SAFETY DATA SHEET

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

PRODUCT NAME: **Permanent Ink Black, Blue, Green and Red**

APPLICATIONS: For Stock No. 20943 Marker Pens, Multicoloured (Pack of 4)

SUPPLIER:
Draper Tools Ltd
Hursley Road
Chandlers Ford
Eastleigh
Hampshire
SO53 1YF
www.drapertools.com

Emergency telephone number:
Draper Helpline +44 (0) 2380 494344
Opening hours 8:30-17:00 Monday – Friday.

Permanent Ink Black

SECTION 2: Hazards identification

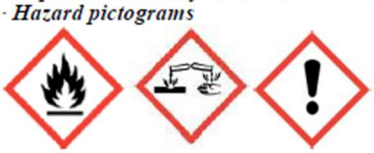
· *2.1 Classification of the substance or mixture*
· *Classification according to Regulation (EC) No 1272/2008*

GHS02 FLAME
Flam. Liq. 2 H225 Highly flammable liquid and vapour.

GHS05 CORROSIVE
Eye Dam.1 H318 Cause serious eye damage.

GHS07
STOT SE 3 H336 May cause drowsiness or dizziness.
· ***Information concerning particular hazards for human and environment:***
The product has to be labelled due to the calculation procedure of Regulation 1272/2008/EC.
· ***Classification system:***
The classification is according to the latest edition of EU Regulation 1272/2008/EC, and extended by company and literature data.

· *2.2 Label elements*
· ***Labelling according to Regulation (EC) No 1272/2008***
The product is classified and labelled according to CLP Regulation.
· ***Hazard pictograms***



GHS02 GHS05 GHS07

· *Signal word Danger*

· ***Hazard-determining components of labelling:***
Propanol-1-o1
1-Methoxy-2-Propanol
· *Basic Yellow 37*
· *Basic Violet 1*
· ***Hazard statements***
H225 Highly flammable liquid and vapour.
H318 Cause serious eye damage.
H336 May cause drowsiness or dizziness.

· **Precautionary statements**

P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P233	Keep container tightly close
P240	Ground / bond container and receiving equipment
P102	Keep out of reach of children.
P103	Read label before use.
P280	Wear protective gloves / protective clothing / eye protection / face protection
P403	Store in well-ventilated place. Keep cool.

P305+P351+P338+310 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a Poison Center or doctor / physician.

Hazard-determining components of labeling:
Ethanol, 1-methoxy-2-propanol, Basic Yellow 37 and Basic Violet 1

· **2.3 Other hazards**
· **Results of PBT and vPvB assessment**
· **PBT:** Not applicable
· **vPvB:** Not applicable

SECTION 3: Composition/information on ingredients

· **3.2 Mixtures**
· **Description:**
Mixture of the substances listed below with nonhazardous additions.
For the wording of the listed hazard statements refer to section 16.

Composition:

CAS: 71-23-8 EINECS: 200-661-7	Propan-1-o1 H225(2),H318(1),H336(3)	<60%
CAS: 107-98-2 EINECS: 203-539-1	1-methoxy-2-propanol H226(3),H336(3)	<20%
CAS: 603-47-4 EINECS: 210-042-3	Basic Violet 1 H302(4), H318(1)	<4%
CAS: 6358-36-7 EINECS: 228-770-5	Basic Yellow 37 H319(2),H411(2),H314(1),H301(3)	<2%
CAS: 2390-60-5 EINECS: 219-232-0	Basic Blue 7 H302(4),H315(2),H319(2)	<2%
CAS: 509-34-2 EINECS: 208-096-8	Solvent Red 49 H302(4),H315(2),H318(1),H335	<1%

SECTION 4: First aid measures

4.1 Description of first aid measures
General advise: Take off all contaminated clothing immediately.
· **After inhalation:** Supply fresh air; consult doctor. If unconscious place in recovery position.
· **After skin contact:**
Immediately wash with water and soap and rinse thoroughly.
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.
· **After swallowing:**
Rinse out mouth with water.
Never give anything by mouth to an unconscious person.
Seek medical treatment.

· **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.

SECTION 5: Firefighting measures

· **5.1 Extinguishing media**
· **Suitable extinguishing agents:**
COZ, 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:**
Wear fully protective suit.
Mouth respiratory protective device.

SECTION 6: Accidental release measure

· **6.1 Personal precautions, protective equipment and emergency procedures**
Wear protective equipment.
Keep unprotected persons away.
Ensure adequate ventilation.
Keep away from ignition sources.
Use respiratory protective device against the effects of fumes/dust/aerosol.
Avoid breathing vapors, mist or gas.
Avoid contact with eyes.
Avoid contact with skin.

· **6.2 Environmental precautions:** Do not allow to enter sewers/ surface or groundwater.

· **6.3 Methods and material for containment and cleaning up:**

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
Ensure adequate ventilation.
Dispose contaminated material as waste according to item 13.

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.

SECTION 7: Handling and storage

· **7.1 Precautions for safe handling**
Ensure good ventilation/exhaustion at the workplace.
Keep receptacles tightly sealed.
Keep away from heat and direct sunlight.
Prevent formation of aerosols.
Avoid contact with skin and eyes.
For the general occupational hygienic measures refer to section 8.
· **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:**
· **Requirements to be met by storerooms and receptacles:**
Store in a cool location.
Store only in the original receptacle.
· **Information about storage in one common storage facility:**
Store away from foodstuffs.
Keep away from ignition sources.
· **Further information about storage conditions:**
Keep container tightly sealed.
Store in cool, dry conditions in well sealed receptacles.
Protect from heat and direct sunlight.

· **7.3 Specific end use(s)** No further relevant information available.

SECTION 8: Exposure controls/personal protection

· *8.1 Control parameters*

Ingredients with limit values that require monitoring at the workplace:	
71-23-8 propan1-o1 (<60%)	
PEL	*Long-term value: 500 mg/m³, 200 ppm*
REL	*Short-term value: 625 mg/m³, 250 ppm* *Long-term value: 500 mg/m³, 200 ppm* *SKIN*
TLV	*Long-term value: 246 mg/m³, 100 ppm*
107-98-2 1-methoxy-2-propanol (<35%)	
REL	*Short-term value: 540 mg/m³, 150 ppm* *Long-term value: 360 mg/m³, 100 ppm*
TLV	*Short-term value: 369 mg/m³, 100 ppm* *Long-term value: 184 mg/m³, 50 ppm*

· ***DNELs:*** *Data not available*
· ***PNECs:*** *Data not available*

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

· *8.2 Exposure controls*
· ***Based on composition shown in Section 3, the following messures are suggested for occupational safety measure:***
· ***Appropriate engineering controls:***
Wash hands before breaks and at the end of work.
See Section 7 for information about design of technical facilities.

