

Safe Data Sheet according to U.S. DOL, OSHA, 29 CFR 1910.1200, The Hazard Communication Standard (HCS)



Trade name: Mara® Jet 1 L DI-SX 459

Substance number: 364597459

Version: 1 / US

Date revised: 17.04.2015

Replaces Version: / US

Print date: 27.04.15

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

1.1. Product identifier

Mara® Jet 1 L DI-SX 459

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

Use of the substance/preparation

Digital ink

1.3. Details of the supplier of the safety data sheet

Address/Manufacturer

Marabu North America
2460 A Remount Rd.
North Charleston, SC 29406
Telephone no. (843) 886-0094
Fax no. (843) 886-3701
Information Department product safety
provided by /
telephone
E-mail address of PRSI@marabu.de
person
responsible for
this SDS

1.4. Emergency telephone number

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

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification

Classification (Occupational Safety and Health Administration (OSHA), DOL, 29 CFR 1910.1200 (Hazard Communication))
Eye Dam. 1 H318

2.2. Label elements

Labelling according to Occupational Safety and Health Administration (OSHA), DOL, 29 CFR 1910.1200 (Hazard Communication)

Hazard pictograms



Signal word

Danger

Hazard statements

H318 Causes serious eye damage.

Precautionary statements

P280 Wear protective gloves/protective clothing/eye protection/face protection.

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P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310 Immediately call a POISON CENTER or doctor.

Precautionary statements

Hazardous component(s) to be indicated on label

contains Gamma-butyrolactone

2.3. Other hazards

No special hazards have to be mentioned.

SECTION 3: Composition/information on ingredients ***

3.2. Mixtures

Chemical characterization

Ink based on VC-copolymers and on solvents

Hazardous ingredients ***

(2-Ethoxyethyl)methyl ether

CAS No. 1002-67-1

EINECS no. 213-690-5

Concentration >= 50 < 100 %

Classification (Occupational Safety and Health Administration (OSHA), DOL, 29 CFR 1910.1200 (Hazard Communication))

Eye Irrit. 2 H319

Gamma-butyrolactone

CAS No. 96-48-0

EINECS no. 202-509-5

Registration no. 01-2119471839-21

Concentration >= 10 < 15 %

Classification (Occupational Safety and Health Administration (OSHA), DOL, 29 CFR 1910.1200 (Hazard Communication))

Acute Tox. 4 H302
Eye Dam. 1 H318
STOT SE 3 H336

Diethyleneglycoldiethylether

CAS No. 112-36-7

EINECS no. 203-963-7

Concentration >= 10 < 15 %

Classification (Occupational Safety and Health Administration (OSHA), DOL, 29 CFR 1910.1200 (Hazard Communication))

Eye Irrit. 2 H319

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



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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

Affected skin should first be dabbed with cotton wool, then washed with plenty of water and a mild cleanser. After contact with skin, wash immediately with plenty of water. In case of contact with skin wash off with warm water. Do not pull solidified product from skin.

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 dioxide (CO₂); Carbon monoxide (CO); dense black smoke; Hydrogen chloride (HCl)

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



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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	T4

7.2. Conditions for safe storage, including any incompatibilities

Requirements for storage rooms and vessels

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 59 and 86 °F 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)

Digital ink

SECTION 8: Exposure controls/personal protection

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



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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	coloured
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. 343 °F
Pressure	1.013 hPa
Source	Literature value
Flash point	
Value	154.4 °F
Method	ASTM D 6450 (CCCFP)
Evaporation rate (ether = 1) :	
Remarks	not determined
Flammability (solid, gas)	
Not applicable	
Upper/lower flammability or explosive limits	
Remarks	not determined
Vapour pressure	
Value	< 1 hPa

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Temperature	68	°F	
Method	calculated		
Vapour density			
Remarks	not determined		
Density			
Value	0.962		g/cm ³
Temperature	68	°F	
Method	DIN EN ISO 2811		
Solubility in water			
Remarks	partially miscible		
Partition coefficient: n-octanol/water			
Remarks	Not applicable		
Ignition temperature			
Value	appr. 345	°F	
Source	Literature value		
Viscosity			
Value	4	to	5 mPa.s
Temperature	68	°F	
Explosive properties			
evaluation	no		
Oxidising properties			
evaluation	None known		
VOC content			
VOC (EU)	92.97	%	

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



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11.1. Information on toxicological effects

National Toxicology Program (NTP)

The product does not contain any listed components.

International Agency for research on Cancer (IARC)

The product does not contain any listed components.

Acute oral toxicity

ATE	>	2.000	mg/kg
Method	calculated value (Regulation (EC) No. 1272/2008)		

Acute oral toxicity (Components)

Gamma-butyrolactone

Species	rat		
LD50		1582	mg/kg
Method	OECD 401		

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. Causes serious eye 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.

12.2. Persistence and degradability

General information

There are no data available on the mixture itself.

12.3. Bioaccumulative potential

General information

There are no data available on the mixture itself.

Partition coefficient: n-octanol/water

Remarks	Not applicable
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12.4. Mobility in soil

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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.

Dispose of in accordance with national, state and local regulations. It is the waste generator's responsibility to determine if a particular waste is hazardous under RCRA.

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

SECTION 14: Transport information

Land transport USDOT

Non-dangerous goods

14.1. UN number

UN -

14.2. UN proper shipping name

-

14.3. Transport hazard class(es)

Class -

Label -

14.4. Packing group

Packing group -

14.5. Environmental hazards

-

Marine transport IMDG

The product does not constitute a hazardous substance in sea transport.

14.1. UN number

UN -

14.2. UN proper shipping name

-

14.3. Transport hazard class(es)

Class -

Subsidiary risk -

14.4. Packing group

Packing group -

14.5. Environmental hazards



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no

Air transport ICAO/IATA

The product does not constitute a hazardous substance in air transport.

14.1. UN number

UN -

14.2. UN proper shipping name

-

14.3. Transport hazard class(es)

Class -

Subsidiary risk -

14.4. Packing group

Packing group -

14.5. Environmental hazards

-

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 MARPOL73/78 and the IBC Code

no

SECTION 15: Regulatory information

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

Other information

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

Other information

All components are contained in the TSCA inventory or exempted.

All components are contained in the ECL inventory.

US. EPA CERCLA Hazardous Substances (40 CFR 302): Reportable Quantity

Components: (2-Ethoxyethyl)methyl ether; Diethyleneglycoldiethylether

US. EPA Emergency Planning and Community Right-To-Know Act (EPCRA) SARA Title III Section 302 Extremely Hazardous Substance (40 CFR 355)

The product does not contain any listed components.

US. EPA Emergency Planning and Community Right-To-Know Act (EPCRA) SARA Title III Section 313 Toxic Chemicals (40 CFR 372.65) - Supplier Notification Required

Components: (2-Ethoxyethyl)methyl ether; Diethyleneglycoldiethylether

Clean Water Act (CWA) Section 307 Toxic Pollutants (40 CFR 401.15)

The product does not contain any listed components.

Clean Water Act (CWA) Section 311 Toxic Pollutants (40 CFR 116.4)

The product does not contain any listed components.

Clean Air Act (CAA) Section 112 Regulated Toxic Substances And Threshold Quantities For Accidental Release Prevention (40 CFR 68.130 Table 1+2)

The product does not contain any listed components.

Clean Air Act (CAA) Section 112 Regulated Flammable Substances And Threshold Quantities For Accidental Release Prevention (40 CFR 68.130 Table 3+4)

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The product does not contain any listed components.

California Safe Drinking Water and Toxic Enforcement Act (Proposition 65)

Warning! This product may contain trace quantities of substance(s) known to the state of California to cause cancer and/or reproductive toxicity - not added as a part of the formulation but remaining as residuals from the manufacturing process of our raw material suppliers.

Right-To-Know State List: Florida

The product does not contain any listed components.

Right-To-Know State List: Massachusetts

The product does not contain any listed components.

Right-To-Know State List: Minnesota

The product does not contain any listed components.

Right-To-Know State List: New Jersey

The product does not contain any listed components.

Right-To-Know State List: New York

The product does not contain any listed components.

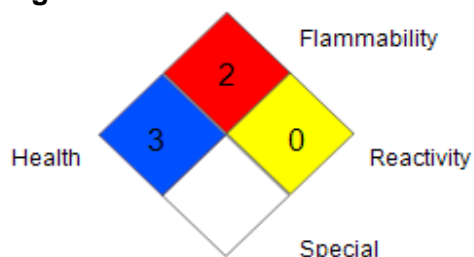
Right-To-Know State List: Pennsylvania

The product does not contain any listed components.

Right-To-Know State List: Rhode Island

The product does not contain any listed components.

