

Safety Data Sheet

according to Regulation (EU) 2015/830

SECTION 1: Identification of the substance/mixture and of the company/undertaking**1.1. Product identifier**

Trade name : BLUE MARKING INK REF 37 / MERKEVÆSKE

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

Use of the substance/mixture : PRINTING INK

Uses advised against

No additional information available

1.3. Details of the supplier of the safety data sheet

Securmark Scandinavia AS

Box 1881 Stoa,

N-4858 Arendal,

Norway

Tel: +47 37 06 29 00

E-mail: mail@securmark.no

Internet: www.securmark.no

1.4. Emergency telephone number

Country	Organisation/Company	Address	Emergency number	Comment
Norway	Giftinformasjonen HelseDirektoratet	P.O. Box 7000 St. Olavs Plass 0130 Oslo	+47 22 59 13 00	Ambulance: 113
Sweden	Giftinformationscentralen	Box 60 500 171 76 Stockholm	112	+46 8 33 12 31 (outside Sweden)

SECTION 2: Hazards identification**2.1. Classification of the substance or mixture****Classification according to Regulation (EC) No. 1272/2008 [CLP]**

Skin Irrit. 2 H315

Eye Irrit. 2 H319

Repr. 1B H360D

STOT SE 3 H335

Full text of hazard classes and H-statements : see section 16

Adverse physicochemical, human health and environmental effects

Causes skin irritation. Causes serious eye irritation. May damage the unborn child. May cause respiratory irritation.

2.2. Label elements**Labelling according to Regulation (EC) No. 1272/2008 [CLP]**

Hazard pictograms (CLP) :



Signal word (CLP) : Danger

Hazardous ingredients : N-methyl-2-pyrrolidone

Hazard statements (CLP) : H315 - Causes skin irritation.
H319 - Causes serious eye irritation.
H335 - May cause respiratory irritation.
H360D - May damage the unborn child

Precautionary statements (CLP) : P280 - Wear protective clothing, protective gloves, eye protection, face protection.

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P302+P352 - IF ON SKIN: Wash with plenty of soap and water.
P304+P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

2.3. Other hazards

This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII

This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII

SECTION 3: Composition/information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
N-methyl-2-pyrrolidone substance listed as REACH Candidate (1-Methyl-2-pyrrolidone)	(CAS-No.) 872-50-4 (EC-No.) 212-828-1 (Index no) 606-021-00-7 (REACH-no) 01-2119472430-46	5 - <= 10	Repr. 1B, H360D Eye Irrit. 2, H319 STOT SE 3, H335 Skin Irrit. 2, H315

Specific concentration limits:

Name	Product identifier	Specific concentration limits
N-methyl-2-pyrrolidone	(CAS-No.) 872-50-4 (EC-No.) 212-828-1 (Index no) 606-021-00-7 (REACH-no) 01-2119472430-46	(C >= 10) STOT SE 3, H335

Full text of H-statements: see section 16

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures general	: In case of doubt or persistent symptoms, consult always a physician. Emergency telephone number, see section 1.4.
First-aid measures after inhalation	: Remove person to fresh air and keep comfortable for breathing. Obtain medical attention if irritation persists.
First-aid measures after skin contact	: Rinse with plenty of water and soap. Take off contaminated clothing. If skin irritation occurs: Get medical advice/attention.
First-aid measures after eye contact	: Immediately flush eyes thoroughly with water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.
First-aid measures after ingestion	: Rinse mouth. Do not induce vomiting. Give milk or water to drink. Get medical advice/attention.

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

Symptoms/effects after inhalation	: May cause respiratory irritation. Dizziness, headaches, nausea.
Symptoms/effects after skin contact	: Causes skin irritation. Redness, pain. May cause skin dryness or cracking. Contains substances that can be absorbed through the skin.
Symptoms/effects after eye contact	: Eye irritation. Redness, pain.
Symptoms/effects after ingestion	: May cause a light irritation of the linings of the mouth, throat, and gastrointestinal tract.
Chronic symptoms	: May damage the unborn child.

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

Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media	: Foam, powder, carbon dioxide (CO ₂), water spray.
Unsuitable extinguishing media	: Do not use straight streams.

5.2. Special hazards arising from the substance or mixture

Fire hazard	: Not classified as flammable.
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Hazardous decomposition products in case of fire : May include: Nitrogen oxides. Carbon oxides (CO, CO₂).

5.3. Advice for firefighters

Precautionary measures fire : Use water stream to cool containers.
Protection during firefighting : Wear a self-contained breathing apparatus (SCBA) and appropriate personal protective equipment (PPE).

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures : Ventilate spillage area. Do not breathe vapour. Avoid contact with skin and eyes. Use personal protective equipment as required. Refer to section 8.

6.2. Environmental precautions

Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up : Take up liquid spill into inert absorbent material. Shovel into suitable and closed container for disposal.
Other information : Hazardous waste. Dispose of materials or solid residues at an authorized site. Refer to section 13.

