~~Safety data sheet in accordance with regulation (EC) No 1907/2006~~

Trade name: Marabu Sketch Marker Heat 6tlg. 936

Version: 1 / GB
Date revised: 12.02.2020

Substance number: 0148000000102-936
Replaces Version: - / GB
Print date: 27.02.20

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

1.1. Product identifier

Marabu Sketch Marker Heat 6tlg. 936

1.2. Relevant identified uses of the substance or mixture and uses advised against

Use of the substance/preparation

Paint

Identified Uses

SU21	Consumer uses: Private households (= general public = consumers)
PC9a	Coatings and paints, thinners, paint removers

1.3. Details of the supplier of the safety data sheet

Address/Manufacturer

Marabu GmbH & Co. KG
Asperger Strasse 4
71732 Tamm
Germany

Telephone no.	+49-7141/691-0
Fax no.	+49-7141/691-147
Information provided by / telephone	Department product safety
E-mail address of person responsible for this SDS	PRSI@marabu.com

1.4. Emergency telephone number

(+49) (0)621-60-43333

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification (Regulation (EC) No. 1272/2008)

Classification (Regulation (EC) No. 1272/2008)

Flam. Liq. 2	H225
Eye Irrit. 2	H319

2.2. Label elements

Labelling according to regulation (EC) No 1272/2008

Hazard pictograms

Signal word

Danger

Hazard statements

H225	Highly flammable liquid and vapour.
H319	Causes serious eye irritation.

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.
P264.1	Wash hands thoroughly after handling.
P280	Wear protective gloves / protective clothing / 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.
P501.9	Dispose of contents / container as problematic waste.

2.3. Other hazards

No special hazards have to be mentioned.

SECTION 3: Composition/information on ingredients

3.2. Mixtures

Hazardous ingredients

Ethanol

CAS No.	64-17-5				
EINECS no.	200-578-6				
Registration no.	01-2119457610-43				
Concentration	>=	50	<	100	%

Classification (Regulation (EC) No. 1272/2008)

Flam. Liq. 2	H225
Eye Irrit. 2	H319

Concentration limits (Regulation (EC) No. 1272/2008)

Eye Irrit. 2	H319	>= 50 %

1-Methoxy-2-propanol

CAS No.	107-98-2				
EINECS no.	203-539-1				
Registration no.	01-2119457435-35				
Concentration	>=	10	<	20	%

Classification (Regulation (EC) No. 1272/2008)

STOT SE 3	H336
Flam. Liq. 3	H226

SECTION 4: First aid measures

4.1. Description of first aid measures

General information

In all cases of doubt, or when symptoms persist, seek medical attention. Never give anything by mouth to an unconscious person. If unconscious place in recovery position and seek medical advice.

After inhalation

Remove to fresh air, keep patient warm and at rest. If breathing is irregular or stopped, administer artificial respiration.

After skin contact

Remove contaminated clothing. Wash skin thoroughly with soap and water or use recognised skin cleanser. Do NOT use solvents or thinners.

After eye contact

Remove contact lenses, irrigate copiously with clean, fresh water, holding the eyelids apart for at least 10

minutes and seek immediate medical advice.

After ingestion

If accidentally swallowed rinse the mouth with plenty of water (only if the person is conscious) and obtain immediate medical attention. Keep at rest. Do NOT induce vomiting.

4.2. Most important symptoms and effects, both acute and delayed

Until now no symptoms known so far.

4.3. Indication of any immediate medical attention and special treatment needed

Hints for the physician / treatment

Treat symptomatically

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media

Recommended: alcohol resistant foam, CO2, powders, water spray/mist, Not be used for safety reasons: water jet

5.2. Special hazards arising from the substance or mixture

In the event of fire the following can be released: Carbon monoxide (CO); Carbon dioxide (CO2); dense black smoke

5.3. Advice for firefighters

Special protective equipment for fire-fighting

Cool closed containers exposed to fire with water. Do not allow run-off from fire fighting to enter drains or water courses.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Exclude sources of ignition and ventilate the area. Avoid breathing vapours. Refer to protective measures listed in Sections 7 and 8.

6.2. Environmental precautions

Do not allow to enter drains or waterways. If the product contaminates lakes, rivers or sewage, inform appropriate authorities in accordance with local regulations.

6.3. Methods and material for containment and cleaning up

Contain and collect spillage with non-combustible absorbent materials, e.g. sand, earth, vermiculite, diatomaceous earth and place in container for disposal according to local regulations (see section 13). Clean preferably with a detergent - avoid use of solvents.

6.4. Reference to other sections

Information regarding Safe handling, see Section 7. Information regarding personal protective measures, see Section 8. Information regarding waste disposal, see Section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Advice on safe handling

Prevent the creation of flammable or explosive concentrations of vapour in air and avoid vapour concentration higher than the occupational exposure limits. In addition, the product should only be used in areas from which all naked lights and other sources of ignition have been excluded. Electrical equipment should be protected to the appropriate standard. Mixture may charge electrostatically: always use earthing leads when transferring from one container to another. Operators should wear anti-static footwear and clothing and floors should be of the conducting type. Isolate from sources of heat, sparks

and open flame. No sparking tools should be used. Avoid skin and eye contact. Avoid the inhalation of particulates and spray mist arising from the application of this mixture. Smoking, eating and drinking shall be prohibited in application area. For personal protection see Section 8. Never use pressure to empty: container is not a pressure vessel. Always keep in containers of same material as the original one. Comply with the health and safety at work laws. Do not allow to enter drains or water courses.

Advice on protection against fire and explosion

Vapours are heavier than air and may spread along floors. Vapours may form explosive mixtures with air.

Classification of fires / temperature class / Ignition group / Dust explosion class

Classification of fires	B (Combustible liquid substances)
Temperature class	T3

7.2. Conditions for safe storage, including any incompatibilities

Requirements for storage rooms and vessels

Electrical installations/working materials must comply with the local applied technological safety standards. Storage rooms in which filling operations take place must have a conducting floor. Store in accordance with national regulation

Hints on storage assembly

Store away from oxidising agents, from strongly alkaline and strongly acid materials.

Further information on storage conditions

Observe label precautions. Store between 15 and 30 °C in a dry, well ventilated place away from sources of heat and direct sunlight. Keep container tightly closed. Keep away from sources of ignition. No smoking. Prevent unauthorised access. Containers which are opened must be carefully resealed and kept upright to prevent leakage.

7.3. Specific end use(s)

Paint

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Exposure limit values

Ethanol

List	EH40			
Type	WEL			
Value	1920	mg/m³	1000	ppm(V)
Status: 2011				

1-Methoxy-2-propanol

List	EH40			
Type	WEL			
Value	375	mg/m³	100	ppm(V)
Short term exposure limit	560	mg/m³	150	ppm(V)

Skin resorption / sensibilisation: Sk; Status: 2011

Derived No/Minimal Effect Levels (DNEL/DMEL)

Ethanol

Type of value	Derived No Effect Level (DNEL)	
Reference group	Worker	
Duration of exposure	Long term	
Route of exposure	inhalative	
Mode of action	Systemic effects	
Concentration	950	mg/m³
Type of value	Derived No Effect Level (DNEL)	
Reference group	Worker	

Duration of exposure	Short term	
Route of exposure	inhalative	
Mode of action	Local effects	
Concentration	1900	mg/m³
Type of value	Derived No Effect Level (DNEL)	
Reference group	Worker	
Duration of exposure	Long term	
Route of exposure	dermal	
Mode of action	Systemic effects	
Concentration	343	mg/kg/d
Type of value	Derived No Effect Level (DNEL)	
Reference group	Consumer	
Duration of exposure	Long term	
Route of exposure	inhalative	
Mode of action	Systemic effects	
Concentration	114	mg/m³
Type of value	Derived No Effect Level (DNEL)	
Reference group	Consumer	
Duration of exposure	Short term	
Route of exposure	inhalative	
Mode of action	Local effects	
Concentration	950	mg/m³
Type of value	Derived No Effect Level (DNEL)	
Reference group	Consumer	
Duration of exposure	Long term	
Route of exposure	dermal	
Mode of action	Systemic effects	
Concentration	206	mg/kg/d
Type of value	Derived No Effect Level (DNEL)	
Reference group	Consumer	
Duration of exposure	Long term	
Route of exposure	oral	
Mode of action	Systemic effects	
Concentration	87	mg/kg/d

1-Methoxy-2-propanol

Type of value	Derived No Effect Level (DNEL)	
Reference group	Worker	
Duration of exposure	Acute	
Route of exposure	inhalative	
Mode of action	Local effects	
Concentration	553,5	mg/m³
Type of value	Derived No Effect Level (DNEL)	
Reference group	Worker	
Duration of exposure	Long term	
Route of exposure	dermal	
Mode of action	Systemic effects	
Concentration	50,6	mg/person/d
Type of value	Derived No Effect Level (DNEL)	

Reference group	Worker	
Duration of exposure	Long term	
Route of exposure	inhalative	
Mode of action	Systemic effects	
Concentration	369	mg/m³

Type of value	Derived No Effect Level (DNEL)	
Reference group	General Population	
Duration of exposure	Long term	
Route of exposure	dermal	
Mode of action	Systemic effects	
Concentration	18,1	mg/kg

Type of value	Derived No Effect Level (DNEL)	
Reference group	General Population	
Duration of exposure	Long term	
Route of exposure	inhalative	
Mode of action	Systemic effects	
Concentration	43,9	mg/m³

Type of value	Derived No Effect Level (DNEL)	
Reference group	General Population	
Duration of exposure	Long term	
Route of exposure	oral	
Mode of action	Systemic effects	
Concentration	3,3	mg/kg/d

Predicted No Effect Concentration (PNEC)

Ethanol

Type of value	PNEC	
Type	Freshwater	
Concentration	0,96	mg/l

Type of value	PNEC	
Type	Saltwater	
Concentration	0,79	mg/l

Type of value	PNEC	
Type	Water (intermittent release)	
Concentration	2,75	mg/l

Type of value	PNEC	
Type	Sewage treatment plant (STP)	
Concentration	580	mg/l

Type of value	PNEC	
Type	Freshwater sediment	
Concentration	3,6	mg/kg

Type of value	PNEC	
Type	Marine sediment	
Concentration	2,9	mg/kg

Type of value	PNEC	
Type	Soil	
Concentration	0,63	mg/kg

1-Methoxy-2-propanol

Type of value	PNEC	
Type	Freshwater	
Concentration	10	mg/l
Type of value	PNEC	
Type	Water	
Concentration	41,6	mg/kg
Type of value	PNEC	
Type	Sediment	
Concentration	41,6	mg/kg
Type of value	PNEC	
Type	Marine sediment	
Concentration	4,17	mg/kg
Type of value	PNEC	
Type	Soil	
Concentration	2,47	mg/kg
Type of value	PNEC	
Type	Sewage treatment plant (STP)	
Concentration	100	mg/l

8.2. Exposure controls

Exposure controls

Provide adequate ventilation. Where reasonably practicable this should be achieved by the use of local exhaust ventilation and good general extraction. If these are not sufficient to maintain concentrations of particulates and solvent vapour below the OEL, suitable respiratory protection must be worn.

Respiratory protection

If workers are exposed to concentrations above the exposure limit they must use appropriate, certified respirators. Full mask, filter A

Hand protection

There is no one glove material or combination of materials that will give unlimited resistance to any individual or combination of chemicals.
For prolonged or repeated handling nitrile rubber gloves with textile undergloves are required.

Material thickness	>	0,5	mm
Breakthrough time	<	30	min

The breakthrough time must be greater than the end use time of the product.
The instructions and information provided by the glove manufacturer on use, storage, maintenance and replacement must be followed.
Gloves should be replaced regularly and if there is any sign of damage to the glove material.
Always ensure that gloves are free from defects and that they are stored and used correctly.
The performance or effectiveness of the glove may be reduced by physical/ chemical damage and poor maintenance.
Barrier creams may help to protect the exposed areas of the skin, they should however not be applied once exposure has occurred.

Eye protection

Use safety eyewear designed to protect against splash of liquids.

Body protection

Cotton or cotton/synthetic overalls or coveralls are normally suitable.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Form	Liquid			
Colour	red			
Odour	solvent-like			
Odour threshold				
Remarks	No data available			
pH value				
Remarks	Not applicable			
Melting point				
Remarks	not determined			
Freezing point				
Remarks	not determined			
Initial boiling point and boiling range				
Value	appr.	78		°C
Flash point				
Value		12		°C
Evaporation rate (ether = 1) :				
Remarks	not determined			
Flammability (solid, gas)				
Not applicable				
Upper/lower flammability or explosive limits				
Lower explosion limit	appr.	1,5		%(V)
Upper explosion limit	appr.	15		%(V)
Source	Literature value			
Vapour pressure				
Value	appr.	59		hPa
Vapour density				
Remarks	not determined			
Density				
Remarks	not determined			
Solubility in water				
Remarks	partially miscible			
Partition coefficient: n-octanol/water				
Remarks	Not applicable			
Ignition temperature				
Value	appr.	287		°C
Source	Literature value			
Efflux time				
Value	<	12		s
Temperature		20	°C	
Method	DIN 53211 4 mm			
Explosive properties				
evaluation	no			
Oxidising properties				
evaluation	None known			

9.2. Other information

Other information
The physical specifications are approximate values and refer to the used safety relevant component(s).

SECTION 10: Stability and reactivity

10.1. Reactivity
No hazardous reactions when stored and handled according to prescribed instructions.

10.2. Chemical stability
Stable under recommended storage and handling conditions (see section 7).

10.3. Possibility of hazardous reactions
Keep away from oxidising agents, strongly alkaline and strongly acid materials in order to avoid exothermic reactions.

10.4. Conditions to avoid
When exposed to high temperatures may produce hazardous decomposition products.

10.5. Incompatible materials
No hazardous reactions when stored and handled according to prescribed instructions.

10.6. Hazardous decomposition products
See chapter 5.2 (Firefighting measures - Special hazards arising from the substance or mixture).

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute oral toxicity

Remarks	Based on available data, the classification criteria are not met.

Acute oral toxicity (Components)

1-Methoxy-2-propanol

Species	rat	
LD50	5200	mg/kg

Acute dermal toxicity

Remarks	Based on available data, the classification criteria are not met.

Acute dermal toxicity (Components)

1-Methoxy-2-propanol

Species	rabbit	
LD50	14000	mg/kg

Acute inhalational toxicity

Remarks	Based on available data, the classification criteria are not met.

Skin corrosion/irritation

Remarks	Based on available data, the classification criteria are not met.

Serious eye damage/irritation

evaluation	irritant
Remarks	The classification criteria are met.

Sensitization

Remarks	Based on available data, the classification criteria are not met.

Mutagenicity

Remarks	Based on available data, the classification criteria are not met.

Reproductive toxicity

Remarks	Based on available data, the classification criteria are not met.

Carcinogenicity

Remarks Based on available data, the classification criteria are not met.

Specific Target Organ Toxicity (STOT)

Single exposure

Remarks Based on available data, the classification criteria are not met.

Repeated exposure

Remarks Based on available data, the classification criteria are not met.

Aspiration hazard

Based on available data, the classification criteria are not met.