NFPA Rating Information



HMIS® Rating Information

Health	3
Flammability	2
Physical Hazard	0
Personal Protection	E

SECTION 16: Other information

Hazard statements listed in Chapter 3

- H302 Harmful if swallowed.
- H318 Causes serious eye damage.
- H319 Causes serious eye irritation.
- H336 May cause drowsiness or dizziness.

CLP categories listed in Chapter 3

- Acute Tox. 4 Acute toxicity, Category 4
- Eye Dam. 1 Serious eye damage, Category 1
- Eye Irrit. 2 Eye irritation, Category 2
- STOT SE 3 Specific target organ toxicity - single exposure, Category 3

Supplemental information

Safe Data Sheet according to U.S. DOL, OSHA, 29 CFR 1910.1200, The Hazard Communication Standard (HCS)



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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.

Safe Data Sheet according to U.S. DOL, OSHA, 29 CFR 1910.1200, The Hazard Communication Standard (HCS)



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

1.1. Product identifier

Mara® Jet 1 L DI-SX 455

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

Use of the substance/preparation

Digital ink

1.3. Details of the supplier of the safety data sheet

Address/Manufacturer

Marabu North America
2460 A Remount Rd.
North Charleston, SC 29406
Telephone no. (843) 886-0094
Fax no. (843) 886-3701
Information Department product safety
provided by /
telephone
E-mail address of PRSI@marabu.de
person
responsible for
this SDS

1.4. Emergency telephone number

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

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification

Classification (Occupational Safety and Health Administration (OSHA), DOL, 29 CFR 1910.1200 (Hazard Communication))
Eye Dam. 1 H318

2.2. Label elements

Labelling according to Occupational Safety and Health Administration (OSHA), DOL, 29 CFR 1910.1200 (Hazard Communication)

Hazard pictograms



Signal word

Danger

Hazard statements

H318 Causes serious eye damage.

Precautionary statements

P280 Wear protective gloves/protective clothing/eye protection/face protection.

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P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310 Immediately call a POISON CENTER or doctor.

Precautionary statements

Hazardous component(s) to be indicated on label

contains Gamma-butyrolactone

2.3. Other hazards

No special hazards have to be mentioned.

SECTION 3: Composition/information on ingredients ***

3.2. Mixtures

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Ink based on VC-copolymers and on solvents

Hazardous ingredients ***

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Concentration >= 50 < 100 %

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Gamma-butyrolactone

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Concentration >= 10 < 15 %

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STOT SE 3 H336

Diethyleneglycoldiethylether

CAS No. 112-36-7

EINECS no. 203-963-7

Concentration >= 1 < 10 %

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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

Affected skin should first be dabbed with cotton wool, then washed with plenty of water and a mild cleanser. After contact with skin, wash immediately with plenty of water. In case of contact with skin wash off with warm water. Do not pull solidified product from skin.

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 dioxide (CO₂); Carbon monoxide (CO); dense black smoke; Hydrogen chloride (HCl)

5.3. Advice for firefighters

Special protective equipment for fire-fighting

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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.

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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	T4

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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 59 and 86 °F 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)

Digital ink

SECTION 8: Exposure controls/personal protection

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



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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	coloured
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. 343 °F
Pressure	1.013 hPa
Source	Literature value
Flash point	
Value	154.4 °F
Method	ASTM D 6450 (CCCFP)
Evaporation rate (ether = 1) :	
Remarks	not determined
Flammability (solid, gas)	
Not applicable	
Upper/lower flammability or explosive limits	
Remarks	not determined
Vapour pressure	
Value	< 1 hPa

Safe Data Sheet according to U.S. DOL, OSHA, 29 CFR 1910.1200, The Hazard Communication Standard (HCS)



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Temperature	68	°F	
Method	calculated		
Vapour density			
Remarks	not determined		
Density			
Value	0.943		g/cm ³
Temperature	68	°F	
Method	DIN EN ISO 2811		
Solubility in water			
Remarks	partially miscible		
Partition coefficient: n-octanol/water			
Remarks	Not applicable		
Ignition temperature			
Value	appr. 345	°F	
Source	Literature value		
Viscosity			
Value	4	to	5 mPa.s
Temperature	68	°F	
Explosive properties			
evaluation	no		
Oxidising properties			
evaluation	None known		
VOC content			
VOC (EU)	95.5	%	

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



Trade name: Mara® Jet 1 L DI-SX 455

Substance number: 364597455

Version: 1 / US

Date revised: 17.04.2015

Replaces Version: / US

Print date: 27.04.15

11.1. Information on toxicological effects

National Toxicology Program (NTP)

The product does not contain any listed components.

International Agency for research on Cancer (IARC)

The product does not contain any listed components.

Acute oral toxicity

ATE	>	2.000	mg/kg
Method	calculated value (Regulation (EC) No. 1272/2008)		

Acute oral toxicity (Components)

Gamma-butyrolactone

Species	rat		
LD50		1582	mg/kg
Method	OECD 401		

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. Causes serious eye 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.

12.2. Persistence and degradability

General information

There are no data available on the mixture itself.

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

Safe Data Sheet according to U.S. DOL, OSHA, 29 CFR 1910.1200, The Hazard Communication Standard (HCS)



Trade name: Mara® Jet 1 L DI-SX 455

Substance number: 364597455

Version: 1 / US

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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.

Dispose of in accordance with national, state and local regulations. It is the waste generator's responsibility to determine if a particular waste is hazardous under RCRA.

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.

SECTION 14: Transport information

Land transport USDOT

Non-dangerous goods

14.1. UN number

UN -

14.2. UN proper shipping name

-

14.3. Transport hazard class(es)

Class -

Label -

14.4. Packing group

Packing group -

14.5. Environmental hazards

-

Marine transport IMDG

The product does not constitute a hazardous substance in sea transport.

14.1. UN number

UN -

14.2. UN proper shipping name

-

14.3. Transport hazard class(es)

Class -

Subsidiary risk -

14.4. Packing group

Packing group -

14.5. Environmental hazards

Safe Data Sheet according to U.S. DOL, OSHA, 29 CFR 1910.1200, The Hazard Communication Standard (HCS)



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no

Air transport ICAO/IATA

The product does not constitute a hazardous substance in air transport.

14.1. UN number

UN -

14.2. UN proper shipping name

-

14.3. Transport hazard class(es)

Class -

Subsidiary risk -

14.4. Packing group

Packing group -

14.5. Environmental hazards

-

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 MARPOL73/78 and the IBC Code

no

SECTION 15: Regulatory information

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

Other information

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

Other information

All components are contained in the TSCA inventory or exempted.

All components are contained in the ECL inventory.

US. EPA CERCLA Hazardous Substances (40 CFR 302): Reportable Quantity

Components: (2-Ethoxyethyl)methyl ether; Diethyleneglycoldiethylether

US. EPA Emergency Planning and Community Right-To-Know Act (EPCRA) SARA Title III Section 302 Extremely Hazardous Substance (40 CFR 355)

The product does not contain any listed components.

US. EPA Emergency Planning and Community Right-To-Know Act (EPCRA) SARA Title III Section 313 Toxic Chemicals (40 CFR 372.65) - Supplier Notification Required

Components: (2-Ethoxyethyl)methyl ether; Diethyleneglycoldiethylether

Clean Water Act (CWA) Section 307 Toxic Pollutants (40 CFR 401.15)

The product does not contain any listed components.

Clean Water Act (CWA) Section 311 Toxic Pollutants (40 CFR 116.4)

The product does not contain any listed components.

Clean Air Act (CAA) Section 112 Regulated Toxic Substances And Threshold Quantities For Accidental Release Prevention (40 CFR 68.130 Table 1+2)

The product does not contain any listed components.

Clean Air Act (CAA) Section 112 Regulated Flammable Substances And Threshold Quantities For Accidental Release Prevention (40 CFR 68.130 Table 3+4)

Safe Data Sheet according to U.S. DOL, OSHA, 29 CFR 1910.1200, The Hazard Communication Standard (HCS)



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The product does not contain any listed components.

California Safe Drinking Water and Toxic Enforcement Act (Proposition 65)

Warning! This product may contain trace quantities of substance(s) known to the state of California to cause cancer and/or reproductive toxicity - not added as a part of the formulation but remaining as residuals from the manufacturing process of our raw material suppliers.

Right-To-Know State List: Florida

The product does not contain any listed components.

Right-To-Know State List: Massachusetts

The product does not contain any listed components.

Right-To-Know State List: Minnesota

The product does not contain any listed components.

Right-To-Know State List: New Jersey

The product does not contain any listed components.

Right-To-Know State List: New York

The product does not contain any listed components.