· ***Personal protective equipment:***
· ***Respiratory protection:*** *Suitable respiratory protective device recommended.*
· ***Protection of hands:***

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.
Eye protection:

Tightly sealed goggles 

· ***Environmental exposure controls:***
Control measures must be made in accordance with Community environmental protection legislation.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance:	
Form:	*Liquid*
Colour:	*Black*
Odour:	*Product specific*
Odour threshold:	*Data not available.*
pH-value:	*Data not available.*
Change in condition	
Melting point/freezing point:	*Undetermined*
Initial boiling point and boiling range:	*96 °C (205 °F)*
Freezing point:	*Data not available*
Flash point:	13 °C (55 °F)
Flammability (solid, gas):	*Not applicable*
Auto-Ignition temperature:	287 °C (549 °F)
Decomposition temperature:	*Date not available.*

Self-igniting:	Product is not self-igniting.
Explosive properties:	Product is not explosive. However, formation of explosive air/ vapour mixtures are possible.
Explosion limits:	
Lower:	3.5 Vol %
Upper:	15 Vol%
Oxidising properties	Data not available
Vapour pressure:	59 hPa at 20 ℃ (68 ℉)
Density:	Data not available.
Relative density	Data not available.
Vapour density	Data not available.
Evaporation rate	Data not available.
Solubility in / Miscibility with water:	Fully miscible, readily miscible in solvent
Partition coefficient: n-octanol/water:	Data not available.
Viscosity:	
Dynamic:	Data not available.
Kinematic:	Data not available.
9.2 Other information	No further relevant information available.

SECTION 10: Stability and reactivity

· **10.1 Reactivity** No decomposition if used according to specification.

· **10.2 Chemical stability** Stable under recommended storage conditions.

· **10.3 Possibility of hazardous reactions** Data not available

· **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.

SECTION 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:		
71-23-8 propan-1-o1		
Oral	LD50	8000 mg/kg (rat)
Dermal	LD50	5000 mg/kg (rabbit)
Inhalative	LC50/4 h	9.8 mg/l (rat)
107-98-2 1-methoxy-2-propanol		
Oral	LD50	5200 mg/kg (rat)
Dermal	LD50	14000 mg/kg (rabbit)
Inhalative	LC50/4 h	54.6 mg/l (rat)

· **Skin corrosion/irritation:** Irritant to skin and mucous membranes.

· **Serious eye damage/irritation:** Strong irritant with the danger of severe eye injury.

· **Respiratory or skin sensitization:** No sensitizing effects known.

Additional toxicological information:

The product shows the following dangers according to internally approved calculation methods for preparations:

Harmful

Irritant

· **Carcinogenic categories**

IARC (International Agency for Research on Cancer)
None of the ingredients is listed.

NTP (National Toxicology Program)
None of the ingredients is listed.

OSHA-Ca (Occupational Safety & Health Administration)
None of the ingredients is listed.

SECTION 12: Ecological information

12.1 Toxicity

Aquatic toxicity: No further relevant information available.

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 Other adverse effects No further relevant information available.

12.7 Additional ecological information:
General notes:
All numerical values for ecotoxicity effects are calculated on the pure substances. Do not flush into surface water or sanitary sewer system. Avoid subsoil penetration.

SECTION 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.
Recommendation cleansing agent: Water if necessary cleansing agents.

SECTION 14: Transport information

14.1 UN-Number	
ADR/RID/ADN, IMDG, IATA	not applicable
14.2 UN proper shipping name	
ADR/RID/ADN, IMDG, IATA	not applicable
14.3 Transport hazard class(es)	
ADR/RID/ADN, IMDG, IATA	not applicable
Class	not applicable
14.4 Packing group	
ADR/RID/ADN, IMDG, IATA	not applicable
14.5 Environmental hazards	not applicable.
14.6 Special precautions for user	not applicable
14.7 Transport in bulk according to Annex II of Marpol and the IBC Code	not applicable.
Transport / Additional information	Permanent Marker Pens (flammable liquid bound in the fiber reservoir) would be classified as UN 3175 "solid substances containing flammable liquid substances". With this UN number there is however the special regulation A 46 (IATA-DGR). This stipulates that small inner packaging containing dense packets and objects with less than 10 ml of an inflammable liquid "absorbed in a solid substance" are not subject to these regulations. For ADR, special regulation 216 applies analogously to UN 3175
UN "Model Regulation":	not applicable

SECTION 15: Regulatory information

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

MAK (German Maximum Workplace Concentration)
None of the ingredients is listed.

TLV(Threshold Limit Value establish by ACGIH
71-23-8, propanol-1-o1, A4

· *Directive 2012/18/EU*
· *Named dangerous substances - ANNEX I* None of the ingredients is listed.
· *Seveso category* P5c FLAMMABLE LIQUIDS
· *Qualifying quantity (tonnes) for the application of lower-tier requirements* 5,000 t
· *Qualifying quantity (tonnes) for the application of upper-tier requirements* 50,000 t
· *National regulations:*
· *Waterhazard class:* Water hazard class 2 (Self-assessment): hazardous for water.
· *Other regulations, limitations and prohibitive regulations*
· *SVHC Candidate List of REACH Regulation Annex XIV Authorisation (12/1/2017)*
None of the ingredients is listed.
· *REACH Regulation Annex XVII Restriction (3/2/2017) See Section 16*

for information about restriction of use.
None of the ingredients is listed.

· ***REACH Regulation Annex XIV Authorization List (14/8/2014)***
None of the ingredients is listed.

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

SECTION 16: Other information

Relevant hazard statements:
H225 : Highly flammable liquid and vapour.
H226 : Flammable liquid and vapour.
H302 : Harmful if swallowed.
H312 : Harmful in contact with skin.
H315 : Causes skin irritation.
H318 : Causes serious eye damage.
H319 : Causes serious eye irritation.
H332 : Harmful in inhaled.
H335 : May cause respiratory irritation.
H336 : May cause drowsiness or dizziness.
H411 : Toxic to aquatic life with long lasting effects.
H412 : Harmful to aquatic life with long lasting effects.
****

The contents and format of this SDS are in accordance with Regulation (EC) No 1907/2006, 1272/2008 and Regulation (EU) No 2015/830.

DISCLAIMER OF LIABILITY

· *Other information: The information provided in this safety data sheet is correct to our knowledge at the date of its revision. The information given only describes the products with regard to safety arrangements and its not to be consider as warranty or quality specification and does not to be constitute a legal relationship. The information contained in this safety date sheet relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text.*

· ***Abbreviations and acronyms:***
RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)
IATA-DGR: Dangerous Goods Regulations by the "International Air Transport Association" (IATA)
ICAO: International Civil Aviation Organisation
ICAO-TI: Technical Instructions by the "International Civil Aviation Organisation" (ICAO)
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
DOT: US Department of Transportation
IATA: International Air Transport Association
ACGIH: American Conference of Governmental Industrial Hygienists
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)
NFPA: National Fire Protection Association (USA)
HMIS: Hazardous Materials Identification System (USA)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
Flam. Liq. 2: Flammable liquids, Hazard Category 2
Acute Tox. 4: Acute toxicity, Hazard Category 4
Skin Irrit. 2: Skin corrosion/irritation, Hazard Category 2
Eye Dam. 1: Serious eye damage/eye irritation, Hazard Category 1
Muta. 2: Germ cell mutagenicity, Hazard Category 2
· *STOT SE 3: Specific target organ toxicity - Single exposure, Hazard Category 3*
· *Aquatic Chronic 3: Hazardous to the aquatic environment - Chronic Hazard, Category 3*
****

End of document

Permanent Ink Blue

SECTION 2: Hazards identification

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

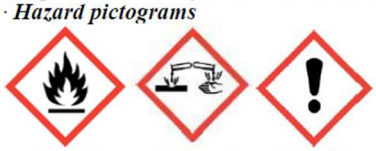
GHS02 FLAME
Flam. Liq. 2 H225 Highly flammable liquid and vapour.