Experience in practice

Exposure to component solvents vapours concentration in excess of the stated occupational exposure limit may result in adverse health effects such as mucous membrane and respiratory system irritation and adverse effects on kidney, liver and central nervous system. Symptoms and signs include headache, dizziness, fatigue, muscular weakness, drowsiness and in extreme cases, loss of consciousness. Solvents may cause some of the above effects by absorption through the skin. Repeated or prolonged contact with the mixture may cause removal of natural fat from the skin resulting in non-allergic contact dermatitis and absorption through the skin. The liquid splashed in the eyes may cause irritation and reversible damage. Ingestion may cause nausea, diarrhoea and vomiting. This takes into account, where known, delayed and immediate effects and also chronic effects of components from short-term and long-term exposure by oral, inhalation and dermal routes of exposure and eye contact.

Other information

There are no data available on the mixture itself.
The mixture has been assessed following the additivity method of the CLP Regulation (EC) No 1272/2008 and classified for toxicological hazards accordingly.

SECTION 12: Ecological information

12.1. Toxicity

General information

There are no data available on the mixture itself.Do not allow to enter drains or water courses.The mixture has been assessed following the summation method of the CLP Regulation (EC) No 1272/2008 and is not classified as dangerous for the environment.

Fish toxicity (Components)

1-Methoxy-2-propanol

Species	golden orfe (Leuciscus idus)		
LC0	> 4600		mg/l
Duration of exposure	96	h	

Daphnia toxicity (Components)

1-Methoxy-2-propanol

Species	Daphnia magna		
EC50	23300		mg/l
Duration of exposure	48	h	

Algae toxicity (Components)

1-Methoxy-2-propanol

Species	Desmodesmus		
EC50	> 1000		mg/l
Duration of exposure	168	h	

Bacteria toxicity (Components)

1-Methoxy-2-propanol

Species activated sludge

EC50	>	1000	mg/l

12.2. Persistence and degradability

General information

No data available

Biodegradability (Components)

1-Methoxy-2-propanol

Value	90		%
Duration of test	28	d	
evaluation	Readily biodegradable (according to OECD criteria)		
Method	OECD 301 F		

12.3. Bioaccumulative potential

General information

There are no data available on the mixture itself.

Partition coefficient: n-octanol/water

Remarks Not applicable

12.4. Mobility in soil

General information

There are no data available on the mixture itself.

12.5. Results of PBT and vPvB assessment

General information

There are no data available on the mixture itself.

12.6. Other adverse effects

General information

There are no data available on the mixture itself.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Disposal recommendations for the product

Do not allow to enter drains or water courses.
Wastes and emptied containers should be classified in accordance with relevant national regulation.
The European Waste Catalogue classification of this product, when disposed of as waste is
EWC waste code 08 03 12* waste ink containing dangerous substances
If this product is mixed with other wastes, the original waste product code may no longer apply and the appropriate code should be assigned.
For further information contact your local waste authority.

Disposal recommendations for packaging

Using information provided in this safety data sheet, advice should be obtained from the relevant waste authority on the classification of empty containers.
Empty containers must be scrapped or reconditioned.
Not emptied containers are hazardous waste (waste code number 150110).

SECTION 14: Transport information

	Land transport ADR/RID	Marine transport IMDG/GGVSee	Air transport ICAO/IATA
Tunnel restriction code	D/E		
14.1. UN number	1263	1263	1263
14.2. UN proper shipping name	PAINT	PAINT	PAINT
14.3. Transport hazard class(es)	3	3	3
Label			
14.4. Packing group	II	II	II
Special provision	640D		
Limited Quantity	5 l		
Transport category	3		
14.5. Environmental hazards	-	no	-

Information for all modes of transport

14.6. Special precautions for user

Transport within the user's premises:
Always transport in closed containers that are upright and secure.
Ensure that persons transporting the product know what to do in the event of an accident or spillage.

Other information

14.7. Transport in bulk according to Annex II of Marpol and the IBC Code

no

SECTION 15: Regulatory information

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

VOC

VOC (EU) 85 %

Other information

The product does not contain substances of very high concern (SVHC).

15.2. Chemical safety assessment

For this preparation a chemical safety assessment has not been carried out.

SECTION 16: Other information

Hazard statements listed in Chapter 3

H225	Highly flammable liquid and vapour.
H226	Flammable liquid and vapour.
H319	Causes serious eye irritation.
H336	May cause drowsiness or dizziness.

CLP categories listed in Chapter 3

Eye Irrit. 2	Eye irritation, Category 2
Flam. Liq. 2	Flammable liquid, Category 2
Flam. Liq. 3	Flammable liquid, Category 3
STOT SE 3	Specific target organ toxicity - single exposure, Category 3

Supplemental information

Relevant changes compared with the previous version of the safety data sheet are marked with: ***
This information is based on our present state of knowledge. However, it should not constitute a guarantee for any specific product properties and shall not establish a legally valid relationship.
The information in this Safety Data Sheet is based on the present state of knowledge and current legislation.
It provides guidance on health, safety and environmental aspects of the product and should not be construed as any guarantee of technical performance or suitability for particular applications.
The product should not be used for purposes other than those shown in Section 1 without first referring to the supplier and obtaining written handling instructions.
As the specific conditions of use of the product are outside the supplier’s control, the user is responsible for ensuring that the requirements of relevant legislation are complied with.
The information contained in this safety data sheet does not constitute the user’s own assessment of workplace risks, as required by other health and safety legislation.

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

1.1. Product identifier

Marabu Sketch Marker Heat 6tlg. 956

1.2. Relevant identified uses of the substance or mixture and uses advised against

Use of the substance/preparation

Paint

Identified Uses

SU21	Consumer uses: Private households (= general public = consumers)
PC9a	Coatings and paints, thinners, paint removers

1.3. Details of the supplier of the safety data sheet

Address/Manufacturer

Marabu GmbH & Co. KG
Asperger Strasse 4
71732 Tamm
Germany

Telephone no.	+49-7141/691-0
Fax no.	+49-7141/691-147
Information provided by / telephone	Department product safety
E-mail address of person responsible for this SDS	PRSI@marabu.com

1.4. Emergency telephone number

(+49) (0)621-60-43333

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification (Regulation (EC) No. 1272/2008)

Classification (Regulation (EC) No. 1272/2008)

Flam. Liq. 2	H225
Eye Irrit. 2	H319

2.2. Label elements

Labelling according to regulation (EC) No 1272/2008

Hazard pictograms

Signal word

Danger

Hazard statements

H225	Highly flammable liquid and vapour.
H319	Causes serious eye irritation.

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.
P264.1	Wash hands thoroughly after handling.
P280	Wear protective gloves / protective clothing / 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.
P501.9	Dispose of contents / container as problematic waste.

2.3. Other hazards

No special hazards have to be mentioned.

SECTION 3: Composition/information on ingredients

3.2. Mixtures

Hazardous ingredients

Ethanol

CAS No.	64-17-5				
EINECS no.	200-578-6				
Registration no.	01-2119457610-43				
Concentration	>=	50	<	100	%

Classification (Regulation (EC) No. 1272/2008)

Flam. Liq. 2	H225
Eye Irrit. 2	H319

Concentration limits (Regulation (EC) No. 1272/2008)

Eye Irrit. 2	H319	>= 50 %

1-Methoxy-2-propanol

CAS No.	107-98-2				
EINECS no.	203-539-1				
Registration no.	01-2119457435-35				
Concentration	>=	10	<	20	%

Classification (Regulation (EC) No. 1272/2008)

STOT SE 3	H336
Flam. Liq. 3	H226

SECTION 4: First aid measures

4.1. Description of first aid measures

General information

In all cases of doubt, or when symptoms persist, seek medical attention. Never give anything by mouth to an unconscious person. If unconscious place in recovery position and seek medical advice.

After inhalation

Remove to fresh air, keep patient warm and at rest. If breathing is irregular or stopped, administer artificial respiration.

After skin contact

Remove contaminated clothing. Wash skin thoroughly with soap and water or use recognised skin cleanser. Do NOT use solvents or thinners.

After eye contact

Remove contact lenses, irrigate copiously with clean, fresh water, holding the eyelids apart for at least 10

minutes and seek immediate medical advice.

After ingestion

If accidentally swallowed rinse the mouth with plenty of water (only if the person is conscious) and obtain immediate medical attention. Keep at rest. Do NOT induce vomiting.

4.2. Most important symptoms and effects, both acute and delayed

Until now no symptoms known so far.

4.3. Indication of any immediate medical attention and special treatment needed

Hints for the physician / treatment

Treat symptomatically

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media

Recommended: alcohol resistant foam, CO2, powders, water spray/mist, Not be used for safety reasons: water jet

5.2. Special hazards arising from the substance or mixture

In the event of fire the following can be released: Carbon monoxide (CO); Carbon dioxide (CO2); dense black smoke

5.3. Advice for firefighters

Special protective equipment for fire-fighting

Cool closed containers exposed to fire with water. Do not allow run-off from fire fighting to enter drains or water courses.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Exclude sources of ignition and ventilate the area. Avoid breathing vapours. Refer to protective measures listed in Sections 7 and 8.

6.2. Environmental precautions

Do not allow to enter drains or waterways. If the product contaminates lakes, rivers or sewage, inform appropriate authorities in accordance with local regulations.

6.3. Methods and material for containment and cleaning up

Contain and collect spillage with non-combustible absorbent materials, e.g. sand, earth, vermiculite, diatomaceous earth and place in container for disposal according to local regulations (see section 13). Clean preferably with a detergent - avoid use of solvents.

6.4. Reference to other sections

Information regarding Safe handling, see Section 7. Information regarding personal protective measures, see Section 8. Information regarding waste disposal, see Section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Advice on safe handling

Prevent the creation of flammable or explosive concentrations of vapour in air and avoid vapour concentration higher than the occupational exposure limits. In addition, the product should only be used in areas from which all naked lights and other sources of ignition have been excluded. Electrical equipment should be protected to the appropriate standard. Mixture may charge electrostatically: always use earthing leads when transferring from one container to another. Operators should wear anti-static footwear and clothing and floors should be of the conducting type. Isolate from sources of heat, sparks

and open flame. No sparking tools should be used. Avoid skin and eye contact. Avoid the inhalation of particulates and spray mist arising from the application of this mixture. Smoking, eating and drinking shall be prohibited in application area. For personal protection see Section 8. Never use pressure to empty: container is not a pressure vessel. Always keep in containers of same material as the original one. Comply with the health and safety at work laws. Do not allow to enter drains or water courses.

Advice on protection against fire and explosion

Vapours are heavier than air and may spread along floors. Vapours may form explosive mixtures with air.

Classification of fires / temperature class / Ignition group / Dust explosion class

Classification of fires	B (Combustible liquid substances)
Temperature class	T3

7.2. Conditions for safe storage, including any incompatibilities

Requirements for storage rooms and vessels

Electrical installations/working materials must comply with the local applied technological safety standards. Storage rooms in which filling operations take place must have a conducting floor. Store in accordance with national regulation

Hints on storage assembly

Store away from oxidising agents, from strongly alkaline and strongly acid materials.

Further information on storage conditions

Observe label precautions. Store between 15 and 30 °C in a dry, well ventilated place away from sources of heat and direct sunlight. Keep container tightly closed. Keep away from sources of ignition. No smoking. Prevent unauthorised access. Containers which are opened must be carefully resealed and kept upright to prevent leakage.

7.3. Specific end use(s)

Paint

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Exposure limit values

Ethanol

List	EH40			
Type	WEL			
Value	1920	mg/m³	1000	ppm(V)
Status: 2011				

1-Methoxy-2-propanol

List	EH40			
Type	WEL			
Value	375	mg/m³	100	ppm(V)
Short term exposure limit	560	mg/m³	150	ppm(V)

Skin resorption / sensibilisation: Sk; Status: 2011

Derived No/Minimal Effect Levels (DNEL/DMEL)

Ethanol

Type of value	Derived No Effect Level (DNEL)	
Reference group	Worker	
Duration of exposure	Long term	
Route of exposure	inhalative	
Mode of action	Systemic effects	
Concentration	950	mg/m³
Type of value	Derived No Effect Level (DNEL)	
Reference group	Worker	

Duration of exposure	Short term	
Route of exposure	inhalative	
Mode of action	Local effects	
Concentration	1900	mg/m³

Type of value	Derived No Effect Level (DNEL)	
Reference group	Worker	
Duration of exposure	Long term	
Route of exposure	dermal	
Mode of action	Systemic effects	
Concentration	343	mg/kg/d

Type of value	Derived No Effect Level (DNEL)	
Reference group	Consumer	
Duration of exposure	Long term	
Route of exposure	inhalative	
Mode of action	Systemic effects	
Concentration	114	mg/m³

Type of value	Derived No Effect Level (DNEL)	
Reference group	Consumer	
Duration of exposure	Short term	
Route of exposure	inhalative	
Mode of action	Local effects	
Concentration	950	mg/m³

Type of value	Derived No Effect Level (DNEL)	
Reference group	Consumer	
Duration of exposure	Long term	
Route of exposure	dermal	
Mode of action	Systemic effects	
Concentration	206	mg/kg/d

Type of value	Derived No Effect Level (DNEL)	
Reference group	Consumer	
Duration of exposure	Long term	
Route of exposure	oral	
Mode of action	Systemic effects	
Concentration	87	mg/kg/d

1-Methoxy-2-propanol

Type of value	Derived No Effect Level (DNEL)	
Reference group	Worker	
Duration of exposure	Acute	
Route of exposure	inhalative	
Mode of action	Local effects	
Concentration	553,5	mg/m³

Type of value	Derived No Effect Level (DNEL)	
Reference group	Worker	
Duration of exposure	Long term	
Route of exposure	dermal	
Mode of action	Systemic effects	
Concentration	50,6	mg/person/d

Type of value	Derived No Effect Level (DNEL)

Reference group	Worker	
Duration of exposure	Long term	
Route of exposure	inhalative	
Mode of action	Systemic effects	
Concentration	369	mg/m³

Type of value	Derived No Effect Level (DNEL)	
Reference group	General Population	
Duration of exposure	Long term	
Route of exposure	dermal	
Mode of action	Systemic effects	
Concentration	18,1	mg/kg

Type of value	Derived No Effect Level (DNEL)	
Reference group	General Population	
Duration of exposure	Long term	
Route of exposure	inhalative	
Mode of action	Systemic effects	
Concentration	43,9	mg/m³

Type of value	Derived No Effect Level (DNEL)	
Reference group	General Population	
Duration of exposure	Long term	
Route of exposure	oral	
Mode of action	Systemic effects	
Concentration	3,3	mg/kg/d

Predicted No Effect Concentration (PNEC)

Ethanol

Type of value	PNEC	
Type	Freshwater	
Concentration	0,96	mg/l

Type of value	PNEC	
Type	Saltwater	
Concentration	0,79	mg/l

Type of value	PNEC	
Type	Water (intermittent release)	
Concentration	2,75	mg/l

Type of value	PNEC	
Type	Sewage treatment plant (STP)	
Concentration	580	mg/l

Type of value	PNEC	
Type	Freshwater sediment	
Concentration	3,6	mg/kg

Type of value	PNEC	
Type	Marine sediment	
Concentration	2,9	mg/kg

Type of value	PNEC	
Type	Soil	
Concentration	0,63	mg/kg

1-Methoxy-2-propanol

Type of value	PNEC	
Type	Freshwater	
Concentration	10	mg/l
Type of value	PNEC	
Type	Water	
Concentration	41,6	mg/kg
Type of value	PNEC	
Type	Sediment	
Concentration	41,6	mg/kg
Type of value	PNEC	
Type	Marine sediment	
Concentration	4,17	mg/kg
Type of value	PNEC	
Type	Soil	
Concentration	2,47	mg/kg
Type of value	PNEC	
Type	Sewage treatment plant (STP)	
Concentration	100	mg/l

8.2. Exposure controls

Exposure controls

Provide adequate ventilation. Where reasonably practicable this should be achieved by the use of local exhaust ventilation and good general extraction. If these are not sufficient to maintain concentrations of particulates and solvent vapour below the OEL, suitable respiratory protection must be worn.