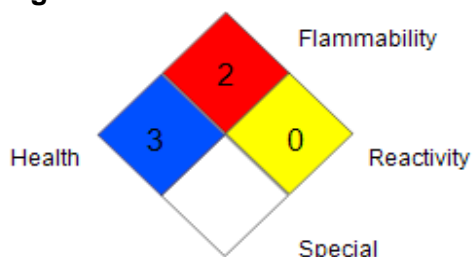
Right-To-Know State List: Pennsylvania

The product does not contain any listed components.

Right-To-Know State List: Rhode Island

The product does not contain any listed components.

NFPA Rating Information



HMIS® Rating Information

Health	3
Flammability	2
Physical Hazard	0
Personal Protection	E

SECTION 16: Other information

Hazard statements listed in Chapter 3

- H302 Harmful if swallowed.
- H318 Causes serious eye damage.
- H319 Causes serious eye irritation.
- H336 May cause drowsiness or dizziness.

CLP categories listed in Chapter 3

- Acute Tox. 4 Acute toxicity, Category 4
- Eye Dam. 1 Serious eye damage, Category 1
- Eye Irrit. 2 Eye irritation, Category 2
- STOT SE 3 Specific target organ toxicity - single exposure, Category 3

Supplemental information

Safe Data Sheet according to U.S. DOL, OSHA, 29 CFR 1910.1200, The Hazard Communication Standard (HCS)



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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.

Safe Data Sheet according to U.S. DOL, OSHA, 29 CFR 1910.1200, The Hazard Communication Standard (HCS)



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Substance number: 364597438

Version: 1 / US

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

1.1. Product identifier

Mara® Jet 1 L DI-SX 438

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

Use of the substance/preparation

Digital ink

1.3. Details of the supplier of the safety data sheet

Address/Manufacturer

Marabu North America
2460 A Remount Rd.
North Charleston, SC 29406
Telephone no. (843) 886-0094
Fax no. (843) 886-3701
Information Department product safety
provided by /
telephone
E-mail address of PRSI@marabu.de
person
responsible for
this SDS

1.4. Emergency telephone number

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

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification

Classification (Occupational Safety and Health Administration (OSHA), DOL, 29 CFR 1910.1200 (Hazard Communication))
Eye Dam. 1 H318

2.2. Label elements

Labelling according to Occupational Safety and Health Administration (OSHA), DOL, 29 CFR 1910.1200 (Hazard Communication)

Hazard pictograms



Signal word

Danger

Hazard statements

H318 Causes serious eye damage.

Precautionary statements

P280 Wear protective gloves/protective clothing/eye protection/face protection.

Safe Data Sheet according to U.S. DOL, OSHA, 29 CFR 1910.1200, The Hazard Communication Standard (HCS)



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P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310 Immediately call a POISON CENTER or doctor.

Precautionary statements

Hazardous component(s) to be indicated on label

contains Gamma-butyrolactone

2.3. Other hazards

No special hazards have to be mentioned.

SECTION 3: Composition/information on ingredients ***

3.2. Mixtures

Chemical characterization

Ink based on VC-copolymers and on solvents

Hazardous ingredients ***

(2-Ethoxyethyl)methyl ether

CAS No.	1002-67-1				
EINECS no.	213-690-5				
Concentration	>=	50	<	100	%

Classification (Occupational Safety and Health Administration (OSHA), DOL, 29 CFR 1910.1200 (Hazard Communication))

Eye Irrit. 2 H319

Diethyleneglycoldiethylether

CAS No.	112-36-7				
EINECS no.	203-963-7				
Concentration	>=	15	<	20	%

Classification (Occupational Safety and Health Administration (OSHA), DOL, 29 CFR 1910.1200 (Hazard Communication))

Eye Irrit. 2 H319

Gamma-butyrolactone

CAS No.	96-48-0				
EINECS no.	202-509-5				
Registration no.	01-2119471839-21				
Concentration	>=	10	<	15	%

Classification (Occupational Safety and Health Administration (OSHA), DOL, 29 CFR 1910.1200 (Hazard Communication))

Acute Tox. 4 H302
Eye Dam. 1 H318
STOT SE 3 H336

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.



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After inhalation

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

After skin contact

Affected skin should first be dabbed with cotton wool, then washed with plenty of water and a mild cleanser. After contact with skin, wash immediately with plenty of water. In case of contact with skin wash off with warm water. Do not pull solidified product from skin.

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 dioxide (CO₂); Carbon monoxide (CO); dense black smoke; Hydrogen chloride (HCl)

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



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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	T4

7.2. Conditions for safe storage, including any incompatibilities

Requirements for storage rooms and vessels

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 59 and 86 °F 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)

Digital ink

SECTION 8: Exposure controls/personal protection

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



Trade name: Mara® Jet 1 L DI-SX 438

Substance number: 364597438

Version: 1 / US

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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	coloured
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. 343 °F
Pressure	1.013 hPa
Source	Literature value
Flash point	
Value	154.4 °F
Method	ASTM D 6450 (CCCFP)
Evaporation rate (ether = 1) :	
Remarks	not determined
Flammability (solid, gas)	
Not applicable	
Upper/lower flammability or explosive limits	
Remarks	not determined
Vapour pressure	
Value	< 1 hPa

Safe Data Sheet according to U.S. DOL, OSHA, 29 CFR 1910.1200, The Hazard Communication Standard (HCS)



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Temperature	68	°F	
Method	calculated		
Vapour density			
Remarks	not determined		
Density			
Value	0.96		g/cm ³
Temperature	68	°F	
Method	DIN EN ISO 2811		
Solubility in water			
Remarks	partially miscible		
Partition coefficient: n-octanol/water			
Remarks	Not applicable		
Ignition temperature			
Value	appr. 345	°F	
Source	Literature value		
Viscosity			
Value	4	to	5 mPa.s
Temperature	68	°F	
Explosive properties			
evaluation	no		
Oxidising properties			
evaluation	None known		
VOC content			
VOC (EU)	92.51	%	

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



Trade name: Mara® Jet 1 L DI-SX 438

Substance number: 364597438

Version: 1 / US

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Replaces Version: / US

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11.1. Information on toxicological effects

National Toxicology Program (NTP)

The product does not contain any listed components.

International Agency for research on Cancer (IARC)

The product does not contain any listed components.

Acute oral toxicity

ATE	>	2.000	mg/kg
Method	calculated value (Regulation (EC) No. 1272/2008)		

Acute oral toxicity (Components)

Gamma-butyrolactone

Species	rat		
LD50		1582	mg/kg
Method	OECD 401		

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. Causes serious eye 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.

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.

12.2. Persistence and degradability

General information

There are no data available on the mixture itself.

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.



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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.

Dispose of in accordance with national, state and local regulations. It is the waste generator's responsibility to determine if a particular waste is hazardous under RCRA.

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.

SECTION 14: Transport information

Land transport USDOT

Non-dangerous goods

14.1. UN number

UN -

14.2. UN proper shipping name

-

14.3. Transport hazard class(es)

Class -

Label -

14.4. Packing group

Packing group -

14.5. Environmental hazards

-

Marine transport IMDG

The product does not constitute a hazardous substance in sea transport.

14.1. UN number

UN -

14.2. UN proper shipping name

-

14.3. Transport hazard class(es)

Class -

Subsidiary risk -

14.4. Packing group

Packing group -

14.5. Environmental hazards

no

Safe Data Sheet according to U.S. DOL, OSHA, 29 CFR 1910.1200, The Hazard Communication Standard (HCS)



Trade name: Mara® Jet 1 L DI-SX 438

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Air transport ICAO/IATA

The product does not constitute a hazardous substance in air transport.

14.1. UN number

UN -

14.2. UN proper shipping name

-

14.3. Transport hazard class(es)

Class -

Subsidiary risk -

14.4. Packing group

Packing group -

14.5. Environmental hazards

-

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 MARPOL73/78 and the IBC Code

no

SECTION 15: Regulatory information

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

Other information

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

Other information

All components are contained in the TSCA inventory or exempted.

All components are contained in the ECL inventory.

US. EPA CERCLA Hazardous Substances (40 CFR 302): Reportable Quantity

Components: (2-Ethoxyethyl)methyl ether; Diethyleneglycoldiethylether

US. EPA Emergency Planning and Community Right-To-Know Act (EPCRA) SARA Title III Section 302 Extremely Hazardous Substance (40 CFR 355)

The product does not contain any listed components.

US. EPA Emergency Planning and Community Right-To-Know Act (EPCRA) SARA Title III Section 313 Toxic Chemicals (40 CFR 372.65) - Supplier Notification Required

Components: (2-Ethoxyethyl)methyl ether; Diethyleneglycoldiethylether

Clean Water Act (CWA) Section 307 Toxic Pollutants (40 CFR 401.15)

The product does not contain any listed components.