GHS05 CORROSIVE
Eye Dam.1 H318 Cause serious eye damage.

GHS07
STOT SE 3 H336 May cause drowsiness or dizziness.

· ***Information concerning particular hazards for human and environment:***
The product has to be labelled due to the calculation procedure of Regulation 1272/2008/EC.
· ***Classification system:***
The classification is according to the latest edition of EU Regulation 1272/2008/EC, and extended by company and literature data.

· ***2.2 Label elements***
· ***Labelling according to Regulation (EC) No 1272/2008***
The product is classified and labelled according to CLP Regulation.
· ***Hazard pictograms***



GHS02 GHS05 GHS07

· ***Signal word*** *Danger*

· ***Hazard-determining components of labelling:***
Propanol-1-o1
1-Methoxy-2-Propanol
Solvent blue 70
· ***Hazard statements***
H225 Highly flammable liquid and vapour.
H319 Cause serious eye damage.
H336 May cause drowsiness or dizziness.
H412 Harmful to aquatic life with long lasting effects.

· ***Precautionary statements***

P210	*Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.*
P233	*Keep container tightly close*
P240	*Ground / bond container and receiving equipment*
P102	*Keep out of reach of children.*
P103	*Read label before use.*
P280	*Wear protective gloves / protective clothing / eye protection / face protection*
P403	*Store in well-ventilated place. Keep cool.*

P305+P351+P338+310 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a Poison Center or doctor / physician.

· ***2.3 Other hazards***
· ***Results of PBT and vPvB assessment***
· ***PBT:*** *Not applicable*
· ***vPvB:*** *Not applicable*

SECTION 3: Composition/information on ingredients

· ***3.2 Mixtures***
· ***Description:***
Mixture of the substances listed below with nonhazardous additions.
For the wording of the listed hazard statements refer to section 16.

Composition:		
CAS: 71-23-8 *EINECS: 200-661-7*	*Propan-1-o1* *H225(2),H318(1),H336(3)*	*<60%*
CAS: 107-98-2 *EINECS: 203-539-1*	*1-methoxy-2-propanol* *H226(3),H336(3)*	*<35%*
CAS: 12237-24-0 *EINECS: 602-674-7*	*Solvent blue 70* *H412(2)*	*<3%*

SECTION 4: First aid measures

4.1 Description of first aid measures

General advise: *Take off all contaminated clothing immediately.*

· ***After inhalation:*** *Supply fresh air; consult doctor. If unconscious place in recovery position.*

· ***After skin contact:***

Immediately wash with water and soap and rinse thoroughly.

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.

· ***After swallowing:***

Rinse out mouth with water.

Never give anything by mouth to an unconscious person.

Seek medical treatment.

· ***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.

SECTION 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:***

Wear fully protective suit.

Mouth respiratory protective device.

SECTION 6: Accidental release measure

· ***6.1 Personal precautions, protective equipment and emergency procedures***

Wear protective equipment.

Keep unprotected persons away.

Ensure adequate ventilation.

Keep away from ignition sources.

Use respiratory protective device against the effects of fumes/dust/aerosol.

Avoid breathing vapors, mist or gas.

Avoid contact with eyes.

Avoid contact with skin.

· ***6.2 Environmental precautions:*** *Do not allow to enter sewers/ surface or groundwater.*

· ***6.3 Methods and material for containment and cleaning up:***

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).

Ensure adequate ventilation.

Dispose contaminated material as waste according to item 13.

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.

SECTION 7: Handling and storage

· ***7.1 Precautions for safe handling***

Ensure good ventilation/exhaustion at the workplace.

Keep receptacles tightly sealed.

Keep away from heat and direct sunlight.

Prevent formation of aerosols.

Avoid contact with skin and eyes.

For the general occupational hygienic measures refer to section 8.

· ***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:**
· **Requirements to be met by storerooms and receptacles:**
Store in a cool location.
Store only in the original receptacle.
· **Information about storage in one common storage facility:**
Store away from foodstuffs.
Keep away from ignition sources.
· **Further information about storage conditions:**
Keep container tightly sealed.
Store in cool, dry conditions in well sealed receptacles.
Protect from heat and direct sunlight.

· **7.3 Specific end use(s)** No further relevant information available.

SECTION 8: Exposure controls/personal protection

· **8.1 Control parameters**

Ingredients with limit values that require monitoring at the workplace:	
71-23-8 propan-1-o1 (<60%)	
PEL	Long-term value: 500 mg/m³, 200 ppm
REL	Short-term value: 625 mg/m³, 250 ppm Long-term value: 500 mg/m³, 200 ppm SKIN
TLV	Long-term value: 246 mg/m³, 100 ppm
107-98-2 1-methoxy-2-propanol (<35%)	
REL	Short-term value: 540 mg/m³, 150 ppm Long-term value: 360 mg/m³, 100 ppm
TLV	Short-term value: 369 mg/m³, 100 ppm Long-term value: 184 mg/m³, 50 ppm

· **DNELs:** Data not available
· **PNECs:** Data not available

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

· **8.2 Exposure controls**
· **Based on composition shown in Section 3, the following messures are suggested for occupational safety measure:**
· **Appropriate engineering controls:**
Wash hands before breaks and at the end of work.
See Section 7 for information about design of technical facilities.

· **Personal protective equipment:**
· **Respiratory protection:** Suitable respiratory protective device recommended.
· **Protection of hands:**

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.
Eye protection:

Tightly sealed goggles 

· **Environmental exposure controls:**
Control measures must be made in accordance with Community environmental protection legislation.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties
Appearance:
Form: Liquid
Colour: Blue
Odour: Product specific

Odour threshold:	Data not available.
pH-value:	Data not available.
Change in condition	
Melting point/freezing point:	Undetermined
Initial boiling point and boiling range:	96 ℃ (205 ℉)
Freezing point:	Data not available
Flash point:	13 ℃ (55 ℉)
Flammability (solid, gas):	Not applicable
Auto-Ignition temperature:	287 ℃ (549 ℉)
Decomposition temperature:	Date not available.
Self-igniting:	Product is not self-igniting.
Explosive properties:	Product is not explosive. However, formation of explosive air/ vapour mixtures are possible.
Explosion limits:	
Lower:	3.5 Vol %
Upper:	15 Vol%
Oxidising properties	Data not available
Vapour pressure:	59 hPa at 20 ℃ (68 ℉)
Density:	Data not available.
Relative density	Data not available.
Vapour density	Data not available.
Evaporation rate	Data not available.
Solubility in / Miscibility with	
water:	Fully miscible, readily miscible in solvent
Partition coefficient: n-octanol/water:	Data not available.
Viscosity:	
Dynamic:	Data not available.
Kinematic:	Data not available.
9.2 Other information	No further relevant information available.