Respiratory protection

If workers are exposed to concentrations above the exposure limit they must use appropriate, certified respirators. Full mask, filter A

Hand protection

There is no one glove material or combination of materials that will give unlimited resistance to any individual or combination of chemicals.
For prolonged or repeated handling nitrile rubber gloves with textile undergloves are required.

Material thickness	>	0,5	mm
Breakthrough time	<	30	min

The breakthrough time must be greater than the end use time of the product.
The instructions and information provided by the glove manufacturer on use, storage, maintenance and replacement must be followed.
Gloves should be replaced regularly and if there is any sign of damage to the glove material.
Always ensure that gloves are free from defects and that they are stored and used correctly.
The performance or effectiveness of the glove may be reduced by physical/ chemical damage and poor maintenance.
Barrier creams may help to protect the exposed areas of the skin, they should however not be applied once exposure has occurred.

Eye protection

Use safety eyewear designed to protect against splash of liquids.

Body protection

Cotton or cotton/synthetic overalls or coveralls are normally suitable.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Form	Liquid			
Colour	blue			
Odour	solvent-like			
Odour threshold				
Remarks	No data available			
pH value				
Remarks	Not applicable			
Melting point				
Remarks	not determined			
Freezing point				
Remarks	not determined			
Initial boiling point and boiling range				
Value	appr.	78		°C
Flash point				
Value		12		°C
Evaporation rate (ether = 1) :				
Remarks	not determined			
Flammability (solid, gas)				
Not applicable				
Upper/lower flammability or explosive limits				
Lower explosion limit	appr.	1,5		%(V)
Upper explosion limit	appr.	15		%(V)
Source	Literature value			
Vapour pressure				
Value	appr.	59		hPa
Vapour density				
Remarks	not determined			
Density				
Remarks	not determined			
Solubility in water				
Remarks	partially miscible			
Partition coefficient: n-octanol/water				
Remarks	Not applicable			
Ignition temperature				
Value	appr.	287		°C
Source	Literature value			
Efflux time				
Value	<	12		s
Temperature		20	°C	
Method	DIN 53211 4 mm			
Explosive properties				
evaluation	no			
Oxidising properties				
evaluation	None known			

9.2. Other information

Other information
The physical specifications are approximate values and refer to the used safety relevant component(s).

SECTION 10: Stability and reactivity

10.1. Reactivity
No hazardous reactions when stored and handled according to prescribed instructions.

10.2. Chemical stability
Stable under recommended storage and handling conditions (see section 7).

10.3. Possibility of hazardous reactions
Keep away from oxidising agents, strongly alkaline and strongly acid materials in order to avoid exothermic reactions.

10.4. Conditions to avoid
When exposed to high temperatures may produce hazardous decomposition products.

10.5. Incompatible materials
No hazardous reactions when stored and handled according to prescribed instructions.

10.6. Hazardous decomposition products
See chapter 5.2 (Firefighting measures - Special hazards arising from the substance or mixture).

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute oral toxicity

Remarks	Based on available data, the classification criteria are not met.

Acute oral toxicity (Components)

1-Methoxy-2-propanol

Species	rat	
LD50	5200	mg/kg

Acute dermal toxicity

Remarks	Based on available data, the classification criteria are not met.

Acute dermal toxicity (Components)

1-Methoxy-2-propanol

Species	rabbit	
LD50	14000	mg/kg

Acute inhalational toxicity

Remarks	Based on available data, the classification criteria are not met.

Skin corrosion/irritation

Remarks	Based on available data, the classification criteria are not met.

Serious eye damage/irritation

evaluation	irritant
Remarks	The classification criteria are met.

Sensitization

Remarks	Based on available data, the classification criteria are not met.

Mutagenicity

Remarks	Based on available data, the classification criteria are not met.

Reproductive toxicity

Remarks	Based on available data, the classification criteria are not met.

Carcinogenicity

Remarks Based on available data, the classification criteria are not met.

Specific Target Organ Toxicity (STOT)

Single exposure

Remarks Based on available data, the classification criteria are not met.

Repeated exposure

Remarks Based on available data, the classification criteria are not met.

Aspiration hazard

Based on available data, the classification criteria are not met.

Experience in practice

Exposure to component solvents vapours concentration in excess of the stated occupational exposure limit may result in adverse health effects such as mucous membrane and respiratory system irritation and adverse effects on kidney, liver and central nervous system. Symptoms and signs include headache, dizziness, fatigue, muscular weakness, drowsiness and in extreme cases, loss of consciousness. Solvents may cause some of the above effects by absorption through the skin. Repeated or prolonged contact with the mixture may cause removal of natural fat from the skin resulting in non-allergic contact dermatitis and absorption through the skin. The liquid splashed in the eyes may cause irritation and reversible damage. Ingestion may cause nausea, diarrhoea and vomiting. This takes into account, where known, delayed and immediate effects and also chronic effects of components from short-term and long-term exposure by oral, inhalation and dermal routes of exposure and eye contact.

Other information

There are no data available on the mixture itself.
The mixture has been assessed following the additivity method of the CLP Regulation (EC) No 1272/2008 and classified for toxicological hazards accordingly.

SECTION 12: Ecological information

12.1. Toxicity

General information

There are no data available on the mixture itself.Do not allow to enter drains or water courses.The mixture has been assessed following the summation method of the CLP Regulation (EC) No 1272/2008 and is not classified as dangerous for the environment.

Fish toxicity (Components)

1-Methoxy-2-propanol

Species	golden orfe (Leuciscus idus)		
LC0	> 4600		mg/l
Duration of exposure	96	h	

Daphnia toxicity (Components)

1-Methoxy-2-propanol

Species	Daphnia magna		
EC50	23300		mg/l
Duration of exposure	48	h	

Algae toxicity (Components)

1-Methoxy-2-propanol

Species	Desmodesmus		
EC50	> 1000		mg/l
Duration of exposure	168	h	

Bacteria toxicity (Components)

1-Methoxy-2-propanol

Species	activated sludge

EC50	>	1000	mg/l

12.2. Persistence and degradability

General information

No data available

Biodegradability (Components)

1-Methoxy-2-propanol

Value	90		%
Duration of test	28	d	
evaluation	Readily biodegradable (according to OECD criteria)		
Method	OECD 301 F		

12.3. Bioaccumulative potential

General information

There are no data available on the mixture itself.

Partition coefficient: n-octanol/water

Remarks Not applicable

12.4. Mobility in soil

General information

There are no data available on the mixture itself.

12.5. Results of PBT and vPvB assessment

General information

There are no data available on the mixture itself.

12.6. Other adverse effects

General information

There are no data available on the mixture itself.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Disposal recommendations for the product

Do not allow to enter drains or water courses.
Wastes and emptied containers should be classified in accordance with relevant national regulation.
The European Waste Catalogue classification of this product, when disposed of as waste is
EWC waste code 08 03 12* waste ink containing dangerous substances
If this product is mixed with other wastes, the original waste product code may no longer apply and the appropriate code should be assigned.
For further information contact your local waste authority.

Disposal recommendations for packaging

Using information provided in this safety data sheet, advice should be obtained from the relevant waste authority on the classification of empty containers.
Empty containers must be scrapped or reconditioned.
Not emptied containers are hazardous waste (waste code number 150110).

SECTION 14: Transport information

	Land transport ADR/RID	Marine transport IMDG/GGVSee	Air transport ICAO/IATA
Tunnel restriction code	D/E		
14.1. UN number	1263	1263	1263
14.2. UN proper shipping name	PAINT	PAINT	PAINT
14.3. Transport hazard class(es)	3	3	3
Label			
14.4. Packing group	II	II	II
Special provision	640D		
Limited Quantity	5 l		
Transport category	3		
14.5. Environmental hazards	-	no	-

Information for all modes of transport

14.6. Special precautions for user

Transport within the user's premises:
Always transport in closed containers that are upright and secure.
Ensure that persons transporting the product know what to do in the event of an accident or spillage.

Other information

14.7. Transport in bulk according to Annex II of Marpol and the IBC Code

no

SECTION 15: Regulatory information

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

VOC

VOC (EU) 87 %

Other information

The product does not contain substances of very high concern (SVHC).

15.2. Chemical safety assessment

For this preparation a chemical safety assessment has not been carried out.

SECTION 16: Other information

Hazard statements listed in Chapter 3

H225	Highly flammable liquid and vapour.
H226	Flammable liquid and vapour.
H319	Causes serious eye irritation.
H336	May cause drowsiness or dizziness.

CLP categories listed in Chapter 3

Eye Irrit. 2	Eye irritation, Category 2
Flam. Liq. 2	Flammable liquid, Category 2
Flam. Liq. 3	Flammable liquid, Category 3
STOT SE 3	Specific target organ toxicity - single exposure, Category 3

Supplemental information

Relevant changes compared with the previous version of the safety data sheet are marked with: ***
This information is based on our present state of knowledge. However, it should not constitute a guarantee for any specific product properties and shall not establish a legally valid relationship.
The information in this Safety Data Sheet is based on the present state of knowledge and current legislation.
It provides guidance on health, safety and environmental aspects of the product and should not be construed as any guarantee of technical performance or suitability for particular applications.
The product should not be used for purposes other than those shown in Section 1 without first referring to the supplier and obtaining written handling instructions.
As the specific conditions of use of the product are outside the supplier’s control, the user is responsible for ensuring that the requirements of relevant legislation are complied with.
The information contained in this safety data sheet does not constitute the user’s own assessment of workplace risks, as required by other health and safety legislation.

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

1.1. Product identifier

Marabu Sketch Marker Heat 6tlg. 960

1.2. Relevant identified uses of the substance or mixture and uses advised against

Use of the substance/preparation

Paint

Identified Uses

SU21	Consumer uses: Private households (= general public = consumers)
PC9a	Coatings and paints, thinners, paint removers

1.3. Details of the supplier of the safety data sheet

Address/Manufacturer

Marabu GmbH & Co. KG
Asperger Strasse 4
71732 Tamm
Germany

Telephone no.	+49-7141/691-0
Fax no.	+49-7141/691-147
Information provided by / telephone	Department product safety
E-mail address of person responsible for this SDS	PRSI@marabu.com

1.4. Emergency telephone number

(+49) (0)621-60-43333

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification (Regulation (EC) No. 1272/2008)

Classification (Regulation (EC) No. 1272/2008)

Flam. Liq. 2	H225
Eye Irrit. 2	H319

2.2. Label elements

Labelling according to regulation (EC) No 1272/2008

Hazard pictograms

Signal word

Danger

Hazard statements

H225	Highly flammable liquid and vapour.
H319	Causes serious eye irritation.

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.
P264.1	Wash hands thoroughly after handling.
P280	Wear protective gloves / protective clothing / 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.
P501.9	Dispose of contents / container as problematic waste.

2.3. Other hazards

No special hazards have to be mentioned.

SECTION 3: Composition/information on ingredients

3.2. Mixtures

Hazardous ingredients

Ethanol

CAS No.	64-17-5				
EINECS no.	200-578-6				
Registration no.	01-2119457610-43				
Concentration	>=	50	<	100	%

Classification (Regulation (EC) No. 1272/2008)

Flam. Liq. 2	H225
Eye Irrit. 2	H319

Concentration limits (Regulation (EC) No. 1272/2008)

Eye Irrit. 2	H319	>= 50 %

1-Methoxy-2-propanol

CAS No.	107-98-2				
EINECS no.	203-539-1				
Registration no.	01-2119457435-35				
Concentration	>=	10	<	20	%

Classification (Regulation (EC) No. 1272/2008)

STOT SE 3	H336
Flam. Liq. 3	H226

SECTION 4: First aid measures

4.1. Description of first aid measures

General information

In all cases of doubt, or when symptoms persist, seek medical attention. Never give anything by mouth to an unconscious person. If unconscious place in recovery position and seek medical advice.

After inhalation

Remove to fresh air, keep patient warm and at rest. If breathing is irregular or stopped, administer artificial respiration.

After skin contact

Remove contaminated clothing. Wash skin thoroughly with soap and water or use recognised skin cleanser. Do NOT use solvents or thinners.

After eye contact

Remove contact lenses, irrigate copiously with clean, fresh water, holding the eyelids apart for at least 10

minutes and seek immediate medical advice.

After ingestion

If accidentally swallowed rinse the mouth with plenty of water (only if the person is conscious) and obtain immediate medical attention. Keep at rest. Do NOT induce vomiting.

4.2. Most important symptoms and effects, both acute and delayed

Until now no symptoms known so far.

4.3. Indication of any immediate medical attention and special treatment needed

Hints for the physician / treatment

Treat symptomatically

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media

Recommended: alcohol resistant foam, CO2, powders, water spray/mist, Not be used for safety reasons: water jet

5.2. Special hazards arising from the substance or mixture

In the event of fire the following can be released: Carbon monoxide (CO); Carbon dioxide (CO2); dense black smoke

5.3. Advice for firefighters

Special protective equipment for fire-fighting

Cool closed containers exposed to fire with water. Do not allow run-off from fire fighting to enter drains or water courses.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Exclude sources of ignition and ventilate the area. Avoid breathing vapours. Refer to protective measures listed in Sections 7 and 8.

6.2. Environmental precautions

Do not allow to enter drains or waterways. If the product contaminates lakes, rivers or sewage, inform appropriate authorities in accordance with local regulations.

6.3. Methods and material for containment and cleaning up

Contain and collect spillage with non-combustible absorbent materials, e.g. sand, earth, vermiculite, diatomaceous earth and place in container for disposal according to local regulations (see section 13). Clean preferably with a detergent - avoid use of solvents.

6.4. Reference to other sections

Information regarding Safe handling, see Section 7. Information regarding personal protective measures, see Section 8. Information regarding waste disposal, see Section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Advice on safe handling

Prevent the creation of flammable or explosive concentrations of vapour in air and avoid vapour concentration higher than the occupational exposure limits. In addition, the product should only be used in areas from which all naked lights and other sources of ignition have been excluded. Electrical equipment should be protected to the appropriate standard. Mixture may charge electrostatically: always use earthing leads when transferring from one container to another. Operators should wear anti-static footwear and clothing and floors should be of the conducting type. Isolate from sources of heat, sparks

and open flame. No sparking tools should be used. Avoid skin and eye contact. Avoid the inhalation of particulates and spray mist arising from the application of this mixture. Smoking, eating and drinking shall be prohibited in application area. For personal protection see Section 8. Never use pressure to empty: container is not a pressure vessel. Always keep in containers of same material as the original one. Comply with the health and safety at work laws. Do not allow to enter drains or water courses.