Clean Water Act (CWA) Section 311 Toxic Pollutants (40 CFR 116.4)

The product does not contain any listed components.

Clean Air Act (CAA) Section 112 Regulated Toxic Substances And Threshold Quantities For Accidental Release Prevention (40 CFR 68.130 Table 1+2)

The product does not contain any listed components.

Clean Air Act (CAA) Section 112 Regulated Flammable Substances And Threshold Quantities For Accidental Release Prevention (40 CFR 68.130 Table 3+4)

The product does not contain any listed components.

Safe Data Sheet according to U.S. DOL, OSHA, 29 CFR 1910.1200, The Hazard Communication Standard (HCS)



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California Safe Drinking Water and Toxic Enforcement Act (Proposition 65)

Warning! This product may contain trace quantities of substance(s) known to the state of California to cause cancer and/or reproductive toxicity - not added as a part of the formulation but remaining as residuals from the manufacturing process of our raw material suppliers.

Right-To-Know State List: Florida

The product does not contain any listed components.

Right-To-Know State List: Massachusetts

The product does not contain any listed components.

Right-To-Know State List: Minnesota

The product does not contain any listed components.

Right-To-Know State List: New Jersey

The product does not contain any listed components.

Right-To-Know State List: New York

The product does not contain any listed components.

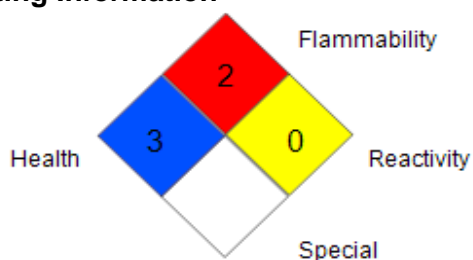
Right-To-Know State List: Pennsylvania

The product does not contain any listed components.

Right-To-Know State List: Rhode Island

The product does not contain any listed components.

NFPA Rating Information



HMIS® Rating Information

Health	3
Flammability	2
Physical Hazard	0
Personal Protection	E

SECTION 16: Other information

Hazard statements listed in Chapter 3

H302	Harmful if swallowed.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H336	May cause drowsiness or dizziness.

CLP categories listed in Chapter 3

Acute Tox. 4	Acute toxicity, Category 4
Eye Dam. 1	Serious eye damage, Category 1
Eye Irrit. 2	Eye irritation, Category 2
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: ***

Safe Data Sheet according to U.S. DOL, OSHA, 29 CFR 1910.1200, The Hazard Communication Standard (HCS)



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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.

Safe Data Sheet according to U.S. DOL, OSHA, 29 CFR 1910.1200, The Hazard Communication Standard (HCS)



Trade name: Mara® Jet 1 L DI-SX 434

Substance number: 364597434

Version: 1 / US

Date revised: 17.04.2015

Replaces Version: / US

Print date: 27.04.15

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

1.1. Product identifier

Mara® Jet 1 L DI-SX 434

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

Use of the substance/preparation

Digital ink

1.3. Details of the supplier of the safety data sheet

Address/Manufacturer

Marabu North America
2460 A Remount Rd.
North Charleston, SC 29406
Telephone no. (843) 886-0094
Fax no. (843) 886-3701
Information Department product safety
provided by /
telephone
E-mail address of PRSI@marabu.de
person
responsible for
this SDS

1.4. Emergency telephone number

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

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification

Classification (Occupational Safety and Health Administration (OSHA), DOL, 29 CFR 1910.1200 (Hazard Communication))
Eye Dam. 1 H318

2.2. Label elements

Labelling according to Occupational Safety and Health Administration (OSHA), DOL, 29 CFR 1910.1200 (Hazard Communication)

Hazard pictograms



Signal word

Danger

Hazard statements

H318 Causes serious eye damage.

Precautionary statements

P280 Wear protective gloves/protective clothing/eye protection/face protection.

Safe Data Sheet according to U.S. DOL, OSHA, 29 CFR 1910.1200, The Hazard Communication Standard (HCS)



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P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310 Immediately call a POISON CENTER or doctor.

Precautionary statements

Hazardous component(s) to be indicated on label

contains Gamma-butyrolactone

2.3. Other hazards

No special hazards have to be mentioned.

SECTION 3: Composition/information on ingredients ***

3.2. Mixtures

Chemical characterization

Ink based on VC-copolymers and on solvents

Hazardous ingredients ***

(2-Ethoxyethyl)methyl ether

CAS No. 1002-67-1
EINECS no. 213-690-5
Concentration >= 50 < 100 %

Classification (Occupational Safety and Health Administration (OSHA), DOL, 29 CFR 1910.1200 (Hazard Communication))

Eye Irrit. 2 H319

Gamma-butyrolactone

CAS No. 96-48-0
EINECS no. 202-509-5
Registration no. 01-2119471839-21
Concentration >= 10 < 15 %

Classification (Occupational Safety and Health Administration (OSHA), DOL, 29 CFR 1910.1200 (Hazard Communication))

Acute Tox. 4 H302
Eye Dam. 1 H318
STOT SE 3 H336

Diethyleneglycoldiethylether

CAS No. 112-36-7
EINECS no. 203-963-7
Concentration >= 1 < 10 %

Classification (Occupational Safety and Health Administration (OSHA), DOL, 29 CFR 1910.1200 (Hazard Communication))

Eye Irrit. 2 H319

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.



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After inhalation

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

After skin contact

Affected skin should first be dabbed with cotton wool, then washed with plenty of water and a mild cleanser. After contact with skin, wash immediately with plenty of water. In case of contact with skin wash off with warm water. Do not pull solidified product from skin.

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 dioxide (CO₂); Carbon monoxide (CO); dense black smoke; Hydrogen chloride (HCl)

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



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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	T4

7.2. Conditions for safe storage, including any incompatibilities

Requirements for storage rooms and vessels

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 59 and 86 °F 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)

Digital ink

SECTION 8: Exposure controls/personal protection

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



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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	coloured
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. 343 °F
Pressure	1.013 hPa
Source	Literature value
Flash point	
Value	154.4 °F
Method	ASTM D 6450 (CCCFP)
Evaporation rate (ether = 1) :	
Remarks	not determined
Flammability (solid, gas)	
Not applicable	
Upper/lower flammability or explosive limits	
Remarks	not determined
Vapour pressure	
Value	< 1 hPa



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Temperature	68	°F	
Method	calculated		
Vapour density			
Remarks	not determined		
Density			
Value	0.944		g/cm ³
Temperature	68	°F	
Method	DIN EN ISO 2811		
Solubility in water			
Remarks	partially miscible		
Partition coefficient: n-octanol/water			
Remarks	Not applicable		
Ignition temperature			
Value	appr. 345	°F	
Source	Literature value		
Viscosity			
Value	4	to	5 mPa.s
Temperature	20	°F	
Explosive properties			
evaluation	no		
Oxidising properties			
evaluation	None known		
VOC content			
VOC (EU)	95.39	%	

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



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11.1. Information on toxicological effects

National Toxicology Program (NTP)

The product does not contain any listed components.

International Agency for research on Cancer (IARC)

The product does not contain any listed components.

Acute oral toxicity

ATE	>	2.000	mg/kg
Method	calculated value (Regulation (EC) No. 1272/2008)		

Acute oral toxicity (Components)

Gamma-butyrolactone

Species	rat		
LD50		1582	mg/kg
Method	OECD 401		

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. Causes serious eye 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.

12.2. Persistence and degradability

General information

There are no data available on the mixture itself.

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

Safe Data Sheet according to U.S. DOL, OSHA, 29 CFR 1910.1200, The Hazard Communication Standard (HCS)



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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.

Dispose of in accordance with national, state and local regulations. It is the waste generator's responsibility to determine if a particular waste is hazardous under RCRA.

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.

SECTION 14: Transport information

Land transport USDOT

Non-dangerous goods

14.1. UN number

UN -

14.2. UN proper shipping name

-

14.3. Transport hazard class(es)

Class -

Label -

14.4. Packing group

Packing group -

14.5. Environmental hazards

-

Marine transport IMDG

The product does not constitute a hazardous substance in sea transport.

14.1. UN number

UN -

14.2. UN proper shipping name

-

14.3. Transport hazard class(es)

Class -

Subsidiary risk -

14.4. Packing group

Packing group -

14.5. Environmental hazards

Safe Data Sheet according to U.S. DOL, OSHA, 29 CFR 1910.1200, The Hazard Communication Standard (HCS)



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no

Air transport ICAO/IATA

The product does not constitute a hazardous substance in air transport.