SECTION 10: Stability and reactivity

· **10.1 Reactivity** No decomposition if used according to specification.

· **10.2 Chemical stability** Stable under recommended storage conditions.

· **10.3 Possibility of hazardous reactions** Data not available

· **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.

SECTION 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:		
71-23-8 propan-1-o1		
Oral	LD50	8000 mg/kg (rat)
Dermal	LD50	5000 mg/kg (rabbit)
Inhalative	LC50/4 h	9.8 mg/l (rat)
107-98-2 1-methoxy-2-propanol		
Oral	LD50	5200 mg/kg (rat)
Dermal	LD50	14000 mg/kg (rabbit)
Inhalative	LC50/4 h	54.6 mg/l (rat)

· **Skin corrosion/irritation:** Irritant to skin and mucous membranes.

· **Serious eye damage/irritation:** Strong irritant with the danger of severe eye injury.

· **Respiratory or skin sensitization:** No sensitizing effects known.

Additional toxicological information:

The product shows the following dangers according to internally approved calculation methods for preparations:

Harmful

Irritant

· **Carcinogenic categories**

IARC (International Agency for Research on Cancer)
None of the ingredients is listed.

NTP (National Toxicology Program)
None of the ingredients is listed.

OSHA-Ca (Occupational Safety & Health Administration)
None of the ingredients is listed.

SECTION 12: Ecological information

· **12.1 Toxicity**
· **Aquatic toxicity:** No further relevant information available.

· **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 Other adverse effects** No further relevant information available.

· **12.7 Additional ecological information:**
· **General notes:**
All numerical values for ecotoxicity effects are calculated on the pure substances. Do not flush into surface water or sanitary sewer system. Avoid subsoil penetration.
· **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.
Recommendation cleansing agent: Water if necessary cleansing agents.

SECTION 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.
Recommendation cleansing agent: Water if necessary cleansing agents.

SECTION 14: Transport information

14.1 UN-Number	
ADR/RID/ADN, IMDG, IATA	not applicable
14.2 UN proper shipping name	
ADR/RID/ADN, IMDG, IATA	not applicable
14.3 Transport hazard class(es)	
ADR/RID/ADN, IMDG, IATA	not applicable
Class	not applicable
14.4 Packing group	
ADR/RID/ADN, IMDG, IATA	not applicable
14.5 Environmental hazards	not applicable.
14.6 Special precautions for user	not applicable
14.7 Transport in bulk according to Annex II of Marpol and the IBC Code	not applicable.
Transport / Additional information	Permanent Marker Pens (flammable liquid bound in the fiber reservoir) would be classified as UN 3175 "solid substances containing flammable liquid substances". With this UN number there is however the special regulation A 46 (IATA-DGR). This stipulates that small inner packaging containing dense packets and objects with less than 10 ml of an inflammable liquid "absorbed in a solid substance" are not subject to these regulations. For ADR, special regulation 216 applies analogously to UN 3175
UN "Model Regulation":	not applicable

SECTION 15: Regulatory information

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

MAK (German Maximum Workplace Concentration)
None of the ingredients is listed.

TLV(Threshold Limit Value establish by ACGIH
71-23-8, propanol-1-o1, A4

· **Directive 2012/18/EU**
· **Named dangerous substances - ANNEX I** None of the ingredients is listed.
· **Seveso category** P5c FLAMMABLE LIQUIDS
· **Qualifying quantity (tonnes) for the application of lower-tier requirements** 5,000 t
· **Qualifying quantity (tonnes) for the application of upper-tier requirements** 50,000 t
· **National regulations:**
· **Waterhazard class:** Water hazard class 2 (Self-assessment): hazardous for water.
· **Other regulations, limitations and prohibitive regulations**

· **SVHC Candidate List of REACH Regulation Annex XIV Authorisation (12/1/2017)**

None of the ingredients is listed.

· **REACH Regulation Annex XVII Restriction (3/2/2017) See Section 16 for information about restriction of use.**

None of the ingredients is listed.

· **REACH Regulation Annex XIV Authorization List (14/8/2014)**

None of the ingredients is listed.

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

SECTION 16: Other information

Relevant hazard statements:
H225 : Highly flammable liquid and vapour.
H226 : Flammable liquid and vapour.
H302 : Harmful if swallowed.
H312 : Harmful in contact with skin.
H315 : Causes skin irritation.
H318 : Causes serious eye damage.
H319 : Causes serious eye irritation.

H332 : Harmful in inhaled.
H335 : May cause respiratory irritation.
H336 : May cause drowsiness or dizziness.
H411 : Toxic to aquatic life with long lasting effects.
H412 : Harmful to aquatic life with long lasting effects.
****

The contents and format of this SDS are in accordance with Regulation (EC) No 1907/2006, 1272/2008 and Regulation (EU) No 2015/830.

DISCLAIMER OF LIABILITY

Other information: The information provided in this safety data sheet is correct to our knowledge at the date of its revision. The information given only describes the products with regard to safety arrangements and its not to be consider as warranty or quality specification and does not to be constitute a legal relationship. The information contained in this safety date sheet relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text.

· **Abbreviations and acronyms:**
RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)
IATA-DGR: Dangerous Goods Regulations by the "International Air Transport Association" (IATA)
ICAO: International Civil Aviation Organisation
ICAO-TI: Technical Instructions by the "International Civil Aviation Organisation" (ICAO)
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
DOT: US Department of Transportation
IATA: International Air Transport Association
ACGIH: American Conference of Governmental Industrial Hygienists
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)
NFPA: National Fire Protection Association (USA)
HMIS: Hazardous Materials Identification System (USA)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
Flam. Liq. 2: Flammable liquids, Hazard Category 2
Acute Tox. 4: Acute toxicity, Hazard Category 4
Skin Irrit. 2: Skin corrosion/irritation, Hazard Category 2
Eye Dam. 1: Serious eye damage/eye irritation, Hazard Category 1
Muta. 2: Germ cell mutagenicity, Hazard Category 2
· STOT SE 3: Specific target organ toxicity - Single exposure, Hazard Category 3
· Aquatic Chronic 3: Hazardous to the aquatic environment - Chronic Hazard, Category 3
· **********

SECTION 2: Hazards identification

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

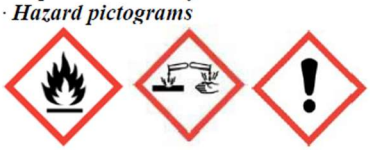
GHS02 FLAME
Flam. Liq. 2 H225 Highly flammable liquid and vapour.