Advice on protection against fire and explosion

Vapours are heavier than air and may spread along floors. Vapours may form explosive mixtures with air.

Classification of fires / temperature class / Ignition group / Dust explosion class

Classification of fires	B (Combustible liquid substances)
Temperature class	T3

7.2. Conditions for safe storage, including any incompatibilities

Requirements for storage rooms and vessels

Electrical installations/working materials must comply with the local applied technological safety standards. Storage rooms in which filling operations take place must have a conducting floor. Store in accordance with national regulation

Hints on storage assembly

Store away from oxidising agents, from strongly alkaline and strongly acid materials.

Further information on storage conditions

Observe label precautions. Store between 15 and 30 °C in a dry, well ventilated place away from sources of heat and direct sunlight. Keep container tightly closed. Keep away from sources of ignition. No smoking. Prevent unauthorised access. Containers which are opened must be carefully resealed and kept upright to prevent leakage.

7.3. Specific end use(s)

Paint

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Exposure limit values

Ethanol

List	EH40			
Type	WEL			
Value	1920	mg/m³	1000	ppm(V)
Status: 2011				

1-Methoxy-2-propanol

List	EH40			
Type	WEL			
Value	375	mg/m³	100	ppm(V)
Short term exposure limit	560	mg/m³	150	ppm(V)

Skin resorption / sensibilisation: Sk; Status: 2011

Derived No/Minimal Effect Levels (DNEL/DMEL)

Ethanol

Type of value	Derived No Effect Level (DNEL)	
Reference group	Worker	
Duration of exposure	Long term	
Route of exposure	inhalative	
Mode of action	Systemic effects	
Concentration	950	mg/m³
Type of value	Derived No Effect Level (DNEL)	
Reference group	Worker	

Duration of exposure	Short term	
Route of exposure	inhalative	
Mode of action	Local effects	
Concentration	1900	mg/m³
Type of value	Derived No Effect Level (DNEL)	
Reference group	Worker	
Duration of exposure	Long term	
Route of exposure	dermal	
Mode of action	Systemic effects	
Concentration	343	mg/kg/d
Type of value	Derived No Effect Level (DNEL)	
Reference group	Consumer	
Duration of exposure	Long term	
Route of exposure	inhalative	
Mode of action	Systemic effects	
Concentration	114	mg/m³
Type of value	Derived No Effect Level (DNEL)	
Reference group	Consumer	
Duration of exposure	Short term	
Route of exposure	inhalative	
Mode of action	Local effects	
Concentration	950	mg/m³
Type of value	Derived No Effect Level (DNEL)	
Reference group	Consumer	
Duration of exposure	Long term	
Route of exposure	dermal	
Mode of action	Systemic effects	
Concentration	206	mg/kg/d
Type of value	Derived No Effect Level (DNEL)	
Reference group	Consumer	
Duration of exposure	Long term	
Route of exposure	oral	
Mode of action	Systemic effects	
Concentration	87	mg/kg/d

1-Methoxy-2-propanol

Type of value	Derived No Effect Level (DNEL)	
Reference group	Worker	
Duration of exposure	Acute	
Route of exposure	inhalative	
Mode of action	Local effects	
Concentration	553,5	mg/m³
Type of value	Derived No Effect Level (DNEL)	
Reference group	Worker	
Duration of exposure	Long term	
Route of exposure	dermal	
Mode of action	Systemic effects	
Concentration	50,6	mg/person/d
Type of value	Derived No Effect Level (DNEL)	

Reference group	Worker	
Duration of exposure	Long term	
Route of exposure	inhalative	
Mode of action	Systemic effects	
Concentration	369	mg/m³
Type of value	Derived No Effect Level (DNEL)	
Reference group	General Population	
Duration of exposure	Long term	
Route of exposure	dermal	
Mode of action	Systemic effects	
Concentration	18,1	mg/kg
Type of value	Derived No Effect Level (DNEL)	
Reference group	General Population	
Duration of exposure	Long term	
Route of exposure	inhalative	
Mode of action	Systemic effects	
Concentration	43,9	mg/m³
Type of value	Derived No Effect Level (DNEL)	
Reference group	General Population	
Duration of exposure	Long term	
Route of exposure	oral	
Mode of action	Systemic effects	
Concentration	3,3	mg/kg/d

Predicted No Effect Concentration (PNEC)

Ethanol

Type of value	PNEC	
Type	Freshwater	
Concentration	0,96	mg/l
Type of value	PNEC	
Type	Saltwater	
Concentration	0,79	mg/l
Type of value	PNEC	
Type	Water (intermittent release)	
Concentration	2,75	mg/l
Type of value	PNEC	
Type	Sewage treatment plant (STP)	
Concentration	580	mg/l
Type of value	PNEC	
Type	Freshwater sediment	
Concentration	3,6	mg/kg
Type of value	PNEC	
Type	Marine sediment	
Concentration	2,9	mg/kg
Type of value	PNEC	
Type	Soil	
Concentration	0,63	mg/kg

1-Methoxy-2-propanol

Type of value	PNEC	
Type	Freshwater	
Concentration	10	mg/l
Type of value	PNEC	
Type	Water	
Concentration	41,6	mg/kg
Type of value	PNEC	
Type	Sediment	
Concentration	41,6	mg/kg
Type of value	PNEC	
Type	Marine sediment	
Concentration	4,17	mg/kg
Type of value	PNEC	
Type	Soil	
Concentration	2,47	mg/kg
Type of value	PNEC	
Type	Sewage treatment plant (STP)	
Concentration	100	mg/l

8.2. Exposure controls

Exposure controls

Provide adequate ventilation. Where reasonably practicable this should be achieved by the use of local exhaust ventilation and good general extraction. If these are not sufficient to maintain concentrations of particulates and solvent vapour below the OEL, suitable respiratory protection must be worn.

Respiratory protection

If workers are exposed to concentrations above the exposure limit they must use appropriate, certified respirators. Full mask, filter A

Hand protection

There is no one glove material or combination of materials that will give unlimited resistance to any individual or combination of chemicals.
For prolonged or repeated handling nitrile rubber gloves with textile undergloves are required.

Material thickness	>	0,5	mm
Breakthrough time	<	30	min

The breakthrough time must be greater than the end use time of the product.
The instructions and information provided by the glove manufacturer on use, storage, maintenance and replacement must be followed.
Gloves should be replaced regularly and if there is any sign of damage to the glove material.
Always ensure that gloves are free from defects and that they are stored and used correctly.
The performance or effectiveness of the glove may be reduced by physical/ chemical damage and poor maintenance.
Barrier creams may help to protect the exposed areas of the skin, they should however not be applied once exposure has occurred.

Eye protection

Use safety eyewear designed to protect against splash of liquids.

Body protection

Cotton or cotton/synthetic overalls or coveralls are normally suitable.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Form	Liquid			
Colour	green			
Odour	solvent-like			
Odour threshold				
Remarks	No data available			
pH value				
Remarks	Not applicable			
Melting point				
Remarks	not determined			
Freezing point				
Remarks	not determined			
Initial boiling point and boiling range				
Value	appr.	78		°C
Flash point				
Value		12		°C
Evaporation rate (ether = 1) :				
Remarks	not determined			
Flammability (solid, gas)				
Not applicable				
Upper/lower flammability or explosive limits				
Lower explosion limit	appr.	1,5		%(V)
Upper explosion limit	appr.	15		%(V)
Source	Literature value			
Vapour pressure				
Value	appr.	59		hPa
Vapour density				
Remarks	not determined			
Density				
Remarks	not determined			
Solubility in water				
Remarks	partially miscible			
Partition coefficient: n-octanol/water				
Remarks	Not applicable			
Ignition temperature				
Value	appr.	287		°C
Source	Literature value			
Efflux time				
Value	<	12		s
Temperature		20	°C	
Method	DIN 53211 4 mm			
Explosive properties				
evaluation	no			
Oxidising properties				
evaluation	None known			

9.2. Other information

Other information
The physical specifications are approximate values and refer to the used safety relevant component(s).

SECTION 10: Stability and reactivity

10.1. Reactivity
No hazardous reactions when stored and handled according to prescribed instructions.

10.2. Chemical stability
Stable under recommended storage and handling conditions (see section 7).

10.3. Possibility of hazardous reactions
Keep away from oxidising agents, strongly alkaline and strongly acid materials in order to avoid exothermic reactions.

10.4. Conditions to avoid
When exposed to high temperatures may produce hazardous decomposition products.

10.5. Incompatible materials
No hazardous reactions when stored and handled according to prescribed instructions.

10.6. Hazardous decomposition products
See chapter 5.2 (Firefighting measures - Special hazards arising from the substance or mixture).

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute oral toxicity

Remarks	Based on available data, the classification criteria are not met.

Acute oral toxicity (Components)

1-Methoxy-2-propanol

Species	rat	
LD50	5200	mg/kg

Acute dermal toxicity

Remarks	Based on available data, the classification criteria are not met.

Acute dermal toxicity (Components)

1-Methoxy-2-propanol

Species	rabbit	
LD50	14000	mg/kg

Acute inhalational toxicity

Remarks	Based on available data, the classification criteria are not met.

Skin corrosion/irritation

Remarks	Based on available data, the classification criteria are not met.

Serious eye damage/irritation

evaluation	irritant
Remarks	The classification criteria are met.

Sensitization

Remarks	Based on available data, the classification criteria are not met.

Mutagenicity

Remarks	Based on available data, the classification criteria are not met.

Reproductive toxicity

Remarks	Based on available data, the classification criteria are not met.

Carcinogenicity

Remarks Based on available data, the classification criteria are not met.

Specific Target Organ Toxicity (STOT)

Single exposure

Remarks Based on available data, the classification criteria are not met.

Repeated exposure

Remarks Based on available data, the classification criteria are not met.

Aspiration hazard

Based on available data, the classification criteria are not met.

Experience in practice

Exposure to component solvents vapours concentration in excess of the stated occupational exposure limit may result in adverse health effects such as mucous membrane and respiratory system irritation and adverse effects on kidney, liver and central nervous system. Symptoms and signs include headache, dizziness, fatigue, muscular weakness, drowsiness and in extreme cases, loss of consciousness. Solvents may cause some of the above effects by absorption through the skin. Repeated or prolonged contact with the mixture may cause removal of natural fat from the skin resulting in non-allergic contact dermatitis and absorption through the skin. The liquid splashed in the eyes may cause irritation and reversible damage. Ingestion may cause nausea, diarrhoea and vomiting. This takes into account, where known, delayed and immediate effects and also chronic effects of components from short-term and long-term exposure by oral, inhalation and dermal routes of exposure and eye contact.

Other information

There are no data available on the mixture itself.
The mixture has been assessed following the additivity method of the CLP Regulation (EC) No 1272/2008 and classified for toxicological hazards accordingly.

SECTION 12: Ecological information

12.1. Toxicity

General information

There are no data available on the mixture itself.Do not allow to enter drains or water courses.The mixture has been assessed following the summation method of the CLP Regulation (EC) No 1272/2008 and is not classified as dangerous for the environment.

Fish toxicity (Components)

1-Methoxy-2-propanol

Species	golden orfe (Leuciscus idus)			
LC0	>	4600		mg/l
Duration of exposure		96	h	

Daphnia toxicity (Components)

1-Methoxy-2-propanol

Species	Daphnia magna			
EC50		23300		mg/l
Duration of exposure		48	h	

Algae toxicity (Components)

1-Methoxy-2-propanol

Species	Desmodesmus			
EC50	>	1000		mg/l
Duration of exposure		168	h	

Bacteria toxicity (Components)

1-Methoxy-2-propanol

Species activated sludge

EC50	>	1000	mg/l

12.2. Persistence and degradability

General information

No data available

Biodegradability (Components)

1-Methoxy-2-propanol

Value	90		%
Duration of test	28	d	
evaluation	Readily biodegradable (according to OECD criteria)		
Method	OECD 301 F		

12.3. Bioaccumulative potential

General information

There are no data available on the mixture itself.

Partition coefficient: n-octanol/water

Remarks Not applicable

12.4. Mobility in soil

General information

There are no data available on the mixture itself.

12.5. Results of PBT and vPvB assessment

General information

There are no data available on the mixture itself.

12.6. Other adverse effects

General information

There are no data available on the mixture itself.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Disposal recommendations for the product

Do not allow to enter drains or water courses.
Wastes and emptied containers should be classified in accordance with relevant national regulation.
The European Waste Catalogue classification of this product, when disposed of as waste is
EWC waste code 08 03 12* waste ink containing dangerous substances
If this product is mixed with other wastes, the original waste product code may no longer apply and the appropriate code should be assigned.
For further information contact your local waste authority.

Disposal recommendations for packaging

Using information provided in this safety data sheet, advice should be obtained from the relevant waste authority on the classification of empty containers.
Empty containers must be scrapped or reconditioned.
Not emptied containers are hazardous waste (waste code number 150110).

SECTION 14: Transport information

	Land transport ADR/RID	Marine transport IMDG/GGVSee	Air transport ICAO/IATA
Tunnel restriction code	D/E		
14.1. UN number	1263	1263	1263
14.2. UN proper shipping name	PAINT	PAINT	PAINT
14.3. Transport hazard class(es)	3	3	3
Label			
14.4. Packing group	II	II	II
Special provision	640D		
Limited Quantity	5 l		
Transport category	3		
14.5. Environmental hazards	-	no	-

Information for all modes of transport

14.6. Special precautions for user

Transport within the user's premises:
Always transport in closed containers that are upright and secure.
Ensure that persons transporting the product know what to do in the event of an accident or spillage.

Other information

14.7. Transport in bulk according to Annex II of Marpol and the IBC Code

no

SECTION 15: Regulatory information

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

VOC

VOC (EU) 87 %

Other information

The product does not contain substances of very high concern (SVHC).

15.2. Chemical safety assessment

For this preparation a chemical safety assessment has not been carried out.

SECTION 16: Other information

Hazard statements listed in Chapter 3

H225	Highly flammable liquid and vapour.
H226	Flammable liquid and vapour.
H319	Causes serious eye irritation.
H336	May cause drowsiness or dizziness.

CLP categories listed in Chapter 3

Eye Irrit. 2	Eye irritation, Category 2
Flam. Liq. 2	Flammable liquid, Category 2
Flam. Liq. 3	Flammable liquid, Category 3
STOT SE 3	Specific target organ toxicity - single exposure, Category 3

Supplemental information

Relevant changes compared with the previous version of the safety data sheet are marked with: ***
This information is based on our present state of knowledge. However, it should not constitute a guarantee for any specific product properties and shall not establish a legally valid relationship.
The information in this Safety Data Sheet is based on the present state of knowledge and current legislation.
It provides guidance on health, safety and environmental aspects of the product and should not be construed as any guarantee of technical performance or suitability for particular applications.
The product should not be used for purposes other than those shown in Section 1 without first referring to the supplier and obtaining written handling instructions.
As the specific conditions of use of the product are outside the supplier’s control, the user is responsible for ensuring that the requirements of relevant legislation are complied with.
The information contained in this safety data sheet does not constitute the user’s own assessment of workplace risks, as required by other health and safety legislation.