14.1. UN number

UN -

14.2. UN proper shipping name

-

14.3. Transport hazard class(es)

Class -

Subsidiary risk -

14.4. Packing group

Packing group -

14.5. Environmental hazards

-

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 MARPOL73/78 and the IBC Code

no

SECTION 15: Regulatory information

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

Other information

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

Other information

All components are contained in the TSCA inventory or exempted.

All components are contained in the ECL inventory.

US. EPA CERCLA Hazardous Substances (40 CFR 302): Reportable Quantity

Components: (2-Ethoxyethyl)methyl ether; Diethyleneglycoldiethylether

US. EPA Emergency Planning and Community Right-To-Know Act (EPCRA) SARA Title III Section 302 Extremely Hazardous Substance (40 CFR 355)

The product does not contain any listed components.

US. EPA Emergency Planning and Community Right-To-Know Act (EPCRA) SARA Title III Section 313 Toxic Chemicals (40 CFR 372.65) - Supplier Notification Required

Components: (2-Ethoxyethyl)methyl ether; Diethyleneglycoldiethylether

Clean Water Act (CWA) Section 307 Toxic Pollutants (40 CFR 401.15)

The product does not contain any listed components.

Clean Water Act (CWA) Section 311 Toxic Pollutants (40 CFR 116.4)

The product does not contain any listed components.

Clean Air Act (CAA) Section 112 Regulated Toxic Substances And Threshold Quantities For Accidental Release Prevention (40 CFR 68.130 Table 1+2)

The product does not contain any listed components.

Clean Air Act (CAA) Section 112 Regulated Flammable Substances And Threshold Quantities For Accidental Release Prevention (40 CFR 68.130 Table 3+4)

Safe Data Sheet according to U.S. DOL, OSHA, 29 CFR 1910.1200, The Hazard Communication Standard (HCS)



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The product does not contain any listed components.

California Safe Drinking Water and Toxic Enforcement Act (Proposition 65)

Warning! This product may contain trace quantities of substance(s) known to the state of California to cause cancer and/or reproductive toxicity - not added as a part of the formulation but remaining as residuals from the manufacturing process of our raw material suppliers.

Right-To-Know State List: Florida

The product does not contain any listed components.

Right-To-Know State List: Massachusetts

The product does not contain any listed components.

Right-To-Know State List: Minnesota

The product does not contain any listed components.

Right-To-Know State List: New Jersey

The product does not contain any listed components.

Right-To-Know State List: New York

The product does not contain any listed components.

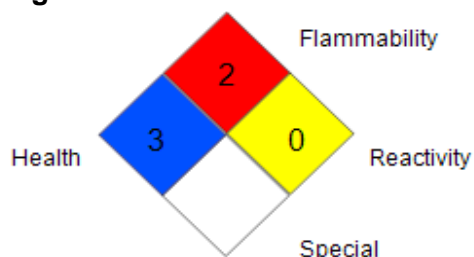
Right-To-Know State List: Pennsylvania

The product does not contain any listed components.

Right-To-Know State List: Rhode Island

The product does not contain any listed components.

NFPA Rating Information



HMIS® Rating Information

Health	3
Flammability	2
Physical Hazard	0
Personal Protection	E

SECTION 16: Other information

Hazard statements listed in Chapter 3

- H302 Harmful if swallowed.
- H318 Causes serious eye damage.
- H319 Causes serious eye irritation.
- H336 May cause drowsiness or dizziness.

CLP categories listed in Chapter 3

- Acute Tox. 4 Acute toxicity, Category 4
- Eye Dam. 1 Serious eye damage, Category 1
- Eye Irrit. 2 Eye irritation, Category 2
- STOT SE 3 Specific target organ toxicity - single exposure, Category 3

Supplemental information

Safe Data Sheet according to U.S. DOL, OSHA, 29 CFR 1910.1200, The Hazard Communication Standard (HCS)



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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.

Safe Data Sheet according to U.S. DOL, OSHA, 29 CFR 1910.1200, The Hazard Communication Standard (HCS)



Trade name: Mara® Jet 1 L DI-SX 429

Substance number: 364597429

Version: 1 / US

Date revised: 17.04.2015

Replaces Version: / US

Print date: 27.04.15

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

1.1. Product identifier

Mara® Jet 1 L DI-SX 429

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

Use of the substance/preparation

Digital ink

1.3. Details of the supplier of the safety data sheet

Address/Manufacturer

Marabu North America
2460 A Remount Rd.
North Charleston, SC 29406
Telephone no. (843) 886-0094
Fax no. (843) 886-3701
Information Department product safety
provided by /
telephone
E-mail address of PRSI@marabu.de
person
responsible for
this SDS

1.4. Emergency telephone number

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

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification

Classification (Occupational Safety and Health Administration (OSHA), DOL, 29 CFR 1910.1200 (Hazard Communication))
Eye Dam. 1 H318

2.2. Label elements

Labelling according to Occupational Safety and Health Administration (OSHA), DOL, 29 CFR 1910.1200 (Hazard Communication)

Hazard pictograms



Signal word

Danger

Hazard statements

H318 Causes serious eye damage.

Precautionary statements

P280 Wear protective gloves/protective clothing/eye protection/face protection.

Safe Data Sheet according to U.S. DOL, OSHA, 29 CFR 1910.1200, The Hazard Communication Standard (HCS)



Trade name: Mara® Jet 1 L DI-SX 429

Substance number: 364597429

Version: 1 / US

Date revised: 17.04.2015

Replaces Version: / US

Print date: 27.04.15

P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310 Immediately call a POISON CENTER or doctor.

Precautionary statements

Hazardous component(s) to be indicated on label

contains Gamma-butyrolactone

2.3. Other hazards

No special hazards have to be mentioned.

SECTION 3: Composition/information on ingredients ***

3.2. Mixtures

Chemical characterization

Ink based on VC-copolymers and on solvents

Hazardous ingredients ***

(2-Ethoxyethyl)methyl ether

CAS No. 1002-67-1
EINECS no. 213-690-5
Concentration >= 50 < 100 %

Classification (Occupational Safety and Health Administration (OSHA), DOL, 29 CFR 1910.1200 (Hazard Communication))

Eye Irrit. 2 H319

Diethyleneglycoldiethylether

CAS No. 112-36-7
EINECS no. 203-963-7
Concentration >= 10 < 15 %

Classification (Occupational Safety and Health Administration (OSHA), DOL, 29 CFR 1910.1200 (Hazard Communication))

Eye Irrit. 2 H319

Gamma-butyrolactone

CAS No. 96-48-0
EINECS no. 202-509-5
Registration no. 01-2119471839-21
Concentration >= 10 < 15 %

Classification (Occupational Safety and Health Administration (OSHA), DOL, 29 CFR 1910.1200 (Hazard Communication))

Acute Tox. 4 H302
Eye Dam. 1 H318
STOT SE 3 H336

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.



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After inhalation

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

After skin contact

Affected skin should first be dabbed with cotton wool, then washed with plenty of water and a mild cleanser. After contact with skin, wash immediately with plenty of water. In case of contact with skin wash off with warm water. Do not pull solidified product from skin.

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 dioxide (CO₂); Carbon monoxide (CO); dense black smoke; Hydrogen chloride (HCl)

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



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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	T4

7.2. Conditions for safe storage, including any incompatibilities

Requirements for storage rooms and vessels

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 59 and 86 °F 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)

Digital ink

SECTION 8: Exposure controls/personal protection

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



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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	coloured
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. 343 °F
Pressure	1.013 hPa
Source	Literature value
Flash point	
Value	154.4 °F
Method	ASTM D 6450 (CCCFP)
Evaporation rate (ether = 1) :	
Remarks	not determined
Flammability (solid, gas)	
Not applicable	
Upper/lower flammability or explosive limits	
Remarks	not determined
Vapour pressure	
Value	< 1 hPa



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Temperature	68	°F	
Method	calculated		
Vapour density			
Remarks	not determined		
Density			
Value	0.958		g/cm ³
Temperature	68	°F	
Method	DIN EN ISO 2811		
Solubility in water			
Remarks	partially miscible		
Partition coefficient: n-octanol/water			
Remarks	Not applicable		
Ignition temperature			
Value	appr. 345	°F	
Source	Literature value		
Viscosity			
Value	4	to	5 mPa.s
Temperature	20	°F	
Explosive properties			
evaluation	no		
Oxidising properties			
evaluation	None known		
VOC content			
VOC (EU)	93.32	%	

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



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11.1. Information on toxicological effects

National Toxicology Program (NTP)

The product does not contain any listed components.

International Agency for research on Cancer (IARC)

The product does not contain any listed components.

Acute oral toxicity

ATE	>	2.000	mg/kg
Method	calculated value (Regulation (EC) No. 1272/2008)		

Acute oral toxicity (Components)

Gamma-butyrolactone

Species	rat		
LD50		1582	mg/kg
Method	OECD 401		

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. Causes serious eye 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.