6.4. Reference to other sections

For further information refer to section 8 and 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Provide adequate general and local exhaust ventilation. Keep away from heat and direct sunlight. Do not breathe vapour. Avoid contact with skin and eyes. Wear personal protective equipment. Refer to section 8.
Hygiene measures : Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Store in a well-ventilated place. Keep container tightly closed. Keep cool. Protect from sunlight.
Incompatible materials : Strong oxidizers. Strong acids.

7.3. Specific end use(s)

See section 1.2.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

N-methyl-2-pyrrolidone (872-50-4)		
Sweden	Local name	N-Metyl-2-pyrrolidon
Sweden	Occupational exposure limit (NVG) (mg/m ³)	40 mg/m ³
Sweden	Occupational exposure limit (NVG) (ppm)	10 ppm
Sweden	Short-term limit value (KTV) (mg/m ³)	80 mg/m ³
Sweden	Short-term limit value (KTV) (ppm)	20 ppm
Sweden	Comments (SE)	H (Can be absorbed through the skin), R (toxic to reproduction)
Norway	Local name	N-metyl-2-pyrrolidon
Norway	Occupational exposure limit (mg/m ³)	20 mg/m ³
Norway	Occupational exposure limit (ppm)	5 ppm
Norway	Occupational exposure limit (short-term limit value) (mg/m ³)	80 mg/m ³ S
Norway	Occupational exposure limit (short-term limit value) (ppm)	20 ppm S

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N-methyl-2-pyrrolidone (872-50-4)		
Norway	Comments (NO)	H (Can be absorbed through the skin); R (toxic to reproduction); E (EU has an indicative occupational exposure limit value); S (Short-term value is a value for the average concentration of a chemical substance in the breathing zone of an employee not to be exceeded for a fixed reference period. The reference period is 15 minutes unless otherwise stated)

Reference : AFS 2015:7; Swedish Work Environment Authority's regulations on occupational exposure limit and general advice on the application of the regulations.

Reference : Regulations concerning Action and Limit Values, 06.12.2011 no. 1358 (Norwegian Labour Inspection Authority)

8.2. Exposure controls

Appropriate engineering controls:

Provide adequate general and local exhaust ventilation. Personal protective equipment must be chosen on the basis of the risk assessment. The supplier of the protective equipment can assist in the evaluation and choice of the equipment.

Hand protection:

Wear suitable gloves resistant to chemical penetration. Breakthrough time and glove thickness are not measured, but based on information about the individual substances in the mixture. Other conditions may reduce the breakthrough time.

Type	Material	Permeation	Thickness (mm)	Standard
Full contact	Butyl rubber	6 (> 480 minutes)	0,7	EN 374
Splash	Natural rubber	3 (> 60 minutes)	0,6	EN 374

Eye protection:

Protective goggles. EN 166

Skin and body protection:

Wear suitable protective clothing

Respiratory protection:

If risk of inhalation of vapors, use respiratory protection with filter A. If risk of inhalation of vapors/aerosols, use respiratory protection with filter A/P2. EN 14387

Environmental exposure controls:

Avoid release to the environment.

Other information:

Have safety shower and eye wash available.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Liquid
Colour	: Blue.
Odour	: Characteristic.
Odour threshold	: No data available
pH	: No data available
Relative evaporation rate (butylacetate=1)	: No data available
Melting point	: No data available
Freezing point	: No data available
Boiling point	: No data available
Flash point	: > 86 °C
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Flammability (solid, gas)	: Not applicable
Vapour pressure	: No data available
Relative vapour density at 20 °C	: No data available
Relative density	: ≈ 1

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Solubility	: soluble in most organic solvents.
Log Pow	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosive properties	: Not classified.
Oxidising properties	: Not classified as oxidizing.
Explosive limits	: No data available

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

The product is non-reactive under normal conditions of use, storage and transport.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

10.4. Conditions to avoid

Direct sunlight. Strong heat.

10.5. Incompatible materials

Strong oxidizing agents. Strong acids.

10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced. See also section 5.2.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity (oral)	: Not classified (Based on available data, the classification criteria are not met)
Acute toxicity (dermal)	: Not classified (Based on available data, the classification criteria are not met)
Acute toxicity (inhalation)	: Not classified (Based on available data, the classification criteria are not met)

N-methyl-2-pyrrolidone (872-50-4)	
LD50 oral rat	3914 mg/kg
LD50 dermal rat	> 5000 mg/kg
LC50 inhalation rat (ppm)	8300 ppm/4h

Skin corrosion/irritation	: Causes skin irritation.
Additional information	: Contains substances that can be absorbed through the skin.
Serious eye damage/irritation	: Causes serious eye irritation.
Respiratory or skin sensitisation	: Not classified (Based on available data, the classification criteria are not met)
Germ cell mutagenicity	: Not classified (Based on available data, the classification criteria are not met)
Carcinogenicity	: Not classified (Based on available data, the classification criteria are not met)
Reproductive toxicity	: May damage the unborn child.
STOT-single exposure	: May cause respiratory irritation.
STOT-repeated exposure	: Not classified (Based on available data, the classification criteria are not met)
Aspiration hazard	: Not classified (Based on available data, the classification criteria are not met)
Other information	: Likely routes of exposure: inhalation, skin and eye.