GHS05 CORROSIVE
Eye Dam.1 H318 Cause serious eye damage.

GHS07
STOT SE 3 H336 May cause drowsiness or dizziness.

· **Information concerning particular hazards for human and environment:**
The product has to be labelled due to the calculation procedure of Regulation 1272/2008/EC.
· **Classification system:**
The classification is according to the latest edition of EU Regulation 1272/2008/EC, and extended by company and literature data.

· **2.2 Label elements**
· **Labelling according to Regulation (EC) No 1272/2008**
The product is classified and labelled according to CLP Regulation.
· **Hazard pictograms**



GHS02 GHS05 GHS07

· **Signal word** Danger

· **Hazard-determining components of labelling:**
Propanol-1-o1
1-Methoxy-2-Propanol
Solvent Yellow 82
· **Hazard statements**
H225 Highly flammable liquid and vapour.
H318 Cause serious eye damage.
H336 May cause drowsiness or dizziness.
H412 Harmful to aquatic life with long-lasting effects.
· **Precautionary statements**

P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P233	Keep container tightly close
P240	Ground / bond container and receiving equipment
P102	Keep out of reach of children.
P103	Read label before use.
P280	Wear protective gloves / protective clothing / eye protection / face protection
P261	Avoid breathing fumes / vapours
P273	Avoid release to the environment
P403	Store in well-ventilated place. Keep cool.
P312	Immediately call a Poison Center or doctor / physician if you feel unwell.

2.3 Other hazards
· **Results of PBT and vPvB assessment**
· **PBT:** Not applicable
· **vPvB:** Not applicable

SECTION 3: Composition/information on ingredients

· **3.2 Mixtures**
· **Description:**
Mixture of the substances listed below with nonhazardous additions.
For the wording of the listed hazard statements refer to section 16.

Composition:		
CAS: 71-23-8 EINECS: 200-661-7	Propan-1-o1 H225(2),H318(1),H336(3)	<60%
CAS: 107-98-2 EINECS: 203-539-1	1-methoxy-2-propanol H226(3),H336(3)	<35%
CAS: 12227-67-7 CAS: 602-487-0	Solvent Yellow 82 H400(1),H410(2)	<3%

SECTION 4: First aid measures

4.1 Description of first aid measures

General advise: *Take off all contaminated clothing immediately.*

· ***After inhalation:*** *Supply fresh air; consult doctor. If unconscious place in recovery position.*

· ***After skin contact:***

Immediately wash with water and soap and rinse thoroughly.

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.

· ***After swallowing:***

Rinse out mouth with water.

Never give anything by mouth to an unconscious person.

Seek medical treatment.

· ***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.

SECTION 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 *Highly flammable. Vapours may form explosive mixtures with air. In case of fire hazardous decomposition products may be produced, such as carbon monoxide (CO) and carbon dioxide (CO2).*

· ***5.3 Advice for firefighters***

· ***Protective equipment:***

In the event of fire, wear self-contained breathing apparatus. Wear appropriate body protection (full protective suit).

Cool closed containers exposed to fire with water spray. Heating will cause a pressure rise – with risk of bursting. Collect contaminated fire extinguishing water separately. This must not be discharged into drains.

SECTION 6: Accidental release measure

· ***6.1 Personal precautions, protective equipment and emergency procedures***

Wear protective equipment. Keep unprotected persons away. Ensure adequate ventilation.

Keep away from ignition sources. Use respiratory protective device against the effects of fumes/dust/aerosol.

Avoid breathing vapors, mist or gas. Avoid contact with eyes. Avoid contact with skin.

· ***6.2 Environmental precautions:*** *Do not allow to enter sewers/ surface or groundwater.*

· ***6.3 Methods and material for containment and cleaning up:***

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).

Ensure adequate ventilation.

Dispose contaminated material as waste according to item 13.

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.

SECTION 7: Handling and storage

· ***7.1 Precautions for safe handling***

Keep container tightly closed. Ensure adequate ventilation. Avoid contact with skin and eyes. Do not breathe vapours. Emergency eye wash fountains and emergency showers should be available in the immediate vicinity. For the general occupational hygienic measures refer to section 8.

· ***Information about fire - and explosion protection:***

Combustible liquid. Keep away from sources of ignition – no smoking. Take measures to prevent the build-up of electrostatic charge. Vapours may form explosive mixtures in air. Use only in an area containing explosion proof equipment

7.2 Conditions for safe storage, including any incompatibilities:
· **Requirements to be met by storerooms and receptacles:**
Keep in an area equipped with solvent resistant flooring. Store in original container.
· **Information about storage in one common storage facility:**
Incompatible with oxidizing agents. Keep away from food, drink and animal feeding stuffs.
· **Further information about storage conditions:**
Keep tightly closed in a dry and cool place. Keep in a well-ventilated place. Keep away from heat. Keep away from direct sunlight.
7.3 Specific end use(s) No further relevant information available.

SECTION 8: Exposure controls/personal protection

· **8.1 Control parameters**

Ingredients with limit values that require monitoring at the workplace:	
71-23-8 propan-1-o1 (<60%)	
PEL	Long-term value: 500 mg/m³, 200 ppm
REL	Short-term value: 625 mg/m³, 250 ppm Long-term value: 500 mg/m³, 200 ppm SKIN
TLV	Long-term value: 246 mg/m³, 100 ppm
107-98-2 1-methoxy-2-propanol (<35%)	
REL	Short-term value: 540 mg/m³, 150 ppm Long-term value: 360 mg/m³, 100 ppm
TLV	Short-term value: 369 mg/m³, 100 ppm Long-term value: 184 mg/m³, 50 ppm

· **DNELs:** Data not available
· **PNECs:** Data not available

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

· **8.2 Exposure controls**
· **Based on composition shown in Section 3, the following messures are suggested for occupational safety measure:**
· **Appropriate engineering controls:**
Wash hands before breaks and at the end of work.
See Section 7 for information about design of technical facilities.

· **Personal protective equipment:**
· **Respiratory protection:** Suitable respiratory protective device recommended.
· **Protection of hands:**

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.
Eye protection:

Tightly sealed goggles 

· **Environmental exposure controls:**
Control measures must be made in accordance with Community environmental protection legislation.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties
Appearance:

Form:	Liquid
Colour:	Green
Odour:	Product specific
Odour threshold:	Data not available.
pH-value:	Data not available.