12.2. Persistence and degradability

General information

There are no data available on the mixture itself.

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

Safe Data Sheet according to U.S. DOL, OSHA, 29 CFR 1910.1200, The Hazard Communication Standard (HCS)



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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.

Dispose of in accordance with national, state and local regulations. It is the waste generator's responsibility to determine if a particular waste is hazardous under RCRA.

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.

SECTION 14: Transport information

Land transport USDOT

Non-dangerous goods

14.1. UN number

UN -

14.2. UN proper shipping name

-

14.3. Transport hazard class(es)

Class -

Label -

14.4. Packing group

Packing group -

14.5. Environmental hazards

-

Marine transport IMDG

The product does not constitute a hazardous substance in sea transport.

14.1. UN number

UN -

14.2. UN proper shipping name

-

14.3. Transport hazard class(es)

Class -

Subsidiary risk -

14.4. Packing group

Packing group -

14.5. Environmental hazards



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no

Air transport ICAO/IATA

The product does not constitute a hazardous substance in air transport.

14.1. UN number

UN -

14.2. UN proper shipping name

-

14.3. Transport hazard class(es)

Class -

Subsidiary risk -

14.4. Packing group

Packing group -

14.5. Environmental hazards

-

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 MARPOL73/78 and the IBC Code

no

SECTION 15: Regulatory information

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

Other information

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

Other information

All components are contained in the TSCA inventory or exempted.

All components are contained in the ECL inventory.

US. EPA CERCLA Hazardous Substances (40 CFR 302): Reportable Quantity

Components: (2-Ethoxyethyl)methyl ether; Diethyleneglycoldiethylether

US. EPA Emergency Planning and Community Right-To-Know Act (EPCRA) SARA Title III Section 302 Extremely Hazardous Substance (40 CFR 355)

The product does not contain any listed components.

US. EPA Emergency Planning and Community Right-To-Know Act (EPCRA) SARA Title III Section 313 Toxic Chemicals (40 CFR 372.65) - Supplier Notification Required

Components: (2-Ethoxyethyl)methyl ether; Diethyleneglycoldiethylether

Clean Water Act (CWA) Section 307 Toxic Pollutants (40 CFR 401.15)

The product does not contain any listed components.

Clean Water Act (CWA) Section 311 Toxic Pollutants (40 CFR 116.4)

The product does not contain any listed components.

Clean Air Act (CAA) Section 112 Regulated Toxic Substances And Threshold Quantities For Accidental Release Prevention (40 CFR 68.130 Table 1+2)

The product does not contain any listed components.

Clean Air Act (CAA) Section 112 Regulated Flammable Substances And Threshold Quantities For Accidental Release Prevention (40 CFR 68.130 Table 3+4)

Safe Data Sheet according to U.S. DOL, OSHA, 29 CFR 1910.1200, The Hazard Communication Standard (HCS)



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The product does not contain any listed components.

California Safe Drinking Water and Toxic Enforcement Act (Proposition 65)

Warning! This product may contain trace quantities of substance(s) known to the state of California to cause cancer and/or reproductive toxicity - not added as a part of the formulation but remaining as residuals from the manufacturing process of our raw material suppliers.

Right-To-Know State List: Florida

The product does not contain any listed components.

Right-To-Know State List: Massachusetts

The product does not contain any listed components.

Right-To-Know State List: Minnesota

The product does not contain any listed components.

Right-To-Know State List: New Jersey

The product does not contain any listed components.

Right-To-Know State List: New York

The product does not contain any listed components.

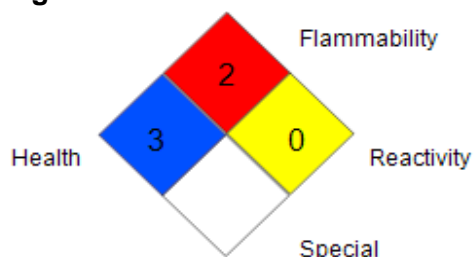
Right-To-Know State List: Pennsylvania

The product does not contain any listed components.

Right-To-Know State List: Rhode Island

The product does not contain any listed components.

NFPA Rating Information



HMIS® Rating Information

Health	3
Flammability	2
Physical Hazard	0
Personal Protection	E

SECTION 16: Other information

Hazard statements listed in Chapter 3

H302	Harmful if swallowed.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H336	May cause drowsiness or dizziness.

CLP categories listed in Chapter 3

Acute Tox. 4	Acute toxicity, Category 4
Eye Dam. 1	Serious eye damage, Category 1
Eye Irrit. 2	Eye irritation, Category 2
STOT SE 3	Specific target organ toxicity - single exposure, Category 3

Supplemental information

Safe Data Sheet according to U.S. DOL, OSHA, 29 CFR 1910.1200, The Hazard Communication Standard (HCS)



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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.

Safe Data Sheet according to U.S. DOL, OSHA, 29 CFR 1910.1200, The Hazard Communication Standard (HCS)



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Substance number: 364597489

Version: 1 / US

Date revised: 17.04.2015

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

1.1. Product identifier

Mara® Jet 1 L DI-SX 489

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

Use of the substance/preparation

Digital ink

1.3. Details of the supplier of the safety data sheet

Address/Manufacturer

Marabu North America
2460 A Remount Rd.
North Charleston, SC 29406
Telephone no. (843) 886-0094
Fax no. (843) 886-3701
Information Department product safety
provided by /
telephone
E-mail address of PRSI@marabu.de
person
responsible for
this SDS

1.4. Emergency telephone number

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

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification

Classification (Occupational Safety and Health Administration (OSHA), DOL, 29 CFR 1910.1200 (Hazard Communication))
Eye Dam. 1 H318

2.2. Label elements

Labelling according to Occupational Safety and Health Administration (OSHA), DOL, 29 CFR 1910.1200 (Hazard Communication)

Hazard pictograms



Signal word

Danger

Hazard statements

H318 Causes serious eye damage.

Precautionary statements

P280 Wear protective gloves/protective clothing/eye protection/face protection.

Safe Data Sheet according to U.S. DOL, OSHA, 29 CFR 1910.1200, The Hazard Communication Standard (HCS)



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P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310 Immediately call a POISON CENTER or doctor.

Precautionary statements

Hazardous component(s) to be indicated on label

contains Gamma-butyrolactone

2.3. Other hazards

No special hazards have to be mentioned.

SECTION 3: Composition/information on ingredients ***

3.2. Mixtures

Chemical characterization

Ink based on VC-copolymers and on solvents

Hazardous ingredients ***

(2-Ethoxyethyl)methyl ether

CAS No. 1002-67-1

EINECS no. 213-690-5

Concentration >= 50 < 100 %

Classification (Occupational Safety and Health Administration (OSHA), DOL, 29 CFR 1910.1200 (Hazard Communication))

Eye Irrit. 2 H319

Gamma-butyrolactone

CAS No. 96-48-0

EINECS no. 202-509-5

Registration no. 01-2119471839-21

Concentration >= 10 < 15 %

Classification (Occupational Safety and Health Administration (OSHA), DOL, 29 CFR 1910.1200 (Hazard Communication))

Acute Tox. 4 H302
Eye Dam. 1 H318
STOT SE 3 H336

Diethyleneglycoldiethylether

CAS No. 112-36-7

EINECS no. 203-963-7

Concentration >= 1 < 10 %

Classification (Occupational Safety and Health Administration (OSHA), DOL, 29 CFR 1910.1200 (Hazard Communication))

Eye Irrit. 2 H319

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



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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

Affected skin should first be dabbed with cotton wool, then washed with plenty of water and a mild cleanser. After contact with skin, wash immediately with plenty of water. In case of contact with skin wash off with warm water. Do not pull solidified product from skin.

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 dioxide (CO₂); Carbon monoxide (CO); dense black smoke; Hydrogen chloride (HCl)

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

Safe Data Sheet according to U.S. DOL, OSHA, 29 CFR 1910.1200, The Hazard Communication Standard (HCS)



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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	T4

7.2. Conditions for safe storage, including any incompatibilities

Requirements for storage rooms and vessels

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 59 and 86 °F 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)

Digital ink

SECTION 8: Exposure controls/personal protection

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



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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	coloured
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. 343 °F
Pressure	1.013 hPa
Source	Literature value
Flash point	
Value	154.4 °F
Method	ASTM D 6450 (CCCFP)
Evaporation rate (ether = 1) :	
Remarks	not determined
Flammability (solid, gas)	
Not applicable	
Upper/lower flammability or explosive limits	
Remarks	not determined
Vapour pressure	
Value	< 1 hPa



Trade name: Mara® Jet 1 L DI-SX 489

Substance number: 364597489

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Temperature	68	°F	
Method	calculated		
Vapour density			
Remarks	not determined		
Density			
Value	0.976		g/cm ³
Temperature	68	°F	
Method	DIN EN ISO 2811		
Solubility in water			
Remarks	partially miscible		
Partition coefficient: n-octanol/water			
Remarks	Not applicable		
Ignition temperature			
Value	appr. 345	°F	
Source	Literature value		
Viscosity			
Value	4	to	5 mPa.s
Temperature	68	°F	
Explosive properties			
evaluation	no		
Oxidising properties			
evaluation	None known		
VOC content			
VOC (EU)	91.88	%	

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



Trade name: Mara® Jet 1 L DI-SX 489

Substance number: 364597489

Version: 1 / US

Date revised: 17.04.2015

Replaces Version: / US

Print date: 27.04.15

11.1. Information on toxicological effects

National Toxicology Program (NTP)

The product does not contain any listed components.