Trade name: Marabu Sketch Marker Heat 6tlg. 974

Version: 1 / GB
Date revised: 17.02.2020

Substance number: 0148000000102-974
Replaces Version: - / GB
Print date: 27.02.20

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

1.1. Product identifier

Marabu Sketch Marker Heat 6tlg. 974

1.2. Relevant identified uses of the substance or mixture and uses advised against

Use of the substance/preparation

Paint

Identified Uses

SU21	Consumer uses: Private households (= general public = consumers)
PC9a	Coatings and paints, thinners, paint removers

1.3. Details of the supplier of the safety data sheet

Address/Manufacturer

Marabu GmbH & Co. KG
Asperger Strasse 4
71732 Tamm
Germany

Telephone no.	+49-7141/691-0
Fax no.	+49-7141/691-147
Information provided by / telephone	Department product safety
E-mail address of person responsible for this SDS	PRSI@marabu.com

1.4. Emergency telephone number

(+49) (0)621-60-43333

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification (Regulation (EC) No. 1272/2008)

Classification (Regulation (EC) No. 1272/2008)

Flam. Liq. 2	H225
Eye Irrit. 2	H319
STOT SE 3	H336

2.2. Label elements

Labelling according to regulation (EC) No 1272/2008

Hazard pictograms

Signal word

Danger

Hazard statements

H225	Highly flammable liquid and vapour.
H319	Causes serious eye irritation.

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.
P264.1	Wash hands thoroughly after handling.
P271	Use only outdoors or in a well-ventilated area.
P280	Wear protective gloves / protective clothing / 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.
P405	Store locked up.
P501.9	Dispose of contents / container as problematic waste.

Hazardous component(s) to be indicated on label (Regulation (EC) No. 1272/2008)

contains 1-Methoxy-2-propanol

2.3. Other hazards

No special hazards have to be mentioned.

SECTION 3: Composition/information on ingredients

3.2. Mixtures

Hazardous ingredients

Ethanol

CAS No.	64-17-5				
EINECS no.	200-578-6				
Registration no.	01-2119457610-43				
Concentration	>=	50	<	100	%

Classification (Regulation (EC) No. 1272/2008)

Flam. Liq. 2	H225
Eye Irrit. 2	H319

Concentration limits (Regulation (EC) No. 1272/2008)

Eye Irrit. 2	H319	>= 50 %

1-Methoxy-2-propanol

CAS No.	107-98-2				
EINECS no.	203-539-1				
Registration no.	01-2119457435-35				
Concentration	>=	25	<	50	%

Classification (Regulation (EC) No. 1272/2008)

STOT SE 3	H336
Flam. Liq. 3	H226

SECTION 4: First aid measures

4.1. Description of first aid measures

General information

In all cases of doubt, or when symptoms persist, seek medical attention. Never give anything by mouth to an unconscious person. If unconscious place in recovery position and seek medical advice.

After inhalation

Remove to fresh air, keep patient warm and at rest. If breathing is irregular or stopped, administer

artificial respiration.

After skin contact

Remove contaminated clothing. Wash skin thoroughly with soap and water or use recognised skin cleanser. Do NOT use solvents or thinners.

After eye contact

Remove contact lenses, irrigate copiously with clean, fresh water, holding the eyelids apart for at least 10 minutes and seek immediate medical advice.

After ingestion

If accidentally swallowed rinse the mouth with plenty of water (only if the person is conscious) and obtain immediate medical attention. Keep at rest. Do NOT induce vomiting.

4.2. Most important symptoms and effects, both acute and delayed

Until now no symptoms known so far.

4.3. Indication of any immediate medical attention and special treatment needed

Hints for the physician / treatment

Treat symptomatically

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media

Recommended: alcohol resistant foam, CO2, powders, water spray/mist, Not be used for safety reasons: water jet

5.2. Special hazards arising from the substance or mixture

In the event of fire the following can be released: Carbon monoxide (CO); Carbon dioxide (CO2); dense black smoke; Nitrogen oxides (NOx)

5.3. Advice for firefighters

Special protective equipment for fire-fighting

Cool closed containers exposed to fire with water. Do not allow run-off from fire fighting to enter drains or water courses.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Exclude sources of ignition and ventilate the area. Avoid breathing vapours. Refer to protective measures listed in Sections 7 and 8.

6.2. Environmental precautions

Do not allow to enter drains or waterways. If the product contaminates lakes, rivers or sewage, inform appropriate authorities in accordance with local regulations.

6.3. Methods and material for containment and cleaning up

Contain and collect spillage with non-combustible absorbent materials, e.g. sand, earth, vermiculite, diatomaceous earth and place in container for disposal according to local regulations (see section 13). Clean preferably with a detergent - avoid use of solvents.

6.4. Reference to other sections

Information regarding Safe handling, see Section 7. Information regarding personal protective measures, see Section 8. Information regarding waste disposal, see Section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Advice on safe handling

Prevent the creation of flammable or explosive concentrations of vapour in air and avoid vapour concentration higher than the occupational exposure limits. In addition, the product should only be used in areas from which all naked lights and other sources of ignition have been excluded. Electrical equipment should be protected to the appropriate standard. Mixture may charge electrostatically: always use earthing leads when transferring from one container to another. Operators should wear anti-static footwear and clothing and floors should be of the conducting type. Isolate from sources of heat, sparks and open flame. No sparking tools should be used. Avoid skin and eye contact. Avoid the inhalation of particulates and spray mist arising from the application of this mixture. Smoking, eating and drinking shall be prohibited in application area. For personal protection see Section 8. Never use pressure to empty: container is not a pressure vessel. Always keep in containers of same material as the original one. Comply with the health and safety at work laws. Do not allow to enter drains or water courses.

Advice on protection against fire and explosion

Vapours are heavier than air and may spread along floors. Vapours may form explosive mixtures with air.

Classification of fires / temperature class / Ignition group / Dust explosion class

Classification of fires	B (Combustible liquid substances)
Temperature class	T3

7.2. Conditions for safe storage, including any incompatibilities

Requirements for storage rooms and vessels

Electrical installations/working materials must comply with the local applied technological safety standards. Storage rooms in which filling operations take place must have a conducting floor. Store in accordance with national regulation

Hints on storage assembly

Store away from oxidising agents, from strongly alkaline and strongly acid materials.

Further information on storage conditions

Observe label precautions. Store between 15 and 30 °C in a dry, well ventilated place away from sources of heat and direct sunlight. Keep container tightly closed. Keep away from sources of ignition. No smoking. Prevent unauthorised access. Containers which are opened must be carefully resealed and kept upright to prevent leakage.

7.3. Specific end use(s)

Paint

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Exposure limit values

Ethanol

List	EH40			
Type	WEL			
Value	1920	mg/m³	1000	ppm(V)

Status: 2011

1-Methoxy-2-propanol

List	EH40			
Type	WEL			
Value	375	mg/m³	100	ppm(V)
Short term exposure limit	560	mg/m³	150	ppm(V)

Skin resorption / sensibilisation: Sk; Status: 2011

Derived No/Minimal Effect Levels (DNEL/DMEL)

Ethanol

Type of value	Derived No Effect Level (DNEL)

Reference group	Worker	
Duration of exposure	Long term	
Route of exposure	inhalative	
Mode of action	Systemic effects	
Concentration	950	mg/m³
Type of value	Derived No Effect Level (DNEL)	
Reference group	Worker	
Duration of exposure	Short term	
Route of exposure	inhalative	
Mode of action	Local effects	
Concentration	1900	mg/m³
Type of value	Derived No Effect Level (DNEL)	
Reference group	Worker	
Duration of exposure	Long term	
Route of exposure	dermal	
Mode of action	Systemic effects	
Concentration	343	mg/kg/d
Type of value	Derived No Effect Level (DNEL)	
Reference group	Consumer	
Duration of exposure	Long term	
Route of exposure	inhalative	
Mode of action	Systemic effects	
Concentration	114	mg/m³
Type of value	Derived No Effect Level (DNEL)	
Reference group	Consumer	
Duration of exposure	Short term	
Route of exposure	inhalative	
Mode of action	Local effects	
Concentration	950	mg/m³
Type of value	Derived No Effect Level (DNEL)	
Reference group	Consumer	
Duration of exposure	Long term	
Route of exposure	dermal	
Mode of action	Systemic effects	
Concentration	206	mg/kg/d
Type of value	Derived No Effect Level (DNEL)	
Reference group	Consumer	
Duration of exposure	Long term	
Route of exposure	oral	
Mode of action	Systemic effects	
Concentration	87	mg/kg/d

1-Methoxy-2-propanol

Type of value	Derived No Effect Level (DNEL)	
Reference group	Worker	
Duration of exposure	Acute	
Route of exposure	inhalative	
Mode of action	Local effects	
Concentration	553,5	mg/m³
Type of value	Derived No Effect Level (DNEL)	

Reference group	Worker	
Duration of exposure	Long term	
Route of exposure	dermal	
Mode of action	Systemic effects	
Concentration	50,6	mg/person/d

Type of value	Derived No Effect Level (DNEL)	
Reference group	Worker	
Duration of exposure	Long term	
Route of exposure	inhalative	
Mode of action	Systemic effects	
Concentration	369	mg/m³

Type of value	Derived No Effect Level (DNEL)	
Reference group	General Population	
Duration of exposure	Long term	
Route of exposure	dermal	
Mode of action	Systemic effects	
Concentration	18,1	mg/kg

Type of value	Derived No Effect Level (DNEL)	
Reference group	General Population	
Duration of exposure	Long term	
Route of exposure	inhalative	
Mode of action	Systemic effects	
Concentration	43,9	mg/m³

Type of value	Derived No Effect Level (DNEL)	
Reference group	General Population	
Duration of exposure	Long term	
Route of exposure	oral	
Mode of action	Systemic effects	
Concentration	3,3	mg/kg/d

Predicted No Effect Concentration (PNEC)

Ethanol

Type of value	PNEC	
Type	Freshwater	
Concentration	0,96	mg/l

Type of value	PNEC	
Type	Saltwater	
Concentration	0,79	mg/l

Type of value	PNEC	
Type	Water (intermittent release)	
Concentration	2,75	mg/l

Type of value	PNEC	
Type	Sewage treatment plant (STP)	
Concentration	580	mg/l

Type of value	PNEC	
Type	Freshwater sediment	
Concentration	3,6	mg/kg

Type of value	PNEC	
Type	Marine sediment	
Concentration	2,9	mg/kg
Type of value	PNEC	
Type	Soil	
Concentration	0,63	mg/kg

1-Methoxy-2-propanol

Type of value	PNEC	
Type	Freshwater	
Concentration	10	mg/l
Type of value	PNEC	
Type	Water	
Concentration	41,6	mg/kg
Type of value	PNEC	
Type	Sediment	
Concentration	41,6	mg/kg
Type of value	PNEC	
Type	Marine sediment	
Concentration	4,17	mg/kg
Type of value	PNEC	
Type	Soil	
Concentration	2,47	mg/kg
Type of value	PNEC	
Type	Sewage treatment plant (STP)	
Concentration	100	mg/l

8.2. Exposure controls

Exposure controls

Provide adequate ventilation. Where reasonably practicable this should be achieved by the use of local exhaust ventilation and good general extraction. If these are not sufficient to maintain concentrations of particulates and solvent vapour below the OEL, suitable respiratory protection must be worn.

Respiratory protection

If workers are exposed to concentrations above the exposure limit they must use appropriate, certified respirators. Full mask, filter A

Hand protection

There is no one glove material or combination of materials that will give unlimited resistance to any individual or combination of chemicals.
For prolonged or repeated handling nitrile rubber gloves with textile undergloves are required.

Material thickness	>	0,5	mm
Breakthrough time	<	30	min

The breakthrough time must be greater than the end use time of the product.
The instructions and information provided by the glove manufacturer on use, storage, maintenance and replacement must be followed.
Gloves should be replaced regularly and if there is any sign of damage to the glove material.
Always ensure that gloves are free from defects and that they are stored and used correctly.
The performance or effectiveness of the glove may be reduced by physical/ chemical damage and poor maintenance.
Barrier creams may help to protect the exposed areas of the skin, they should however not be applied

once exposure has occurred.

Eye protection

Use safety eyewear designed to protect against splash of liquids.

Body protection

Cotton or cotton/synthetic overalls or coveralls are normally suitable.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Form	Liquid			
Colour	black			
Odour	solvent-like			
Odour threshold				
Remarks	No data available			
pH value				
Remarks	Not applicable			
Melting point				
Remarks	not determined			
Freezing point				
Remarks	not determined			
Initial boiling point and boiling range				
Value	appr.	78		°C
Flash point				
Value		12		°C
Evaporation rate (ether = 1) :				
Remarks	not determined			
Flammability (solid, gas)				
Not applicable				
Upper/lower flammability or explosive limits				
Lower explosion limit	appr.	1,5		%(V)
Upper explosion limit	appr.	15		%(V)
Source	Literature value			
Vapour pressure				
Value	appr.	59		hPa
Vapour density				
Remarks	not determined			
Density				
Remarks	not determined			
Solubility in water				
Remarks	partially miscible			
Partition coefficient: n-octanol/water				
Remarks	Not applicable			
Ignition temperature				
Value	appr.	287		°C
Source	Literature value			
Efflux time				
Value	<	12		s
Temperature		20	°C	

Method DIN 53211 4 mm

Explosive properties

evaluation no

Oxidising properties

evaluation None known

9.2. Other information

Other information

The physical specifications are approximate values and refer to the used safety relevant component(s).

SECTION 10: Stability and reactivity

10.1. Reactivity

No hazardous reactions when stored and handled according to prescribed instructions.

10.2. Chemical stability

Stable under recommended storage and handling conditions (see section 7).

10.3. Possibility of hazardous reactions

Keep away from oxidising agents, strongly alkaline and strongly acid materials in order to avoid exothermic reactions.

10.4. Conditions to avoid

When exposed to high temperatures may produce hazardous decomposition products.

10.5. Incompatible materials

No hazardous reactions when stored and handled according to prescribed instructions.

10.6. Hazardous decomposition products

See chapter 5.2 (Firefighting measures - Special hazards arising from the substance or mixture).

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute oral toxicity

Remarks Based on available data, the classification criteria are not met.

Acute oral toxicity (Components)

1-Methoxy-2-propanol

Species rat

LD50 5200 mg/kg

Acute dermal toxicity

Remarks Based on available data, the classification criteria are not met.

Acute dermal toxicity (Components)

1-Methoxy-2-propanol

Species rabbit

LD50 14000 mg/kg

Acute inhalational toxicity

Remarks Based on available data, the classification criteria are not met.

Skin corrosion/irritation

Remarks Based on available data, the classification criteria are not met.

Serious eye damage/irritation

evaluation irritant

Remarks The classification criteria are met.

Sensitization
Remarks Based on available data, the classification criteria are not met.

Mutagenicity
Remarks Based on available data, the classification criteria are not met.

Reproductive toxicity
Remarks Based on available data, the classification criteria are not met.

Carcinogenicity
Remarks Based on available data, the classification criteria are not met.

Specific Target Organ Toxicity (STOT)

Single exposure
Remarks The classification criteria are met.
evaluation May cause drowsiness or dizziness.

Repeated exposure
Remarks Based on available data, the classification criteria are not met.

Aspiration hazard
Based on available data, the classification criteria are not met.