Change in condition	
Melting point/freezing point:	*Undetermined*
Initial boiling point and boiling range:	*96 ℃ (205 ℉)*
Freezing point:	*Data not available*
Flash point:	13 ℃ (55 ℉)
Flammability (solid, gas):	*Not applicable*
Auto-Ignition temperature:	287 ℃ (549 ℉)
Decomposition temperature:	*Date not available.*
Self-igniting:	*Product is not self-igniting.*
Explosive properties:	*Product is not explosive. However, formation of explosive air/ vapour mixtures are possible.*
Explosion limits:	
Lower:	*3.5 Vol %*
Upper:	*15 Vol%*
Oxidising properties	*Data not available*
Vapour pressure:	*59 hPa at 20 ℃ (68 ℉)*
Density:	*Data not available.*
Relative density	*Data not available.*
Vapour density	*Data not available.*
Evaporation rate	*Data not available.*
Solubility in / Miscibility with water:	*Fully miscible, readily miscible in solvent*
Partition coefficient: n-octanol/water:	*Data not available.*
Viscosity:	
Dynamic:	*Data not available.*
Kinematic:	*Data not available.*
9.2 Other information	*No further relevant information available.*

SECTION 10: Stability and reactivity

· ***10.1 Reactivity*** *No decomposition if used according to specification.*

· ***10.2 Chemical stability*** *Stable under recommended storage conditions.*

· ***10.3 Possibility of hazardous reactions*** *Data not available*

· ***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.*

SECTION 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:		
71-23-8 propan-1-o1		
Oral	*LD50*	*8000 mg/kg (rat)*
Dermal	*LD50*	*5000 mg/kg (rabbit)*
Inhalative	*LC50/4 h*	*9.8 mg/l (rat)*
107-98-2 1-methoxy-2-propanol		
Oral	*LD50*	*5200 mg/kg (rat)*
Dermal	*LD50*	*14000 mg/kg (rabbit)*
Inhalative	*LC50/4 h*	*54.6 mg/l (rat)*

· ***Skin corrosion/irritation:*** *Irritant to skin and mucous membranes.*

· ***Serious eye damage/irritation:*** *Strong irritant with the danger of severe eye injury.*

· ***Respiratory or skin sensitization:*** *No sensitizing effects known.*

Additional toxicological information:

The product shows the following dangers according to internally approved calculation methods for preparations:

Harmful

Irritant

· **Carcinogenic categories**

IARC (International Agency for Research on Cancer)
None of the ingredients is listed.

NTP (National Toxicology Program)
None of the ingredients is listed.

OSHA-Ca (Occupational Safety & Health Administration)
None of the ingredients is listed.

SECTION 12: Ecological information

· **12.1 Toxicity**
· **Aquatic toxicity:** No further relevant information available.

· **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 Other adverse effects** No further relevant information available.

· **12.7 Additional ecological information:**
· **General notes:**
All numerical values for ecotoxicity effects are calculated on the pure substances. Do not flush into surface water or sanitary sewer system. Avoid subsoil penetration.

SECTION 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.
Recommendation cleansing agent: Water if necessary cleansing agents.

SECTION 14: Transport information

14.1 UN-Number
ADR/RID/ADN, IMDG, IATA not applicable
14.2 UN proper shipping name
ADR/RID/ADN, IMDG, IATA not applicable
14.3 Transport hazard class(es)
ADR/RID/ADN, IMDG, IATA not applicable
Class not applicable
14.4 Packing group
ADR/RID/ADN, IMDG, IATA not applicable
14.5 Environmental hazards not applicable.
14.6 Special precautions for user not applicable
14.7 Transport in bulk according to Annex II of Marpol and the IBC Code not applicable.
Transport / Additional information Permanent Marker Pens (flammable liquid bound in the fiber reservoir) would be classified as UN 3175 "solid substances containing flammable liquid substances". With this UN number there is however the special regulation A 46 (IATA-DGR). This stipulates that small inner packaging containing dense packets and objects with less than 10 ml of an inflammable liquid "absorbed in a solid substance" are not subject to these regulations. For ADR, special regulation 216 applies analogously to UN 3175
UN "Model Regulation": not applicable

SECTION 15: Regulatory information

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

MAK (German Maximum Workplace Concentration)
None of the ingredients is listed.

TLV(Threshold Limit Value establish by ACGIH
71-23-8, propanol-1-o1, A4

· **Directive 2012/18/EU**
· **Named dangerous substances - ANNEX I** None of the ingredients is listed.
· **Seveso category** P5c FLAMMABLE LIQUIDS
· **Qualifying quantity (tonnes) for the application of lower-tier requirements** 5,000 t
· **Qualifying quantity (tonnes) for the application of upper-tier requirements** 50,000 t
· **National regulations:**
· **Waterhazard class:** Water hazard class 2 (Self-assessment): hazardous for water.
· **Other regulations, limitations and prohibitive regulations**
· **SVHC Candidate List of REACH Regulation Annex XIV Authorisation (12/1/2017)**
None of the ingredients is listed.
· **REACH Regulation Annex XVII Restriction (3/2/2017) See Section 16 for information about restriction of use.**
None of the ingredients is listed.
· **REACH Regulation Annex XIV Authorization List (14/8/2014)**
None of the ingredients is listed.

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

SECTION 16: Other information

Relevant hazard statements:
H225 : Highly flammable liquid and vapour.
H226 : Flammable liquid and vapour.
H302 : Harmful if swallowed.
H312 : Harmful in contact with skin.
H315 : Causes skin irritation.
H318 : Causes serious eye damage.
H319 : Causes serious eye irritation.
H332 : Harmful in inhaled.
H335 : May cause respiratory irritation.
H336 : May cause drowsiness or dizziness.
H411 : Toxic to aquatic life with long lasting effects.
H412 : Harmful to aquatic life with long lasting effects.
****

The contents and format of this SDS are in accordance with Regulation (EC) No 1907/2006, 1272/2008 and Regulation (EU) No 2015/830.

DISCLAIMER OF LIABILITY

· Other information: The information provided in this safety data sheet is correct to our knowledge at the date of its revision. The information given only describes the products with regard to safety arrangements and its not to be consider as warranty or quality specification and does not to be constitute a legal relationship. The information contained in this safety date sheet relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text.

· **Abbreviations and acronyms:**
RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)
IATA-DGR: Dangerous Goods Regulations by the "International Air Transport Association" (IATA)
ICAO: International Civil Aviation Organisation
ICAO-TI: Technical Instructions by the "International Civil Aviation Organisation" (ICAO)
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
DOT: US Department of Transportation
IATA: International Air Transport Association
ACGIH: American Conference of Governmental Industrial Hygienists
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)
NFPA: National Fire Protection Association (USA)
HMIS: Hazardous Materials Identification System (USA)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
Flam. Liq. 2: Flammable liquids, Hazard Category 2
Acute Tox. 4: Acute toxicity, Hazard Category 4
Skin Irrit. 2: Skin corrosion/irritation, Hazard Category 2
Eye Dam. 1: Serious eye damage/eye irritation, Hazard Category 1
Muta. 2: Germ cell mutagenicity, Hazard Category 2
· STOT SE 3: Specific target organ toxicity - Single exposure, Hazard Category 3
· Aquatic Chronic 3: Hazardous to the aquatic environment - Chronic Hazard, Category 3
. **********

SECTION 2: Hazards identification

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

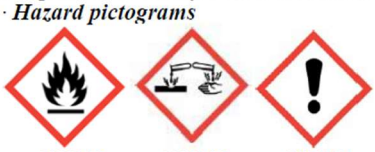
GHS02 FLAME
Flam. Liq. 2 H225 Highly flammable liquid and vapour.