International Agency for research on Cancer (IARC)

The product does not contain any listed components.

Acute oral toxicity

ATE	>	2.000	mg/kg
Method	calculated value (Regulation (EC) No. 1272/2008)		

Acute oral toxicity (Components)

Gamma-butyrolactone

Species	rat		
LD50		1582	mg/kg
Method	OECD 401		

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. Causes serious eye 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.

12.2. Persistence and degradability

General information

There are no data available on the mixture itself.

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

Safe Data Sheet according to U.S. DOL, OSHA, 29 CFR 1910.1200, The Hazard Communication Standard (HCS)



Trade name: Mara® Jet 1 L DI-SX 489

Substance number: 364597489

Version: 1 / US

Date revised: 17.04.2015

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Print date: 27.04.15

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.

Dispose of in accordance with national, state and local regulations. It is the waste generator's responsibility to determine if a particular waste is hazardous under RCRA.

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.

SECTION 14: Transport information

Land transport USDOT

Non-dangerous goods

14.1. UN number

UN -

14.2. UN proper shipping name

-

14.3. Transport hazard class(es)

Class -

Label -

14.4. Packing group

Packing group -

14.5. Environmental hazards

-

Marine transport IMDG

The product does not constitute a hazardous substance in sea transport.

14.1. UN number

UN -

14.2. UN proper shipping name

-

14.3. Transport hazard class(es)

Class -

Subsidiary risk -

14.4. Packing group

Packing group -

14.5. Environmental hazards

Safe Data Sheet according to U.S. DOL, OSHA, 29 CFR 1910.1200, The Hazard Communication Standard (HCS)



Trade name: Mara® Jet 1 L DI-SX 489

Substance number: 364597489

Version: 1 / US

Date revised: 17.04.2015

Replaces Version: / US

Print date: 27.04.15

no

Air transport ICAO/IATA

The product does not constitute a hazardous substance in air transport.

14.1. UN number

UN -

14.2. UN proper shipping name

-

14.3. Transport hazard class(es)

Class -

Subsidiary risk -

14.4. Packing group

Packing group -

14.5. Environmental hazards

-

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 MARPOL73/78 and the IBC Code

no

SECTION 15: Regulatory information

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

Other information

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

Other information

All components are contained in the TSCA inventory or exempted.

All components are contained in the ECL inventory.

US. EPA CERCLA Hazardous Substances (40 CFR 302): Reportable Quantity

Components: (2-Ethoxyethyl)methyl ether; Diethyleneglycoldiethylether

US. EPA Emergency Planning and Community Right-To-Know Act (EPCRA) SARA Title III Section 302 Extremely Hazardous Substance (40 CFR 355)

The product does not contain any listed components.

US. EPA Emergency Planning and Community Right-To-Know Act (EPCRA) SARA Title III Section 313 Toxic Chemicals (40 CFR 372.65) - Supplier Notification Required

Components: (2-Ethoxyethyl)methyl ether; Diethyleneglycoldiethylether

Clean Water Act (CWA) Section 307 Toxic Pollutants (40 CFR 401.15)

The product does not contain any listed components.

Clean Water Act (CWA) Section 311 Toxic Pollutants (40 CFR 116.4)

The product does not contain any listed components.

Clean Air Act (CAA) Section 112 Regulated Toxic Substances And Threshold Quantities For Accidental Release Prevention (40 CFR 68.130 Table 1+2)

The product does not contain any listed components.

Clean Air Act (CAA) Section 112 Regulated Flammable Substances And Threshold Quantities For Accidental Release Prevention (40 CFR 68.130 Table 3+4)

Safe Data Sheet according to U.S. DOL, OSHA, 29 CFR 1910.1200, The Hazard Communication Standard (HCS)



Trade name: Mara® Jet 1 L DI-SX 489

Substance number: 364597489

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The product does not contain any listed components.

California Safe Drinking Water and Toxic Enforcement Act (Proposition 65)

Warning! This product may contain trace quantities of substance(s) known to the state of California to cause cancer and/or reproductive toxicity - not added as a part of the formulation but remaining as residuals from the manufacturing process of our raw material suppliers.

Right-To-Know State List: Florida

The product does not contain any listed components.

Right-To-Know State List: Massachusetts

The product does not contain any listed components.

Right-To-Know State List: Minnesota

The product does not contain any listed components.

Right-To-Know State List: New Jersey

The product does not contain any listed components.

Right-To-Know State List: New York

The product does not contain any listed components.

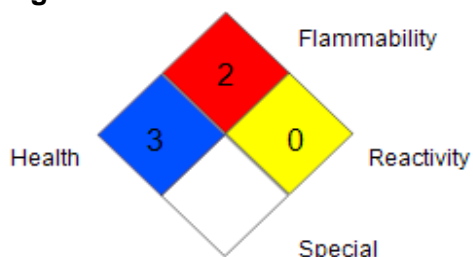
Right-To-Know State List: Pennsylvania

The product does not contain any listed components.

Right-To-Know State List: Rhode Island

The product does not contain any listed components.

NFPA Rating Information



HMIS® Rating Information

Health	3
Flammability	2
Physical Hazard	0
Personal Protection	E

SECTION 16: Other information

Hazard statements listed in Chapter 3

- H302 Harmful if swallowed.
- H318 Causes serious eye damage.
- H319 Causes serious eye irritation.
- H336 May cause drowsiness or dizziness.

CLP categories listed in Chapter 3

- Acute Tox. 4 Acute toxicity, Category 4
- Eye Dam. 1 Serious eye damage, Category 1
- Eye Irrit. 2 Eye irritation, Category 2
- STOT SE 3 Specific target organ toxicity - single exposure, Category 3

Supplemental information

Safe Data Sheet according to U.S. DOL, OSHA, 29 CFR 1910.1200, The Hazard Communication Standard (HCS)



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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.

Safe Data Sheet according to U.S. DOL, OSHA, 29 CFR 1910.1200, The Hazard Communication Standard (HCS)



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Substance number: 364597485

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

1.1. Product identifier

Mara® Jet 1 L DI-SX 485

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

Use of the substance/preparation

Digital ink

1.3. Details of the supplier of the safety data sheet

Address/Manufacturer

Marabu North America
2460 A Remount Rd.
North Charleston, SC 29406
Telephone no. (843) 886-0094
Fax no. (843) 886-3701
Information Department product safety
provided by /
telephone
E-mail address of PRSI@marabu.de
person
responsible for
this SDS

1.4. Emergency telephone number

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

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification

Classification (Occupational Safety and Health Administration (OSHA), DOL, 29 CFR 1910.1200 (Hazard Communication))
Eye Dam. 1 H318

2.2. Label elements

Labelling according to Occupational Safety and Health Administration (OSHA), DOL, 29 CFR 1910.1200 (Hazard Communication)

Hazard pictograms



Signal word

Danger

Hazard statements

H318 Causes serious eye damage.

Precautionary statements

P280 Wear protective gloves/protective clothing/eye protection/face protection.

Safe Data Sheet according to U.S. DOL, OSHA, 29 CFR 1910.1200, The Hazard Communication Standard (HCS)



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Substance number: 364597485

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P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310 Immediately call a POISON CENTER or doctor.

Precautionary statements

Hazardous component(s) to be indicated on label

contains Gamma-butyrolactone

2.3. Other hazards

No special hazards have to be mentioned.