Experience in practice
Exposure to component solvents vapours concentration in excess of the stated occupational exposure limit may result in adverse health effects such as mucous membrane and respiratory system irritation and adverse effects on kidney, liver and central nervous system. Symptoms and signs include headache, dizziness, fatigue, muscular weakness, drowsiness and in extreme cases, loss of consciousness. Solvents may cause some of the above effects by absorption through the skin. Repeated or prolonged contact with the mixture may cause removal of natural fat from the skin resulting in non-allergic contact dermatitis and absorption through the skin. The liquid splashed in the eyes may cause irritation and reversible damage. Ingestion may cause nausea, diarrhoea and vomiting. This takes into account, where known, delayed and immediate effects and also chronic effects of components from short-term and long-term exposure by oral, inhalation and dermal routes of exposure and eye contact.

Other information
There are no data available on the mixture itself.
The mixture has been assessed following the additivity method of the CLP Regulation (EC) No 1272/2008 and classified for toxicological hazards accordingly.

SECTION 12: Ecological information

12.1. Toxicity

General information
There are no data available on the mixture itself.Do not allow to enter drains or water courses.The mixture has been assessed following the summation method of the CLP Regulation (EC) No 1272/2008 and is not classified as dangerous for the environment.

Fish toxicity (Components)

1-Methoxy-2-propanol

Species	golden orfe (Leuciscus idus)		
LC0	>	4600	mg/l
Duration of exposure		96 h	

Daphnia toxicity (Components)

1-Methoxy-2-propanol

Species	Daphnia magna		
EC50		23300	mg/l
Duration of exposure		48 h	

Algae toxicity (Components)

1-Methoxy-2-propanol

Species	Desmodesmus		
EC50	> 1000		mg/l
Duration of exposure	168	h	

Bacteria toxicity (Components)

1-Methoxy-2-propanol

Species	activated sludge		
EC50	> 1000		mg/l

12.2. Persistence and degradability

General information

No data available

Biodegradability (Components)

1-Methoxy-2-propanol

Value	90		%
Duration of test	28	d	
evaluation	Readily biodegradable (according to OECD criteria)		
Method	OECD 301 F		

12.3. Bioaccumulative potential

General information

There are no data available on the mixture itself.

Partition coefficient: n-octanol/water

Remarks Not applicable

12.4. Mobility in soil

General information

There are no data available on the mixture itself.

12.5. Results of PBT and vPvB assessment

General information

There are no data available on the mixture itself.

12.6. Other adverse effects

General information

There are no data available on the mixture itself.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Disposal recommendations for the product

Do not allow to enter drains or water courses.
Wastes and emptied containers should be classified in accordance with relevant national regulation.
The European Waste Catalogue classification of this product, when disposed of as waste is
EWC waste code 08 03 12* waste ink containing dangerous substances
If this product is mixed with other wastes, the original waste product code may no longer apply and the appropriate code should be assigned.
For further information contact your local waste authority.

Disposal recommendations for packaging

Using information provided in this safety data sheet, advice should be obtained from the relevant waste authority on the classification of empty containers.
Empty containers must be scrapped or reconditioned.
Not emptied containers are hazardous waste (waste code number 150110).

SECTION 14: Transport information

	Land transport ADR/RID	Marine transport IMDG/GGVSee	Air transport ICAO/IATA
Tunnel restriction code	D/E		
14.1. UN number	1263	1263	1263
14.2. UN proper shipping name	PAINT	PAINT	PAINT
14.3. Transport hazard class(es)	3	3	3
Label			
14.4. Packing group	II	II	II
Special provision	640D		
Limited Quantity	5 l		
Transport category	3		
14.5. Environmental hazards	-	no	-

Information for all modes of transport

14.6. Special precautions for user

Transport within the user's premises:
Always transport in closed containers that are upright and secure.
Ensure that persons transporting the product know what to do in the event of an accident or spillage.

Other information

14.7. Transport in bulk according to Annex II of Marpol and the IBC Code

no

SECTION 15: Regulatory information

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

VOC

VOC (EU) 88 %

Other information

The product does not contain substances of very high concern (SVHC).

15.2. Chemical safety assessment

For this preparation a chemical safety assessment has not been carried out.

SECTION 16: Other information

Hazard statements listed in Chapter 3

H225	Highly flammable liquid and vapour.
H226	Flammable liquid and vapour.
H319	Causes serious eye irritation.
H336	May cause drowsiness or dizziness.

CLP categories listed in Chapter 3

Eye Irrit. 2	Eye irritation, Category 2
Flam. Liq. 2	Flammable liquid, Category 2
Flam. Liq. 3	Flammable liquid, Category 3
STOT SE 3	Specific target organ toxicity - single exposure, Category 3

Supplemental information

Relevant changes compared with the previous version of the safety data sheet are marked with: ***
This information is based on our present state of knowledge. However, it should not constitute a guarantee for any specific product properties and shall not establish a legally valid relationship.
The information in this Safety Data Sheet is based on the present state of knowledge and current legislation.
It provides guidance on health, safety and environmental aspects of the product and should not be construed as any guarantee of technical performance or suitability for particular applications.
The product should not be used for purposes other than those shown in Section 1 without first referring to the supplier and obtaining written handling instructions.
As the specific conditions of use of the product are outside the supplier’s control, the user is responsible for ensuring that the requirements of relevant legislation are complied with.
The information contained in this safety data sheet does not constitute the user’s own assessment of workplace risks, as required by other health and safety legislation.

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

1.1. Product identifier

Marabu Sketch Marker Heat 6tlg. 914

1.2. Relevant identified uses of the substance or mixture and uses advised against

Use of the substance/preparation

Paint

Identified Uses

SU21	Consumer uses: Private households (= general public = consumers)
PC9a	Coatings and paints, thinners, paint removers

1.3. Details of the supplier of the safety data sheet

Address/Manufacturer

Marabu GmbH & Co. KG
Asperger Strasse 4
71732 Tamm
Germany

Telephone no.	+49-7141/691-0
Fax no.	+49-7141/691-147
Information provided by / telephone	Department product safety
E-mail address of person responsible for this SDS	PRSI@marabu.com

1.4. Emergency telephone number

(+49) (0)621-60-43333

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification (Regulation (EC) No. 1272/2008)

Classification (Regulation (EC) No. 1272/2008)

Flam. Liq. 2	H225
Eye Irrit. 2	H319

2.2. Label elements

Labelling according to regulation (EC) No 1272/2008

Hazard pictograms

Signal word

Danger

Hazard statements

H225	Highly flammable liquid and vapour.
H319	Causes serious eye irritation.

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.
P264.1	Wash hands thoroughly after handling.
P280	Wear protective gloves / protective clothing / 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.
P501.9	Dispose of contents / container as problematic waste.

2.3. Other hazards

No special hazards have to be mentioned.

SECTION 3: Composition/information on ingredients

3.2. Mixtures

Hazardous ingredients

Ethanol

CAS No.	64-17-5				
EINECS no.	200-578-6				
Registration no.	01-2119457610-43				
Concentration	>=	50	<	100	%

Classification (Regulation (EC) No. 1272/2008)

Flam. Liq. 2	H225
Eye Irrit. 2	H319

Concentration limits (Regulation (EC) No. 1272/2008)

Eye Irrit. 2	H319	>= 50 %

1-Methoxy-2-propanol

CAS No.	107-98-2				
EINECS no.	203-539-1				
Registration no.	01-2119457435-35				
Concentration	>=	10	<	20	%

Classification (Regulation (EC) No. 1272/2008)

STOT SE 3	H336
Flam. Liq. 3	H226

SECTION 4: First aid measures

4.1. Description of first aid measures

General information

In all cases of doubt, or when symptoms persist, seek medical attention. Never give anything by mouth to an unconscious person. If unconscious place in recovery position and seek medical advice.

After inhalation

Remove to fresh air, keep patient warm and at rest. If breathing is irregular or stopped, administer artificial respiration.

After skin contact

Remove contaminated clothing. Wash skin thoroughly with soap and water or use recognised skin cleanser. Do NOT use solvents or thinners.

After eye contact

Remove contact lenses, irrigate copiously with clean, fresh water, holding the eyelids apart for at least 10

minutes and seek immediate medical advice.

After ingestion

If accidentally swallowed rinse the mouth with plenty of water (only if the person is conscious) and obtain immediate medical attention. Keep at rest. Do NOT induce vomiting.

4.2. Most important symptoms and effects, both acute and delayed

Until now no symptoms known so far.

4.3. Indication of any immediate medical attention and special treatment needed

Hints for the physician / treatment

Treat symptomatically

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media

Recommended: alcohol resistant foam, CO2, powders, water spray/mist, Not be used for safety reasons: water jet

5.2. Special hazards arising from the substance or mixture

In the event of fire the following can be released: Carbon monoxide (CO); Carbon dioxide (CO2); dense black smoke

5.3. Advice for firefighters

Special protective equipment for fire-fighting

Cool closed containers exposed to fire with water. Do not allow run-off from fire fighting to enter drains or water courses.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Exclude sources of ignition and ventilate the area. Avoid breathing vapours. Refer to protective measures listed in Sections 7 and 8.

6.2. Environmental precautions

Do not allow to enter drains or waterways. If the product contaminates lakes, rivers or sewage, inform appropriate authorities in accordance with local regulations.

6.3. Methods and material for containment and cleaning up

Contain and collect spillage with non-combustible absorbent materials, e.g. sand, earth, vermiculite, diatomaceous earth and place in container for disposal according to local regulations (see section 13). Clean preferably with a detergent - avoid use of solvents.

6.4. Reference to other sections

Information regarding Safe handling, see Section 7. Information regarding personal protective measures, see Section 8. Information regarding waste disposal, see Section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Advice on safe handling

Prevent the creation of flammable or explosive concentrations of vapour in air and avoid vapour concentration higher than the occupational exposure limits. In addition, the product should only be used in areas from which all naked lights and other sources of ignition have been excluded. Electrical equipment should be protected to the appropriate standard. Mixture may charge electrostatically: always use earthing leads when transferring from one container to another. Operators should wear anti-static footwear and clothing and floors should be of the conducting type. Isolate from sources of heat, sparks

and open flame. No sparking tools should be used. Avoid skin and eye contact. Avoid the inhalation of particulates and spray mist arising from the application of this mixture. Smoking, eating and drinking shall be prohibited in application area. For personal protection see Section 8. Never use pressure to empty: container is not a pressure vessel. Always keep in containers of same material as the original one. Comply with the health and safety at work laws. Do not allow to enter drains or water courses.

Advice on protection against fire and explosion

Vapours are heavier than air and may spread along floors. Vapours may form explosive mixtures with air.

Classification of fires / temperature class / Ignition group / Dust explosion class

Classification of fires	B (Combustible liquid substances)
Temperature class	T3

7.2. Conditions for safe storage, including any incompatibilities

Requirements for storage rooms and vessels

Electrical installations/working materials must comply with the local applied technological safety standards. Storage rooms in which filling operations take place must have a conducting floor. Store in accordance with national regulation

Hints on storage assembly

Store away from oxidising agents, from strongly alkaline and strongly acid materials.

Further information on storage conditions

Observe label precautions. Store between 15 and 30 °C in a dry, well ventilated place away from sources of heat and direct sunlight. Keep container tightly closed. Keep away from sources of ignition. No smoking. Prevent unauthorised access. Containers which are opened must be carefully resealed and kept upright to prevent leakage.

7.3. Specific end use(s)

Paint

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Exposure limit values

Ethanol

List	EH40			
Type	WEL			
Value	1920	mg/m³	1000	ppm(V)
Status: 2011				

1-Methoxy-2-propanol

List	EH40			
Type	WEL			
Value	375	mg/m³	100	ppm(V)
Short term exposure limit	560	mg/m³	150	ppm(V)

Skin resorption / sensibilisation: Sk; Status: 2011

Derived No/Minimal Effect Levels (DNEL/DMEL)

Ethanol

Type of value	Derived No Effect Level (DNEL)	
Reference group	Worker	
Duration of exposure	Long term	
Route of exposure	inhalative	
Mode of action	Systemic effects	
Concentration	950	mg/m³
Type of value	Derived No Effect Level (DNEL)	
Reference group	Worker	

Duration of exposure	Short term	
Route of exposure	inhalative	
Mode of action	Local effects	
Concentration	1900	mg/m³
Type of value	Derived No Effect Level (DNEL)	
Reference group	Worker	
Duration of exposure	Long term	
Route of exposure	dermal	
Mode of action	Systemic effects	
Concentration	343	mg/kg/d
Type of value	Derived No Effect Level (DNEL)	
Reference group	Consumer	
Duration of exposure	Long term	
Route of exposure	inhalative	
Mode of action	Systemic effects	
Concentration	114	mg/m³
Type of value	Derived No Effect Level (DNEL)	
Reference group	Consumer	
Duration of exposure	Short term	
Route of exposure	inhalative	
Mode of action	Local effects	
Concentration	950	mg/m³
Type of value	Derived No Effect Level (DNEL)	
Reference group	Consumer	
Duration of exposure	Long term	
Route of exposure	dermal	
Mode of action	Systemic effects	
Concentration	206	mg/kg/d
Type of value	Derived No Effect Level (DNEL)	
Reference group	Consumer	
Duration of exposure	Long term	
Route of exposure	oral	
Mode of action	Systemic effects	
Concentration	87	mg/kg/d

1-Methoxy-2-propanol

Type of value	Derived No Effect Level (DNEL)	
Reference group	Worker	
Duration of exposure	Acute	
Route of exposure	inhalative	
Mode of action	Local effects	
Concentration	553,5	mg/m³
Type of value	Derived No Effect Level (DNEL)	
Reference group	Worker	
Duration of exposure	Long term	
Route of exposure	dermal	
Mode of action	Systemic effects	
Concentration	50,6	mg/person/d
Type of value	Derived No Effect Level (DNEL)	

Reference group	Worker	
Duration of exposure	Long term	
Route of exposure	inhalative	
Mode of action	Systemic effects	
Concentration	369	mg/m³
Type of value	Derived No Effect Level (DNEL)	
Reference group	General Population	
Duration of exposure	Long term	
Route of exposure	dermal	
Mode of action	Systemic effects	
Concentration	18,1	mg/kg
Type of value	Derived No Effect Level (DNEL)	
Reference group	General Population	
Duration of exposure	Long term	
Route of exposure	inhalative	
Mode of action	Systemic effects	
Concentration	43,9	mg/m³
Type of value	Derived No Effect Level (DNEL)	
Reference group	General Population	
Duration of exposure	Long term	
Route of exposure	oral	
Mode of action	Systemic effects	
Concentration	3,3	mg/kg/d

Predicted No Effect Concentration (PNEC)

Ethanol

Type of value	PNEC	
Type	Freshwater	
Concentration	0,96	mg/l
Type of value	PNEC	
Type	Saltwater	
Concentration	0,79	mg/l
Type of value	PNEC	
Type	Water (intermittent release)	
Concentration	2,75	mg/l
Type of value	PNEC	
Type	Sewage treatment plant (STP)	
Concentration	580	mg/l
Type of value	PNEC	
Type	Freshwater sediment	
Concentration	3,6	mg/kg
Type of value	PNEC	
Type	Marine sediment	
Concentration	2,9	mg/kg
Type of value	PNEC	
Type	Soil	
Concentration	0,63	mg/kg

1-Methoxy-2-propanol

Type of value	PNEC	
Type	Freshwater	
Concentration	10	mg/l
Type of value	PNEC	
Type	Water	
Concentration	41,6	mg/kg
Type of value	PNEC	
Type	Sediment	
Concentration	41,6	mg/kg
Type of value	PNEC	
Type	Marine sediment	
Concentration	4,17	mg/kg
Type of value	PNEC	
Type	Soil	
Concentration	2,47	mg/kg
Type of value	PNEC	
Type	Sewage treatment plant (STP)	
Concentration	100	mg/l

8.2. Exposure controls

Exposure controls

Provide adequate ventilation. Where reasonably practicable this should be achieved by the use of local exhaust ventilation and good general extraction. If these are not sufficient to maintain concentrations of particulates and solvent vapour below the OEL, suitable respiratory protection must be worn.