GHS05 CORROSIVE
Eye Dam.1 H318 Cause serious eye damage.

GHS07
STOT SE 3 H336 May cause drowsiness or dizziness.

· **Information concerning particular hazards for human and environment:**
The product has to be labelled due to the calculation procedure of Regulation 1272/2008/EC.
· **Classification system:**
The classification is according to the latest edition of EU Regulation 1272/2008/EC, and extended by company and literature data.

· **2.2 Label elements**
· **Labelling according to Regulation (EC) No 1272/2008**
The product is classified and labelled according to CLP Regulation.
· **Hazard pictograms**



GHS02 GHS05 GHS07

· **Signal word** Danger

· **Hazard-determining components of labelling:**
Propanol-1-o1
1-Methoxy-2-Propanol
Solvent Red 49
· **Hazard statements**
H225 Highly flammable liquid and vapour.
H318 Cause serious eye damage.
H336 May cause drowsiness or dizziness.

· **Precautionary statements**

P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P233	Keep container tightly close
P240	Ground / bond container and receiving equipment
P102	Keep out of reach of children.
P103	Read label before use.
P280	Wear protective gloves / protective clothing / eye protection / face protection
P305	IF IN EYES: rinse cautiously with water for several minutes.
P351	Remove contact lenses, if present and easy to do. Continue rinsing.
P403	Store in well-ventilated place. Keep cool.
P312	Immediately call a Poison Center or doctor / physician if you feel unwell.

2.3 Other hazards
· **Results of PBT and vPvB assessment**
· **PBT:** Not applicable
· **vPvB:** Not applicable

SECTION 3: Composition/information on ingredients

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

For the wording of the listed hazard statements refer to section 16.

Composition:		
CAS: 71-23-8 EINECS: 200-661-7	Propan-1-o1 H225(2),H318(1),H336(3)	<60%
CAS: 107-98-2 EINECS: 203-539-1	1-methoxy-2-propanol H226(3),H336(3)	<35%
CAS: 509-34-2 CAS: 208-096-8	Solvent Red 49 H302(4),H315(2),H318(1),H335	<3%

SECTION 4: First aid measures

4.1 Description of first aid measures

General advise: *Take off all contaminated clothing immediately.*

· ***After inhalation:*** *Supply fresh air; consult doctor. If unconscious place in recovery position.*

· ***After skin contact:***

Immediately wash with water and soap and rinse thoroughly.

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.

· ***After swallowing:***

Rinse out mouth with water.

Never give anything by mouth to an unconscious person.

Seek medical treatment.

· ***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.

SECTION 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 *Highly flammable. Vapours may form explosive mixtures with air. In case of fire hazardous decomposition products may be produced, such as carbon monoxide (CO) and carbon dioxide (CO2).*

· ***5.3 Advice for firefighters***

· ***Protective equipment:***

In the event of fire, wear self-contained breathing apparatus. Wear appropriate body protection (full protective suit).
Cool closed containers exposed to fire with water spray. Heating will cause a pressure rise – with risk of bursting. Collect contaminated fire extinguishing water separately. This must not be discharged into drains.

SECTION 6: Accidental release measure

· ***6.1 Personal precautions, protective equipment and emergency procedures***

Wear protective equipment. Keep unprotected persons away. Ensure adequate ventilation.
Keep away from ignition sources. Use respiratory protective device against the effects of fumes/dust/aerosol.
Avoid breathing vapors, mist or gas. Avoid contact with eyes. Avoid contact with skin.

· ***6.2 Environmental precautions:*** *Do not allow to enter sewers/ surface or groundwater.*

· ***6.3 Methods and material for containment and cleaning up:***

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
Ensure adequate ventilation.
Dispose contaminated material as waste according to item 13.

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.

SECTION 7: Handling and storage

· ***7.1 Precautions for safe handling***

Keep container tightly closed. Ensure adequate ventilation. Avoid contact with skin and eyes. Do not breathe vapours. Emergency eye wash fountains and emergency showers should be available in the immediate vicinity. For the general occupational hygienic measures refer to section 8.

· ***Information about fire - and explosion protection:***
Combustible liquid. Keep away from sources of ignition – no smoking. Take measures to prevent the build-up of electrostatic charge. Vapours may form explosive mixtures in air. Use only in an area containing explosion proof equipment
7.2 Conditions for safe storage, including any incompatibilities:
· ***Requirements to be met by storerooms and receptacles:***
Keep in an area equipped with solvent resistant flooring. Store in original container.
· ***Information about storage in one common storage facility:***
Incompatible with oxidizing agents. Keep away from food, drink and animal feeding stuffs.
· ***Further information about storage conditions:***
Keep tightly closed in a dry and cool place. Keep in a well-ventilated place. Keep away from heat. Keep away from direct sunlight.
7.3 Specific end use(s) *No further relevant information available.*

SECTION 8: Exposure controls/personal protection

· ***8.1 Control parameters***

Ingredients with limit values that require monitoring at the workplace:	
71-23-8 propan-1-o1 (<60%)	
PEL	*Long-term value: 500 mg/m³, 200 ppm*
REL	*Short-term value: 625 mg/m³, 250 ppm* *Long-term value: 500 mg/m³, 200 ppm* *SKIN*
TLV	*Long-term value: 246 mg/m³, 100 ppm*
107-98-2 1-methoxy-2-propanol (<35%)	
REL	*Short-term value: 540 mg/m³, 150 ppm* *Long-term value: 360 mg/m³, 100 ppm*
TLV	*Short-term value: 369 mg/m³, 100 ppm* *Long-term value: 184 mg/m³, 50 ppm*

· ***DNELs:*** *Data not available*
· ***PNECs:*** *Data not available*

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

· ***8.2 Exposure controls***
· ***Based on composition shown in Section 3, the following messures are suggested for occupational safety measure:***
· ***Appropriate engineering controls:***
Wash hands before breaks and at the end of work.
See Section 7 for information about design of technical facilities.