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general	: The product is not considered harmful to aquatic organisms nor to cause long-term adverse effects in the environment.
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Acute aquatic toxicity : Not classified

Chronic aquatic toxicity : Not classified

N-methyl-2-pyrrolidone (872-50-4)	
LC50 fish	464 mg/l
EC50 Daphnia	≈ 4897 mg/l
EC50 72h algae (1)	> 500 mg/l
NOEC, daphnia	12,5 mg/l (504 Hours)

12.2. Persistence and degradability

BLUE MARKING INK REF 37 / MERKEVÆSKE	
Persistence and degradability	Expected to be biodegradable.

12.3. Bioaccumulative potential

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Bioaccumulative potential	No bioaccumulation is to be expected.

N-methyl-2-pyrrolidone (872-50-4)	
BCF	0,16

12.4. Mobility in soil

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Ecology - soil	Insoluble in water.

N-methyl-2-pyrrolidone (872-50-4)	
Log Koc	20,94
Ecology - soil	Low mobility (soil).

12.5. Results of PBT and vPvB assessment

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This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII	
This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII	

Component	
N-methyl-2-pyrrolidone (872-50-4)	This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII

12.6. Other adverse effects

Additional information : Avoid release to the environment.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste treatment methods : Hazardous waste. Remove to an authorized waste treatment plant.

Additional information : The stated LoW code is indicative and must be considered in relation to the actual condition of the chemical. The final code must be determined by the user, based on the actual use of the chemical.

European List of Waste (LoW) code : 08 01 11* - waste paint and varnish containing organic solvents or other dangerous substances

Hazardous Waste Group : 7051 Paint, glue, varnish, hazardous only

SECTION 14: Transport information

In accordance with ADR / RID / IMDG / IATA / ADN

ADR	IMDG	IATA	ADN	RID
14.1. UN number				
Not regulated	Not regulated	Not regulated	Not regulated	Not regulated
14.2. UN proper shipping name				
Not regulated	Not regulated	Not regulated	Not regulated	Not regulated
14.3. Transport hazard class(es)				
Not regulated	Not regulated	Not regulated	Not regulated	Not regulated
14.4. Packing group				
Not regulated	Not regulated	Not regulated	Not regulated	Not regulated
14.5. Environmental hazards				
Not regulated	Not regulated	Not regulated	Not regulated	Not regulated

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ADR	IMDG	IATA	ADN	RID
No supplementary information available				

14.6. Special precautions for user

- Overland transport

Not regulated

- Transport by sea

Not regulated

- Air transport

Not regulated

- Inland waterway transport

Not regulated

- Rail transport

Not regulated

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

Not applicable

SECTION 15: Regulatory information

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

EU-Regulations

Contains no REACH substances with Annex XVII restrictions

Contains a substance on the REACH candidate list in concentration $\geq 0.1\%$ or with a lower specific limit: 1-Methyl-2-pyrrolidone (EC 212-828-1, CAS 872-50-4)

Contains no REACH Annex XIV substances

National regulations

No additional information available

15.2. Chemical safety assessment

No chemical safety assessment has been carried out

SECTION 16: Other information

Abbreviations and acronyms:

EC50	The effective concentration of substance that causes 50% of the maximum response.
LC50	Median lethal concentration
LD50	Median lethal dose
PBT	Persistent Bioaccumulative Toxic
vPvB	Very Persistent and Very Bioaccumulative

Data sources : Safety Data Sheet from the supplier/manufacturer. Prevent.

Full text of H- and EUH-statements:

Eye Irrit. 2	Serious eye damage/eye irritation, Category 2
Repr. 1B	Reproductive toxicity, Category 1B
Skin Irrit. 2	Skin corrosion/irritation, Category 2
STOT SE 3	Specific target organ toxicity — Single exposure, Category 3, Respiratory tract irritation
H315	Causes skin irritation.
H319	Causes serious eye irritation.
H335	May cause respiratory irritation.
H360D	May damage the unborn child

Classification and procedure used to derive the classification for mixtures according to Regulation (EC) 1272/2008 [CLP]:

Skin Irrit. 2	H315	Calculation method
Eye Irrit. 2	H319	Calculation method
Repr. 1B	H360D	Expert judgment

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STOT SE 3	H335	Calculation method
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Other information : Compiled by SDS-Chemie, Bente Frogner.

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product