Respiratory protection

If workers are exposed to concentrations above the exposure limit they must use appropriate, certified respirators. Full mask, filter A

Hand protection

There is no one glove material or combination of materials that will give unlimited resistance to any individual or combination of chemicals.
For prolonged or repeated handling nitrile rubber gloves with textile undergloves are required.

Material thickness	>	0,5	mm
Breakthrough time	<	30	min

The breakthrough time must be greater than the end use time of the product.
The instructions and information provided by the glove manufacturer on use, storage, maintenance and replacement must be followed.
Gloves should be replaced regularly and if there is any sign of damage to the glove material.
Always ensure that gloves are free from defects and that they are stored and used correctly.
The performance or effectiveness of the glove may be reduced by physical/ chemical damage and poor maintenance.
Barrier creams may help to protect the exposed areas of the skin, they should however not be applied once exposure has occurred.

Eye protection

Use safety eyewear designed to protect against splash of liquids.

Body protection

Cotton or cotton/synthetic overalls or coveralls are normally suitable.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Form	Liquid			
Colour	red			
Odour	solvent-like			
Odour threshold				
Remarks	No data available			
pH value				
Remarks	Not applicable			
Melting point				
Remarks	not determined			
Freezing point				
Remarks	not determined			
Initial boiling point and boiling range				
Value	appr.	78		°C
Flash point				
Value		12		°C
Evaporation rate (ether = 1) :				
Remarks	not determined			
Flammability (solid, gas)				
Not applicable				
Upper/lower flammability or explosive limits				
Lower explosion limit	appr.	1,5		%(V)
Upper explosion limit	appr.	15		%(V)
Source	Literature value			
Vapour pressure				
Value	appr.	59		hPa
Vapour density				
Remarks	not determined			
Density				
Remarks	not determined			
Solubility in water				
Remarks	partially miscible			
Partition coefficient: n-octanol/water				
Remarks	Not applicable			
Ignition temperature				
Value	appr.	287		°C
Source	Literature value			
Efflux time				
Value	<	12		s
Temperature		20	°C	
Method	DIN 53211 4 mm			
Explosive properties				
evaluation	no			
Oxidising properties				
evaluation	None known			

9.2. Other information

Other information
The physical specifications are approximate values and refer to the used safety relevant component(s).

SECTION 10: Stability and reactivity

10.1. Reactivity
No hazardous reactions when stored and handled according to prescribed instructions.

10.2. Chemical stability
Stable under recommended storage and handling conditions (see section 7).

10.3. Possibility of hazardous reactions
Keep away from oxidising agents, strongly alkaline and strongly acid materials in order to avoid exothermic reactions.

10.4. Conditions to avoid
When exposed to high temperatures may produce hazardous decomposition products.

10.5. Incompatible materials
No hazardous reactions when stored and handled according to prescribed instructions.

10.6. Hazardous decomposition products
See chapter 5.2 (Firefighting measures - Special hazards arising from the substance or mixture).

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute oral toxicity

Remarks	Based on available data, the classification criteria are not met.

Acute oral toxicity (Components)

1-Methoxy-2-propanol

Species	rat	
LD50	5200	mg/kg

Acute dermal toxicity

Remarks	Based on available data, the classification criteria are not met.

Acute dermal toxicity (Components)

1-Methoxy-2-propanol

Species	rabbit	
LD50	14000	mg/kg

Acute inhalational toxicity

Remarks	Based on available data, the classification criteria are not met.

Skin corrosion/irritation

Remarks	Based on available data, the classification criteria are not met.

Serious eye damage/irritation

evaluation	irritant
Remarks	The classification criteria are met.

Sensitization

Remarks	Based on available data, the classification criteria are not met.

Mutagenicity

Remarks	Based on available data, the classification criteria are not met.

Reproductive toxicity

Remarks	Based on available data, the classification criteria are not met.

Carcinogenicity

Remarks Based on available data, the classification criteria are not met.

Specific Target Organ Toxicity (STOT)

Single exposure

Remarks Based on available data, the classification criteria are not met.

Repeated exposure

Remarks Based on available data, the classification criteria are not met.

Aspiration hazard

Based on available data, the classification criteria are not met.

Experience in practice

Exposure to component solvents vapours concentration in excess of the stated occupational exposure limit may result in adverse health effects such as mucous membrane and respiratory system irritation and adverse effects on kidney, liver and central nervous system. Symptoms and signs include headache, dizziness, fatigue, muscular weakness, drowsiness and in extreme cases, loss of consciousness. Solvents may cause some of the above effects by absorption through the skin. Repeated or prolonged contact with the mixture may cause removal of natural fat from the skin resulting in non-allergic contact dermatitis and absorption through the skin. The liquid splashed in the eyes may cause irritation and reversible damage. Ingestion may cause nausea, diarrhoea and vomiting. This takes into account, where known, delayed and immediate effects and also chronic effects of components from short-term and long-term exposure by oral, inhalation and dermal routes of exposure and eye contact.

Other information

There are no data available on the mixture itself.
The mixture has been assessed following the additivity method of the CLP Regulation (EC) No 1272/2008 and classified for toxicological hazards accordingly.

SECTION 12: Ecological information

12.1. Toxicity

General information

There are no data available on the mixture itself.Do not allow to enter drains or water courses.The mixture has been assessed following the summation method of the CLP Regulation (EC) No 1272/2008 and is not classified as dangerous for the environment.

Fish toxicity (Components)

1-Methoxy-2-propanol

Species	golden orfe (Leuciscus idus)		
LC0	> 4600		mg/l
Duration of exposure	96	h	

Daphnia toxicity (Components)

1-Methoxy-2-propanol

Species	Daphnia magna		
EC50	23300		mg/l
Duration of exposure	48	h	

Algae toxicity (Components)

1-Methoxy-2-propanol

Species	Desmodesmus		
EC50	> 1000		mg/l
Duration of exposure	168	h	

Bacteria toxicity (Components)

1-Methoxy-2-propanol

Species activated sludge

EC50	>	1000	mg/l

12.2. Persistence and degradability

General information

No data available

Biodegradability (Components)

1-Methoxy-2-propanol

Value	90		%
Duration of test	28	d	
evaluation	Readily biodegradable (according to OECD criteria)		
Method	OECD 301 F		

12.3. Bioaccumulative potential

General information

There are no data available on the mixture itself.

Partition coefficient: n-octanol/water

Remarks Not applicable

12.4. Mobility in soil

General information

There are no data available on the mixture itself.

12.5. Results of PBT and vPvB assessment

General information

There are no data available on the mixture itself.

12.6. Other adverse effects

General information

There are no data available on the mixture itself.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Disposal recommendations for the product

Do not allow to enter drains or water courses.
Wastes and emptied containers should be classified in accordance with relevant national regulation.
The European Waste Catalogue classification of this product, when disposed of as waste is
EWC waste code 08 03 12* waste ink containing dangerous substances
If this product is mixed with other wastes, the original waste product code may no longer apply and the appropriate code should be assigned.
For further information contact your local waste authority.

Disposal recommendations for packaging

Using information provided in this safety data sheet, advice should be obtained from the relevant waste authority on the classification of empty containers.
Empty containers must be scrapped or reconditioned.
Not emptied containers are hazardous waste (waste code number 150110).

SECTION 14: Transport information

	Land transport ADR/RID	Marine transport IMDG/GGVSee	Air transport ICAO/IATA
Tunnel restriction code	D/E		
14.1. UN number	1263	1263	1263
14.2. UN proper shipping name	PAINT	PAINT	PAINT
14.3. Transport hazard class(es)	3	3	3
Label			
14.4. Packing group	II	II	II
Special provision	640D		
Limited Quantity	5 l		
Transport category	3		
14.5. Environmental hazards	-	no	-

Information for all modes of transport

14.6. Special precautions for user

Transport within the user's premises:
Always transport in closed containers that are upright and secure.
Ensure that persons transporting the product know what to do in the event of an accident or spillage.

Other information

14.7. Transport in bulk according to Annex II of Marpol and the IBC Code

no

SECTION 15: Regulatory information

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

VOC

VOC (EU) 89 %

Other information

The product does not contain substances of very high concern (SVHC).

15.2. Chemical safety assessment

For this preparation a chemical safety assessment has not been carried out.

SECTION 16: Other information

Hazard statements listed in Chapter 3

H225	Highly flammable liquid and vapour.
H226	Flammable liquid and vapour.
H319	Causes serious eye irritation.
H336	May cause drowsiness or dizziness.

CLP categories listed in Chapter 3

Eye Irrit. 2	Eye irritation, Category 2
Flam. Liq. 2	Flammable liquid, Category 2
Flam. Liq. 3	Flammable liquid, Category 3
STOT SE 3	Specific target organ toxicity - single exposure, Category 3

Supplemental information

Relevant changes compared with the previous version of the safety data sheet are marked with: ***
This information is based on our present state of knowledge. However, it should not constitute a guarantee for any specific product properties and shall not establish a legally valid relationship.
The information in this Safety Data Sheet is based on the present state of knowledge and current legislation.
It provides guidance on health, safety and environmental aspects of the product and should not be construed as any guarantee of technical performance or suitability for particular applications.
The product should not be used for purposes other than those shown in Section 1 without first referring to the supplier and obtaining written handling instructions.
As the specific conditions of use of the product are outside the supplier’s control, the user is responsible for ensuring that the requirements of relevant legislation are complied with.
The information contained in this safety data sheet does not constitute the user’s own assessment of workplace risks, as required by other health and safety legislation.

Trade name: Marabu Sketch Marker Heat 6tlg. 919

Version: 1 / GB
Date revised: 12.02.2020

Substance number: 0148000000102-919
Replaces Version: - / GB
Print date: 27.02.20

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

1.1. Product identifier

Marabu Sketch Marker Heat 6tlg. 919

1.2. Relevant identified uses of the substance or mixture and uses advised against

Use of the substance/preparation

Paint

Identified Uses

SU21	Consumer uses: Private households (= general public = consumers)
PC9a	Coatings and paints, thinners, paint removers

1.3. Details of the supplier of the safety data sheet

Address/Manufacturer

Marabu GmbH & Co. KG
Asperger Strasse 4
71732 Tamm
Germany

Telephone no.	+49-7141/691-0
Fax no.	+49-7141/691-147
Information provided by / telephone	Department product safety
E-mail address of person responsible for this SDS	PRSI@marabu.com

1.4. Emergency telephone number

(+49) (0)621-60-43333

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification (Regulation (EC) No. 1272/2008)

Classification (Regulation (EC) No. 1272/2008)

Flam. Liq. 2	H225
Eye Irrit. 2	H319

2.2. Label elements

Labelling according to regulation (EC) No 1272/2008

Hazard pictograms

Signal word

Danger

Hazard statements

H225	Highly flammable liquid and vapour.
H319	Causes serious eye irritation.

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.
P264.1	Wash hands thoroughly after handling.
P280	Wear protective gloves / protective clothing / 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.
P501.9	Dispose of contents / container as problematic waste.

2.3. Other hazards

No special hazards have to be mentioned.

SECTION 3: Composition/information on ingredients

3.2. Mixtures

Hazardous ingredients

Ethanol

CAS No.	64-17-5				
EINECS no.	200-578-6				
Registration no.	01-2119457610-43				
Concentration	>=	50	<	100	%

Classification (Regulation (EC) No. 1272/2008)

Flam. Liq. 2	H225
Eye Irrit. 2	H319

Concentration limits (Regulation (EC) No. 1272/2008)

Eye Irrit. 2	H319	>= 50 %

1-Methoxy-2-propanol

CAS No.	107-98-2				
EINECS no.	203-539-1				
Registration no.	01-2119457435-35				
Concentration	>=	10	<	20	%

Classification (Regulation (EC) No. 1272/2008)

STOT SE 3	H336
Flam. Liq. 3	H226

SECTION 4: First aid measures

4.1. Description of first aid measures

General information

In all cases of doubt, or when symptoms persist, seek medical attention. Never give anything by mouth to an unconscious person. If unconscious place in recovery position and seek medical advice.

After inhalation

Remove to fresh air, keep patient warm and at rest. If breathing is irregular or stopped, administer artificial respiration.

After skin contact

Remove contaminated clothing. Wash skin thoroughly with soap and water or use recognised skin cleanser. Do NOT use solvents or thinners.

After eye contact

Remove contact lenses, irrigate copiously with clean, fresh water, holding the eyelids apart for at least 10

minutes and seek immediate medical advice.

After ingestion

If accidentally swallowed rinse the mouth with plenty of water (only if the person is conscious) and obtain immediate medical attention. Keep at rest. Do NOT induce vomiting.

4.2. Most important symptoms and effects, both acute and delayed

Until now no symptoms known so far.

4.3. Indication of any immediate medical attention and special treatment needed

Hints for the physician / treatment

Treat symptomatically

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media

Recommended: alcohol resistant foam, CO2, powders, water spray/mist, Not be used for safety reasons: water jet

5.2. Special hazards arising from the substance or mixture

In the event of fire the following can be released: Carbon monoxide (CO); Carbon dioxide (CO2); dense black smoke; Nitrogen oxides (NOx); Sulphur oxides

5.3. Advice for firefighters

Special protective equipment for fire-fighting

Cool closed containers exposed to fire with water. Do not allow run-off from fire fighting to enter drains or water courses.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Exclude sources of ignition and ventilate the area. Avoid breathing vapours. Refer to protective measures listed in Sections 7 and 8.

6.2. Environmental precautions

Do not allow to enter drains or waterways. If the product contaminates lakes, rivers or sewage, inform appropriate authorities in accordance with local regulations.

6.3. Methods and material for containment and cleaning up

Contain and collect spillage with non-combustible absorbent materials, e.g. sand, earth, vermiculite, diatomaceous earth and place in container for disposal according to local regulations (see section 13). Clean preferably with a detergent - avoid use of solvents.

6.4. Reference to other sections

Information regarding Safe handling, see Section 7. Information regarding personal protective measures, see Section 8. Information regarding waste disposal, see Section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Advice on safe handling

Prevent the creation of flammable or explosive concentrations of vapour in air and avoid vapour concentration higher than the occupational exposure limits. In addition, the product should only be used in areas from which all naked lights and other sources of ignition have been excluded. Electrical equipment should be protected to the appropriate standard. Mixture may charge electrostatically: always use earthing leads when transferring from one container to another. Operators should wear anti-static footwear and clothing and floors should be of the conducting type. Isolate from sources of heat, sparks

and open flame. No sparking tools should be used. Avoid skin and eye contact. Avoid the inhalation of particulates and spray mist arising from the application of this mixture. Smoking, eating and drinking shall be prohibited in application area. For personal protection see Section 8. Never use pressure to empty: container is not a pressure vessel. Always keep in containers of same material as the original one. Comply with the health and safety at work laws. Do not allow to enter drains or water courses.