· ***Personal protective equipment:***
· ***Respiratory protection:*** *Suitable respiratory protective device recommended.*
· ***Protection of hands:***

Protective gloves 

· ***Environmental exposure controls:***
Control measures must be made in accordance with Community environmental protection legislation.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance:	
Form:	*Liquid*
Colour:	*Red*
Odour:	*Product specific*
Odour threshold:	*Data not available.*
pH-value:	*Data not available.*
Change in condition	
Melting point/freezing point:	*Undetermined*
Initial boiling point and boiling range:	*96 ℃ (205 ℉)*
Freezing point:	*Data not available*
Flash point:	13 ℃ (55 ℉)
Flammability (solid, gas):	*Not applicable*
Auto-Ignition temperature:	287 ℃ (549 ℉)

Decomposition temperature:	Date not available.
Self-igniting:	Product is not self-igniting.
Explosive properties:	Product is not explosive. However, formation of explosive air/ vapour mixtures are possible.
Explosion limits:	
Lower:	3.5 Vol %
Upper:	15 Vol%
Oxidising properties	Data not available
Vapour pressure:	59 hPa at 20 ℃ (68 ℉)
Density:	Data not available.
Relative density	Data not available.
Vapour density	Data not available.
Evaporation rate	Data not available.
Solubility in / Miscibility with water:	Fully miscible, readily miscible in solvent
Partition coefficient: n-octanol/water:	Data not available.
Viscosity:	
Dynamic:	Data not available.
Kinematic:	Data not available.
9.2 Other information	No further relevant information available.

SECTION 10: Stability and reactivity

· **10.1 Reactivity** No decomposition if used according to specification.

· **10.2 Chemical stability** Stable under recommended storage conditions.

· **10.3 Possibility of hazardous reactions** Data not available

· **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.

SECTION 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:		
71-23-8 propan-1-o1		
Oral	LD50	8000 mg/kg (rat)
Dermal	LD50	5000 mg/kg (rabbit)
Inhalative	LC50/4 h	9.8 mg/l (rat)
107-98-2 1-methoxy-2-propanol		
Oral	LD50	5200 mg/kg (rat)
Dermal	LD50	14000 mg/kg (rabbit)
Inhalative	LC50/4 h	54.6 mg/l (rat)

· **Skin corrosion/irritation:** Irritant to skin and mucous membranes.

· **Serious eye damage/irritation:** Strong irritant with the danger of severe eye injury.

· **Respiratory or skin sensitization:** No sensitizing effects known.

Additional toxicological information:

The product shows the following dangers according to internally approved calculation methods for preparations:

Harmful

Irritant

· **Carcinogenic categories**

IARC (International Agency for Research on Cancer)
None of the ingredients is listed.

NTP (National Toxicology Program)
None of the ingredients is listed.

OSHA-Ca (Occupational Safety & Health Administration)
None of the ingredients is listed.

SECTION 12: Ecological information

· **12.1 Toxicity**
· **Aquatic toxicity:** No further relevant information available.

· **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 Other adverse effects** No further relevant information available.

· **12.7 Additional ecological information:**
· **General notes:**
All numerical values for ecotoxicity effects are calculated on the pure substances. Do not flush into surface water or sanitary sewer system. Avoid subsoil penetration.

SECTION 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.
Recommendation cleansing agent: Water if necessary cleansing agents.

SECTION 14: Transport information

14.1 UN-Number	
ADR/RID/ADN, IMDG, IATA	not applicable
14.2 UN proper shipping name	
ADR/RID/ADN, IMDG, IATA	not applicable
14.3 Transport hazard class(es)	
ADR/RID/ADN, IMDG, IATA	not applicable
Class	not applicable
14.4 Packing group	
ADR/RID/ADN, IMDG, IATA	not applicable
14.5 Environmental hazards	not applicable.
14.6 Special precautions for user	not applicable
14.7 Transport in bulk according to Annex II of Marpol and the IBC Code	not applicable.
Transport / Additional information	Permanent Marker Pens (flammable liquid bound in the fiber reservoir) would be classified as UN 3175 "solid substances containing flammable liquid substances". With this UN number there is however the special regulation A 46 (IATA-DGR). This stipulates that small inner packaging containing dense packets and objects with less than 10 ml of an inflammable liquid "absorbed in a solid substance" are not subject to these regulations. For ADR, special regulation 216 applies analogously to UN 3175
UN "Model Regulation":	not applicable

SECTION 15: Regulatory information

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

MAK (German Maximum Workplace Concentration)
None of the ingredients is listed.

TLV(Threshold Limit Value establish by ACGIH
71-23-8, propanol-1-o1, A4

· **Directive 2012/18/EU**
· **Named dangerous substances - ANNEX I** None of the ingredients is listed.
· **Seveso category** P5c FLAMMABLE LIQUIDS
· **Qualifying quantity (tonnes) for the application of lower-tier requirements** 5,000 t
· **Qualifying quantity (tonnes) for the application of upper-tier requirements** 50,000 t
· **National regulations:**
· **Waterhazard class:** Water hazard class 2 (Self-assessment): hazardous for water.
· **Other regulations, limitations and prohibitive regulations**
· **SVHC Candidate List of REACH Regulation Annex XIV Authorization (12/1/2017)**
None of the ingredients is listed.
· **REACH Regulation Annex XVII Restriction (3/2/2017) See Section 16 for information about restriction of use.**
None of the ingredients is listed.
· **REACH Regulation Annex XIV Authorization List (14/8/2014)**
None of the ingredients is listed.

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

SECTION 16: Other information

Relevant hazard statements:
H225 : Highly flammable liquid and vapour.
H226 : Flammable liquid and vapour.
H302 : Harmful if swallowed.
H312 : Harmful in contact with skin.
H315 : Causes skin irritation.
H318 : Causes serious eye damage.
H319 : Causes serious eye irritation.
H332 : Harmful in inhaled.
H335 : May cause respiratory irritation.
H336 : May cause drowsiness or dizziness.
H411 : Toxic to aquatic life with long lasting effects.
H412 : Harmful to aquatic life with long lasting effects.
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The contents and format of this SDS are in accordance with Regulation (EC) No 1907/2006, 1272/2008 and Regulation (EU) No 2015/830.

DISCLAIMER OF LIABILITY

Other information: The information provided in this safety data sheet is correct to our knowledge at the date of its revision. The information given only describes the products with regard to safety arrangements and its not to be consider as warranty

or quality specification and does not to be constitute a legal relationship. The information contained in this safety date sheet relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text.

· **Abbreviations and acronyms:**
RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)
IATA-DGR: Dangerous Goods Regulations by the "International Air Transport Association" (IATA)
ICAO: International Civil Aviation Organisation
ICAO-TI: Technical Instructions by the "International Civil Aviation Organisation" (ICAO)
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
DOT: US Department of Transportation
IATA: International Air Transport Association
ACGIH: American Conference of Governmental Industrial Hygienists
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)
NFPA: National Fire Protection Association (USA)
HMIS: Hazardous Materials Identification System (USA)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
Flam. Liq. 2: Flammable liquids, Hazard Category 2
Acute Tox. 4: Acute toxicity, Hazard Category 4
Skin Irrit. 2: Skin corrosion/irritation, Hazard Category 2
Eye Dam. 1: Serious eye damage/eye irritation, Hazard Category 1
Muta. 2: Germ cell mutagenicity, Hazard Category 2
· STOT SE 3: Specific target organ toxicity - Single exposure, Hazard Category 3
· Aquatic Chronic 3: Hazardous to the aquatic environment - Chronic Hazard, Category 3
· **********

End of SDS