <b>Colour:</b>	Colourless
· <b>Odour:</b>	Solvent-like

· **pH-value:** Not determined.· **Change in condition**

· <b>Melting point/freezing point:</b>	Undetermined.
· <b>Initial boiling point and boiling range:</b>	Undetermined.

· **Flash point:** 59 °C· **Flammability (solid, gas):** Not applicable.· **Ignition temperature:** 315 °C· **Decomposition temperature:** Not determined.· **Auto-ignition temperature:** Product is not selfigniting.· **Explosive properties:** Not determined.· **Explosion limits:**

· <b>Lower:</b>	1.5 Vol %
· <b>Upper:</b>	11.4 Vol %

· **Vapour pressure at 20 °C:** 3.4 hPa· **Density at 20 °C:** 1.038 g/cm<sup>3</sup>· **Relative density:** Not determined.· **Vapour density:** Not determined.· **Evaporation rate:** Not determined.· **Solubility in / Miscibility with water:**

Not miscible or difficult to mix.

· **Partition coefficient: n-octanol/water:** Not determined.· **Viscosity:**

· <b>Dynamic:</b>	Not determined.
· <b>Kinematic:</b>	Not determined.

· **Solvent content:**

· <b>Organic solvents:</b>	40.0 %
· <b>VOC (EC)</b>	40.00 %

· **9.2 Other information:** No further relevant information available.

### 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:**

In case of fire, the following can be released:

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Carbon monoxide and carbon dioxide

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### 11 Toxicological information

- **11.1 Information on toxicological effects**
- **Acute toxicity** Based on available data, the classification criteria are not met.

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

108-65-6 2-methoxy-1-methylethyl acetate		
Oral	LD50	8,532 mg/kg (rat)
Inhalative	LC50/4h	35.7 mg/m <sup>3</sup> (rat)

687-47-8 ethyl (S)-2-hydroxypropionate		
Oral	LD50	>5,000 mg/kg (rat)
Dermal	LD50	>5,000 mg/kg (rabbit)

Ester of aliphatic acid		
Oral	LD50	5,001 mg/kg (rat)

112-07-2 2-butoxyethyl acetate		
Oral	LD50	2,400 mg/kg (rat)
Dermal	LD50	1,580 mg/kg (rabbit)

- **Primary irritant effect:**
- **Skin corrosion/irritation** Based on available data, the classification criteria are not met.
- **Serious eye damage/irritation**  
Ethyl-(S)-2-hydroxypropionat (CAS 687-47-8): Experimental tests done on this blend by certified laboratories have evidenced that this product is not dangerous for eyes contact. Accordingly to OECD 491 – August 2016
- **Respiratory or skin sensitisation** Based on available data, the classification criteria are not met.
- **CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)**
- **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.

### 12 Ecological information

- **12.1 Toxicity**

- **Aquatic toxicity:**

108-65-6 2-methoxy-1-methylethyl acetate	
LC50/96h	134 mg/l (oncorhynchus mykiss)
EC50/48h	>500 mg/l (daphnia magna)

- **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.

- **Additional ecological information:**

- **General notes:**

Water hazard class 1 (German Regulation) (Self-assessment): slightly hazardous for water

Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.

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

- **PBT:** Not applicable.

- **vPvB:** Not applicable.

- **12.6 Other adverse effects** No further relevant information available.

### 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.

- **European waste catalogue**

07 01 04*	other organic solvents, washing liquids and mother liquors
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15 01 02	plastic packaging
HP 3	Flammable
HP 4	Irritant - skin irritation and eye damage
HP 5	Specific Target Organ Toxicity (STOT)/Aspiration Toxicity

- **Uncleaned packaging:**
- **Recommendation:** Disposal must be made according to official regulations.

### 14 Transport information

· <b>14.1 UN-Number</b> · <b>ADR, IMDG, IATA</b>	UN1993
· <b>14.2 UN proper shipping name</b> · <b>ADR</b> · <b>IMDG, IATA</b>	1993 FLAMMABLE LIQUID, N.O.S. (2-methoxy-1-methylethyl acetate, ETHYL LACTATE) FLAMMABLE LIQUID, N.O.S. (2-methoxy-1-methylethyl acetate, ETHYL LACTATE)
· <b>14.3 Transport hazard class(es)</b> · <b>ADR, IMDG, IATA</b>	
· <b>Class</b> · <b>Label</b>	3 Flammable liquids. 3
· <b>14.4 Packing group</b> · <b>ADR, IMDG, IATA</b>	III
· <b>14.5 Environmental hazards:</b>	Not applicable.
· <b>14.6 Special precautions for user</b> · <b>Danger code (Kemler):</b> · <b>EMS Number:</b> · <b>Stowage Category</b>	Warning: Flammable liquids. 30 F-E, <u>S</u> -E A
· <b>14.7 Transport in bulk according to Annex II of Marpol and the IBC Code</b>	Not applicable.
· <b>Transport/Additional information:</b>	
· <b>ADR</b> · <b>Limited quantities (LQ)</b> · <b>Excepted quantities (EQ)</b>  · <b>Transport category</b> · <b>Tunnel restriction code</b>	5L Code: E1 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml 3 D/E
· <b>IMDG</b> · <b>Limited quantities (LQ)</b> · <b>Excepted quantities (EQ)</b>	5L Code: E1 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml
· <b>UN "Model Regulation":</b>	UN 1993 FLAMMABLE LIQUID, N.O.S. (2-METHOXY-1-METHYLETHYL ACETATE, ETHYL LACTATE), 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

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- **Qualifying quantity (tonnes) for the application of upper-tier requirements** 50,000 t
- **REGULATION (EC) No 1907/2006 ANNEX XVII** Conditions of restriction: 3
- **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.
- H312 Harmful in contact with skin.
- H318 Causes serious eye damage.
- H319 Causes serious eye irritation.
- H332 Harmful if inhaled.
- H335 May cause respiratory irritation.
- H336 May cause drowsiness or dizziness.

#### · Department issuing SDS: Product Safety Department

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

#### · Abbreviations and acronyms:

- ADR: Accord européen sur le transport 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 (REACH)
- PNEC: Predicted No-Effect Concentration (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 Dam. 1: Serious eye damage/eye irritation – Category 1
- Eye Irrit. 2: Serious eye damage/eye irritation – Category 2
- STOT SE 3: Specific target organ toxicity (single exposure) – Category 3

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