Advice on protection against fire and explosion

Vapours are heavier than air and may spread along floors. Vapours may form explosive mixtures with air.

Classification of fires / temperature class / Ignition group / Dust explosion class

Classification of fires	B (Combustible liquid substances)
Temperature class	T3

7.2. Conditions for safe storage, including any incompatibilities

Requirements for storage rooms and vessels

Electrical installations/working materials must comply with the local applied technological safety standards. Storage rooms in which filling operations take place must have a conducting floor. Store in accordance with national regulation

Hints on storage assembly

Store away from oxidising agents, from strongly alkaline and strongly acid materials.

Further information on storage conditions

Observe label precautions. Store between 15 and 30 °C in a dry, well ventilated place away from sources of heat and direct sunlight. Keep container tightly closed. Keep away from sources of ignition. No smoking. Prevent unauthorised access. Containers which are opened must be carefully resealed and kept upright to prevent leakage.

7.3. Specific end use(s)

Paint

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Exposure limit values

Ethanol

List	EH40			
Type	WEL			
Value	1920	mg/m³	1000	ppm(V)
Status: 2011				

1-Methoxy-2-propanol

List	EH40			
Type	WEL			
Value	375	mg/m³	100	ppm(V)
Short term exposure limit	560	mg/m³	150	ppm(V)

Skin resorption / sensibilisation: Sk; Status: 2011

Derived No/Minimal Effect Levels (DNEL/DMEL)

Ethanol

Type of value	Derived No Effect Level (DNEL)	
Reference group	Worker	
Duration of exposure	Long term	
Route of exposure	inhalative	
Mode of action	Systemic effects	
Concentration	950	mg/m³
Type of value	Derived No Effect Level (DNEL)	
Reference group	Worker	

Duration of exposure	Short term	
Route of exposure	inhalative	
Mode of action	Local effects	
Concentration	1900	mg/m³
Type of value	Derived No Effect Level (DNEL)	
Reference group	Worker	
Duration of exposure	Long term	
Route of exposure	dermal	
Mode of action	Systemic effects	
Concentration	343	mg/kg/d
Type of value	Derived No Effect Level (DNEL)	
Reference group	Consumer	
Duration of exposure	Long term	
Route of exposure	inhalative	
Mode of action	Systemic effects	
Concentration	114	mg/m³
Type of value	Derived No Effect Level (DNEL)	
Reference group	Consumer	
Duration of exposure	Short term	
Route of exposure	inhalative	
Mode of action	Local effects	
Concentration	950	mg/m³
Type of value	Derived No Effect Level (DNEL)	
Reference group	Consumer	
Duration of exposure	Long term	
Route of exposure	dermal	
Mode of action	Systemic effects	
Concentration	206	mg/kg/d
Type of value	Derived No Effect Level (DNEL)	
Reference group	Consumer	
Duration of exposure	Long term	
Route of exposure	oral	
Mode of action	Systemic effects	
Concentration	87	mg/kg/d

1-Methoxy-2-propanol

Type of value	Derived No Effect Level (DNEL)	
Reference group	Worker	
Duration of exposure	Acute	
Route of exposure	inhalative	
Mode of action	Local effects	
Concentration	553,5	mg/m³
Type of value	Derived No Effect Level (DNEL)	
Reference group	Worker	
Duration of exposure	Long term	
Route of exposure	dermal	
Mode of action	Systemic effects	
Concentration	50,6	mg/person/d
Type of value	Derived No Effect Level (DNEL)	

Reference group	Worker	
Duration of exposure	Long term	
Route of exposure	inhalative	
Mode of action	Systemic effects	
Concentration	369	mg/m³
Type of value	Derived No Effect Level (DNEL)	
Reference group	General Population	
Duration of exposure	Long term	
Route of exposure	dermal	
Mode of action	Systemic effects	
Concentration	18,1	mg/kg
Type of value	Derived No Effect Level (DNEL)	
Reference group	General Population	
Duration of exposure	Long term	
Route of exposure	inhalative	
Mode of action	Systemic effects	
Concentration	43,9	mg/m³
Type of value	Derived No Effect Level (DNEL)	
Reference group	General Population	
Duration of exposure	Long term	
Route of exposure	oral	
Mode of action	Systemic effects	
Concentration	3,3	mg/kg/d

Predicted No Effect Concentration (PNEC)

Ethanol

Type of value	PNEC	
Type	Freshwater	
Concentration	0,96	mg/l
Type of value	PNEC	
Type	Saltwater	
Concentration	0,79	mg/l
Type of value	PNEC	
Type	Water (intermittent release)	
Concentration	2,75	mg/l
Type of value	PNEC	
Type	Sewage treatment plant (STP)	
Concentration	580	mg/l
Type of value	PNEC	
Type	Freshwater sediment	
Concentration	3,6	mg/kg
Type of value	PNEC	
Type	Marine sediment	
Concentration	2,9	mg/kg
Type of value	PNEC	
Type	Soil	
Concentration	0,63	mg/kg

1-Methoxy-2-propanol

Type of value	PNEC	
Type	Freshwater	
Concentration	10	mg/l
Type of value	PNEC	
Type	Water	
Concentration	41,6	mg/kg
Type of value	PNEC	
Type	Sediment	
Concentration	41,6	mg/kg
Type of value	PNEC	
Type	Marine sediment	
Concentration	4,17	mg/kg
Type of value	PNEC	
Type	Soil	
Concentration	2,47	mg/kg
Type of value	PNEC	
Type	Sewage treatment plant (STP)	
Concentration	100	mg/l

8.2. Exposure controls

Exposure controls

Provide adequate ventilation. Where reasonably practicable this should be achieved by the use of local exhaust ventilation and good general extraction. If these are not sufficient to maintain concentrations of particulates and solvent vapour below the OEL, suitable respiratory protection must be worn.

Respiratory protection

If workers are exposed to concentrations above the exposure limit they must use appropriate, certified respirators. Full mask, filter A

Hand protection

There is no one glove material or combination of materials that will give unlimited resistance to any individual or combination of chemicals.
For prolonged or repeated handling nitrile rubber gloves with textile undergloves are required.

Material thickness	>	0,5	mm
Breakthrough time	<	30	min

The breakthrough time must be greater than the end use time of the product.
The instructions and information provided by the glove manufacturer on use, storage, maintenance and replacement must be followed.
Gloves should be replaced regularly and if there is any sign of damage to the glove material.
Always ensure that gloves are free from defects and that they are stored and used correctly.
The performance or effectiveness of the glove may be reduced by physical/ chemical damage and poor maintenance.
Barrier creams may help to protect the exposed areas of the skin, they should however not be applied once exposure has occurred.

Eye protection

Use safety eyewear designed to protect against splash of liquids.

Body protection

Cotton or cotton/synthetic overalls or coveralls are normally suitable.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Form	Liquid			
Colour	yellow			
Odour	solvent-like			
Odour threshold				
Remarks	No data available			
pH value				
Remarks	Not applicable			
Melting point				
Remarks	not determined			
Freezing point				
Remarks	not determined			
Initial boiling point and boiling range				
Value	appr.	78		°C
Flash point				
Value		12		°C
Evaporation rate (ether = 1) :				
Remarks	not determined			
Flammability (solid, gas)				
Not applicable				
Upper/lower flammability or explosive limits				
Lower explosion limit	appr.	1,5		%(V)
Upper explosion limit	appr.	15		%(V)
Source	Literature value			
Vapour pressure				
Value	appr.	59		hPa
Vapour density				
Remarks	not determined			
Density				
Remarks	not determined			
Solubility in water				
Remarks	partially miscible			
Partition coefficient: n-octanol/water				
Remarks	Not applicable			
Ignition temperature				
Value	appr.	287		°C
Source	Literature value			
Efflux time				
Value	<	12		s
Temperature		20	°C	
Method	DIN 53211 4 mm			
Explosive properties				
evaluation	no			
Oxidising properties				
evaluation	None known			

9.2. Other information

Other information
The physical specifications are approximate values and refer to the used safety relevant component(s).

SECTION 10: Stability and reactivity

10.1. Reactivity
No hazardous reactions when stored and handled according to prescribed instructions.

10.2. Chemical stability
Stable under recommended storage and handling conditions (see section 7).

10.3. Possibility of hazardous reactions
Keep away from oxidising agents, strongly alkaline and strongly acid materials in order to avoid exothermic reactions.

10.4. Conditions to avoid
When exposed to high temperatures may produce hazardous decomposition products.

10.5. Incompatible materials
No hazardous reactions when stored and handled according to prescribed instructions.

10.6. Hazardous decomposition products
See chapter 5.2 (Firefighting measures - Special hazards arising from the substance or mixture).

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute oral toxicity

Remarks	Based on available data, the classification criteria are not met.

Acute oral toxicity (Components)

1-Methoxy-2-propanol

Species	rat	
LD50	5200	mg/kg

Acute dermal toxicity

Remarks	Based on available data, the classification criteria are not met.

Acute dermal toxicity (Components)

1-Methoxy-2-propanol

Species	rabbit	
LD50	14000	mg/kg

Acute inhalational toxicity

Remarks	Based on available data, the classification criteria are not met.

Skin corrosion/irritation

Remarks	Based on available data, the classification criteria are not met.

Serious eye damage/irritation

evaluation	irritant
Remarks	The classification criteria are met.

Sensitization

Remarks	Based on available data, the classification criteria are not met.

Mutagenicity

Remarks	Based on available data, the classification criteria are not met.

Reproductive toxicity

Remarks	Based on available data, the classification criteria are not met.

Carcinogenicity

Remarks Based on available data, the classification criteria are not met.

Specific Target Organ Toxicity (STOT)

Single exposure

Remarks Based on available data, the classification criteria are not met.

Repeated exposure

Remarks Based on available data, the classification criteria are not met.

Aspiration hazard

Based on available data, the classification criteria are not met.

Experience in practice

Exposure to component solvents vapours concentration in excess of the stated occupational exposure limit may result in adverse health effects such as mucous membrane and respiratory system irritation and adverse effects on kidney, liver and central nervous system. Symptoms and signs include headache, dizziness, fatigue, muscular weakness, drowsiness and in extreme cases, loss of consciousness. Solvents may cause some of the above effects by absorption through the skin. Repeated or prolonged contact with the mixture may cause removal of natural fat from the skin resulting in non-allergic contact dermatitis and absorption through the skin. The liquid splashed in the eyes may cause irritation and reversible damage. Ingestion may cause nausea, diarrhoea and vomiting. This takes into account, where known, delayed and immediate effects and also chronic effects of components from short-term and long-term exposure by oral, inhalation and dermal routes of exposure and eye contact.

Other information

There are no data available on the mixture itself.
The mixture has been assessed following the additivity method of the CLP Regulation (EC) No 1272/2008 and classified for toxicological hazards accordingly.

SECTION 12: Ecological information

12.1. Toxicity

General information

There are no data available on the mixture itself.Do not allow to enter drains or water courses.The mixture has been assessed following the summation method of the CLP Regulation (EC) No 1272/2008 and is not classified as dangerous for the environment.

Fish toxicity (Components)

1-Methoxy-2-propanol

Species	golden orfe (Leuciscus idus)		
LC0	> 4600		mg/l
Duration of exposure	96	h	

Daphnia toxicity (Components)

1-Methoxy-2-propanol

Species	Daphnia magna		
EC50	23300		mg/l
Duration of exposure	48	h	

Algae toxicity (Components)

1-Methoxy-2-propanol

Species	Desmodesmus		
EC50	> 1000		mg/l
Duration of exposure	168	h	

Bacteria toxicity (Components)

1-Methoxy-2-propanol

Species activated sludge

EC50	>	1000	mg/l

12.2. Persistence and degradability

General information

No data available

Biodegradability (Components)

1-Methoxy-2-propanol

Value	90		%
Duration of test	28	d	
evaluation	Readily biodegradable (according to OECD criteria)		
Method	OECD 301 F		

12.3. Bioaccumulative potential

General information

There are no data available on the mixture itself.

Partition coefficient: n-octanol/water

Remarks Not applicable

12.4. Mobility in soil

General information

There are no data available on the mixture itself.

12.5. Results of PBT and vPvB assessment

General information

There are no data available on the mixture itself.

12.6. Other adverse effects

General information

There are no data available on the mixture itself.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Disposal recommendations for the product

Do not allow to enter drains or water courses.
Wastes and emptied containers should be classified in accordance with relevant national regulation.
The European Waste Catalogue classification of this product, when disposed of as waste is
EWC waste code 08 03 12* waste ink containing dangerous substances
If this product is mixed with other wastes, the original waste product code may no longer apply and the appropriate code should be assigned.
For further information contact your local waste authority.

Disposal recommendations for packaging

Using information provided in this safety data sheet, advice should be obtained from the relevant waste authority on the classification of empty containers.
Empty containers must be scrapped or reconditioned.
Not emptied containers are hazardous waste (waste code number 150110).

SECTION 14: Transport information

	Land transport ADR/RID	Marine transport IMDG/GGVSee	Air transport ICAO/IATA
Tunnel restriction code	D/E		
14.1. UN number	1263	1263	1263
14.2. UN proper shipping name	PAINT	PAINT	PAINT
14.3. Transport hazard class(es)	3	3	3
Label			
14.4. Packing group	II	II	II
Special provision	640D		
Limited Quantity	5 l		
Transport category	3		
14.5. Environmental hazards	-	no	-

Information for all modes of transport

14.6. Special precautions for user

Transport within the user's premises:
Always transport in closed containers that are upright and secure.
Ensure that persons transporting the product know what to do in the event of an accident or spillage.

Other information

14.7. Transport in bulk according to Annex II of Marpol and the IBC Code

no

SECTION 15: Regulatory information

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

VOC

VOC (EU) 81,5 %

Other information

The product does not contain substances of very high concern (SVHC).

15.2. Chemical safety assessment

For this preparation a chemical safety assessment has not been carried out.

SECTION 16: Other information

Hazard statements listed in Chapter 3

H225	Highly flammable liquid and vapour.
H226	Flammable liquid and vapour.
H319	Causes serious eye irritation.
H336	May cause drowsiness or dizziness.

CLP categories listed in Chapter 3

Eye Irrit. 2	Eye irritation, Category 2
Flam. Liq. 2	Flammable liquid, Category 2
Flam. Liq. 3	Flammable liquid, Category 3
STOT SE 3	Specific target organ toxicity - single exposure, Category 3

Supplemental information

Relevant changes compared with the previous version of the safety data sheet are marked with: ***
This information is based on our present state of knowledge. However, it should not constitute a guarantee for any specific product properties and shall not establish a legally valid relationship.
The information in this Safety Data Sheet is based on the present state of knowledge and current legislation.
It provides guidance on health, safety and environmental aspects of the product and should not be construed as any guarantee of technical performance or suitability for particular applications.
The product should not be used for purposes other than those shown in Section 1 without first referring to the supplier and obtaining written handling instructions.
As the specific conditions of use of the product are outside the supplier’s control, the user is responsible for ensuring that the requirements of relevant legislation are complied with.
The information contained in this safety data sheet does not constitute the user’s own assessment of workplace risks, as required by other health and safety legislation.