SECTION 3: Composition/information on ingredients ***

3.2. Mixtures

Chemical characterization

Ink based on VC-copolymers and on solvents

Hazardous ingredients ***

(2-Ethoxyethyl)methyl ether

CAS No. 1002-67-1

EINECS no. 213-690-5

Concentration >= 50 < 100 %

Classification (Occupational Safety and Health Administration (OSHA), DOL, 29 CFR 1910.1200 (Hazard Communication))

Eye Irrit. 2 H319

Gamma-butyrolactone

CAS No. 96-48-0

EINECS no. 202-509-5

Registration no. 01-2119471839-21

Concentration >= 10 < 15 %

Classification (Occupational Safety and Health Administration (OSHA), DOL, 29 CFR 1910.1200 (Hazard Communication))

Acute Tox. 4 H302
Eye Dam. 1 H318
STOT SE 3 H336

Diethyleneglycoldiethylether

CAS No. 112-36-7

EINECS no. 203-963-7

Concentration >= 1 < 10 %

Classification (Occupational Safety and Health Administration (OSHA), DOL, 29 CFR 1910.1200 (Hazard Communication))

Eye Irrit. 2 H319

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



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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

Affected skin should first be dabbed with cotton wool, then washed with plenty of water and a mild cleanser. After contact with skin, wash immediately with plenty of water. In case of contact with skin wash off with warm water. Do not pull solidified product from skin.

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 dioxide (CO₂); Carbon monoxide (CO); dense black smoke; Hydrogen chloride (HCl)

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

Safe Data Sheet according to U.S. DOL, OSHA, 29 CFR 1910.1200, The Hazard Communication Standard (HCS)



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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	T4

7.2. Conditions for safe storage, including any incompatibilities

Requirements for storage rooms and vessels

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 59 and 86 °F 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)

Digital ink

SECTION 8: Exposure controls/personal protection

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



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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	coloured
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. 343 °F
Pressure	1.013 hPa
Source	Literature value
Flash point	
Value	154.4 °F
Method	ASTM D 6450 (CCCFP)
Evaporation rate (ether = 1) :	
Remarks	not determined
Flammability (solid, gas)	
Not applicable	
Upper/lower flammability or explosive limits	
Remarks	not determined
Vapour pressure	
Value	< 1 hPa

Safe Data Sheet according to U.S. DOL, OSHA, 29 CFR 1910.1200, The Hazard Communication Standard (HCS)



Trade name: Mara® Jet 1 L DI-SX 485

Substance number: 364597485

Version: 1 / US

Date revised: 17.04.2015

Replaces Version: / US

Print date: 27.04.15

Temperature	68	°F	
Method	calculated		
Vapour density			
Remarks	not determined		
Density			
Value	0.949		g/cm ³
Temperature	68	°F	
Method	DIN EN ISO 2811		
Solubility in water			
Remarks	partially miscible		
Partition coefficient: n-octanol/water			
Remarks	Not applicable		
Ignition temperature			
Value	appr. 345	°F	
Source	Literature value		
Viscosity			
Value	4	to	5 mPa.s
Temperature	68	°F	
Explosive properties			
evaluation	no		
Oxidising properties			
evaluation	None known		
VOC content			
VOC (EU)	94.45	%	

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



Trade name: Mara® Jet 1 L DI-SX 485

Substance number: 364597485

Version: 1 / US

Date revised: 17.04.2015

Replaces Version: / US

Print date: 27.04.15

11.1. Information on toxicological effects

National Toxicology Program (NTP)

The product does not contain any listed components.

International Agency for research on Cancer (IARC)

The product does not contain any listed components.

Acute oral toxicity

ATE	>	2.000	mg/kg
Method	calculated value (Regulation (EC) No. 1272/2008)		

Acute oral toxicity (Components)

Gamma-butyrolactone

Species	rat		
LD50		1582	mg/kg
Method	OECD 401		

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. Causes serious eye 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.

12.2. Persistence and degradability

General information

There are no data available on the mixture itself.

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

Safe Data Sheet according to U.S. DOL, OSHA, 29 CFR 1910.1200, The Hazard Communication Standard (HCS)



Trade name: Mara® Jet 1 L DI-SX 485

Substance number: 364597485

Version: 1 / US

Date revised: 17.04.2015

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Print date: 27.04.15

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.

Dispose of in accordance with national, state and local regulations. It is the waste generator's responsibility to determine if a particular waste is hazardous under RCRA.

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.

SECTION 14: Transport information

Land transport USDOT

Non-dangerous goods

14.1. UN number

UN -

14.2. UN proper shipping name

-

14.3. Transport hazard class(es)

Class -

Label -

14.4. Packing group

Packing group -

14.5. Environmental hazards

-

Marine transport IMDG

The product does not constitute a hazardous substance in sea transport.

14.1. UN number

UN -

14.2. UN proper shipping name

-

14.3. Transport hazard class(es)

Class -

Subsidiary risk -

14.4. Packing group

Packing group -

14.5. Environmental hazards

Safe Data Sheet according to U.S. DOL, OSHA, 29 CFR 1910.1200, The Hazard Communication Standard (HCS)



Trade name: Mara® Jet 1 L DI-SX 485

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no

Air transport ICAO/IATA

The product does not constitute a hazardous substance in air transport.

14.1. UN number

UN -

14.2. UN proper shipping name

-

14.3. Transport hazard class(es)

Class -

Subsidiary risk -

14.4. Packing group

Packing group -

14.5. Environmental hazards

-

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 MARPOL73/78 and the IBC Code

no

SECTION 15: Regulatory information

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

Other information

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

Other information

All components are contained in the TSCA inventory or exempted.

All components are contained in the ECL inventory.

US. EPA CERCLA Hazardous Substances (40 CFR 302): Reportable Quantity

Components: (2-Ethoxyethyl)methyl ether; Diethyleneglycoldiethylether

US. EPA Emergency Planning and Community Right-To-Know Act (EPCRA) SARA Title III Section 302 Extremely Hazardous Substance (40 CFR 355)

The product does not contain any listed components.

US. EPA Emergency Planning and Community Right-To-Know Act (EPCRA) SARA Title III Section 313 Toxic Chemicals (40 CFR 372.65) - Supplier Notification Required

Components: (2-Ethoxyethyl)methyl ether; Diethyleneglycoldiethylether

Clean Water Act (CWA) Section 307 Toxic Pollutants (40 CFR 401.15)

The product does not contain any listed components.

Clean Water Act (CWA) Section 311 Toxic Pollutants (40 CFR 116.4)

The product does not contain any listed components.

Clean Air Act (CAA) Section 112 Regulated Toxic Substances And Threshold Quantities For Accidental Release Prevention (40 CFR 68.130 Table 1+2)

The product does not contain any listed components.

Clean Air Act (CAA) Section 112 Regulated Flammable Substances And Threshold Quantities For Accidental Release Prevention (40 CFR 68.130 Table 3+4)

Safe Data Sheet according to U.S. DOL, OSHA, 29 CFR 1910.1200, The Hazard Communication Standard (HCS)



Trade name: Mara® Jet 1 L DI-SX 485

Substance number: 364597485

Version: 1 / US

Date revised: 17.04.2015

Replaces Version: / US

Print date: 27.04.15

The product does not contain any listed components.

California Safe Drinking Water and Toxic Enforcement Act (Proposition 65)

Warning! This product may contain trace quantities of substance(s) known to the state of California to cause cancer and/or reproductive toxicity - not added as a part of the formulation but remaining as residuals from the manufacturing process of our raw material suppliers.

Right-To-Know State List: Florida

The product does not contain any listed components.

Right-To-Know State List: Massachusetts

The product does not contain any listed components.

Right-To-Know State List: Minnesota

The product does not contain any listed components.

Right-To-Know State List: New Jersey

The product does not contain any listed components.

Right-To-Know State List: New York

The product does not contain any listed components.

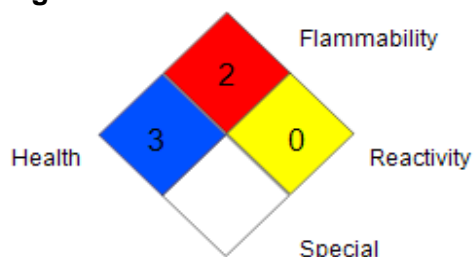
Right-To-Know State List: Pennsylvania

The product does not contain any listed components.

Right-To-Know State List: Rhode Island

The product does not contain any listed components.

NFPA Rating Information



HMIS® Rating Information

Health	3
Flammability	2
Physical Hazard	0
Personal Protection	E

SECTION 16: Other information

Hazard statements listed in Chapter 3

- H302 Harmful if swallowed.
- H318 Causes serious eye damage.
- H319 Causes serious eye irritation.
- H336 May cause drowsiness or dizziness.

CLP categories listed in Chapter 3

- Acute Tox. 4 Acute toxicity, Category 4
- Eye Dam. 1 Serious eye damage, Category 1
- Eye Irrit. 2 Eye irritation, Category 2
- STOT SE 3 Specific target organ toxicity - single exposure, Category 3

Supplemental information

Safe Data Sheet according to U.S. DOL, OSHA, 29 CFR 1910.1200, The Hazard Communication Standard (HCS)



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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.