



Safety data sheet

According to Regulation (EC) No. 1907/2006 (REACH) and 2020/878

MF 1500 and MF 2500

Date of issue: 08.05.2025 (GHS 3.0)

Version 1.5

Replace version of: 28.06.2024 (version 1.4)

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

1.1 Product identifier

Trade name: Microfusion
UFI MF 1500 and MF 2500
Registration number (REACH):

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

Relevant identified use: Two-component adhesive (A component),
Professional uses
Industrial uses

1.3 Details of the supplier of the safety data sheet

Microfusion International Inc,
67, Purlbrook Road,
Antigonish, B2G 2L3,
Nova Scotia, Canada
Phone: +1 902 318 5501
+1 902 604 1113
Toll-free +1 877 330 2672
E-mail: info@microfusion.ca

1.4 Poison Centre Munich: 49 - 89 - 19240

2. Hazards identification

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008 (CLP)

Section	Hazard class	Hazard class and category	Hazard statement
-	-	-	-

This mixture does not meet the criteria for classification in accordance with Regulation No 1272/2008/EC.

2.2 Label elements

Labelling according to regulation (EC) N° 1272/2008 (CLP)

Not required.

2.3 Other hazards

Results of PBT and vPvB assessment

Does not contain a PBT-/vPvB-substance at a concentration of $\geq 0,1\%$.

Endocrine disrupting properties

Does not contain an endocrine disruptor (ED) at a concentration of $\geq 0,1\%$.



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3. Compositions/information on ingredients

3.1 Substances

Not relevant (mixture).

3.2 Mixtures

Description of the mixture: Polyol component of a 2-component system.

This product does not meet the criteria for classification in any hazard class according to GHS.

4. First aid measures

Description of first aid measures

4.1

General notes

Do not leave the affected person unattended. Remove the victim from the danger area. Keep the affected person warm, still, and covered. Take off immediately all contaminated clothing. In all cases of doubt or when symptoms persist, seek medical advice. In case of unconsciousness, place the person in the recovery position. Never give anything by mouth.

Following inhalation

If breathing is irregular or stopped, immediately seek medical assistance and start first aid actions. Provide fresh air.

Following skin contact

Wash with plenty of soap and water.

Following eye contact

Remove contact lenses, if present and easy to do. Continue rinsing. Irrigate copiously with clean, fresh water for at least 10 minutes, holding the eyelids apart.

Following swallowing

Rinse mouth with water (only if the person is conscious). Do NOT induce vomiting.

4.2 Most important symptoms and effects, both acute and delayed

Symptoms and effects are not known until now.

4.3 Indication of any immediate medical attention and special treatment needed

None

5. Firefighting measures

5.1 Extinguishing agents

Suitable extinguishing agents

Water spray, BC-powder, Carbon dioxide (CO₂). Adapt fire-fighting measures to the surrounding area.

For safety reasons, suitable extinguishing agents

Water jet.



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5.2 Special hazards arising from the substance or mixture

Hazardous combustion products

Carbon monoxide (CO), Carbon dioxide (CO₂).

5.3 Advice for firefighters

When fighting fires, wear a self-contained breathing apparatus and suitable chemical protective clothing. Do not inhale gases. Adapt firefighting measures to the surrounding area. Do not allow firefighting water to enter drains or watercourses. Fight fire with normal precautions from a suitable distance.

6. Accidental release measures

6.1 Personal precautions, protective equipment, and emergency procedures

For non-emergency personnel

Remove uninvolved persons to safety.

For emergency responders,

Use personal protective clothing.

When exposed to vapors, dust, aerosols, and gases, respiratory protection must be worn.

6.2 Environmental precautions

Prevent from entering the drains or surface and groundwater. Retain and dispose of contaminated washing water.

6.3 Methods and materials for containment and cleaning up

Advice on how to prevent spilled materials from spreading

Cover drains.

Advice on how to clean up spills

Wipe up with absorbent material (e.g., rag, fleece).

Absorb spilled quantities: sawdust, diatomaceous earth (diatomite), sand, universal binder.

Appropriate containment techniques

Use absorbent materials.

Further information relating to spills and releases

Remove contaminated material and dispose of it in suitable containers in accordance with section 13.

Ventilate the affected area.



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6.4 References to other sections

Hazardous combustion products: see section 5. Personal protective equipment: see section 8. Incompatible materials: see section 10. Disposal considerations: see section 13.

7. Handling and storage

7.1 Precautions for safe handling

Measures to prevent fires as well as aerosol and dust generation

Use local and general VENTILATION: Use only in well-ventilated areas.

Advice on general occupational hygiene and safety

The usual precautions for handling chemicals must be observed.

Prevent contact with eyes and skin. Depending on the equipment, handling, and packaging of the product,

Precautions against electrostatic charging should be generally taken.

Wash your hands after use. Do not drink, eat, or smoke in work areas. Remove contaminated clothing and protective equipment before entering eating areas. Never keep food or drink in the vicinity of chemicals. Never place chemicals in containers that are normally used for food or drink. Keep away from food, drink, and animal feeding stuffs.

When used in the spray process, provide sufficient air exchange and/or exhaust in workrooms. Section 8 stated that personal protective measures must be observed. Prevent contact with skin and eyes, and hair, and inhalation of fumes and aerosols

7.2 Conditions for safe storage, including any incompatibilities

Protect from direct sunlight. Store in cool, dry and well-ventilated position in well-sealed containers. For further information about the storage conditions have a look at the technical data sheet (TDS).

Concerning incompatibility: see below "Conditions to avoid" and "Incompatible materials" (Section 10).

7.3 Specific end use

Have a look at the technical data sheet (TDS).



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8. Exposure controls/personal protection

8.1 Control parameters

Occupational exposure limit values (Workplace Exposure Limits)

No information available.

8.2 Exposure control and protective equipment

Appropriate engineering controls

General ventilation.

General protective and hygienic measures

The usual precautions when handling chemicals should be observed. Instantly remove any contaminated clothing and wash before reuse. Prevent contact with the eyes and skin and inhalation of vapors and aerosols. Wash your hands before breaks and immediately after finishing work. Ensure adequate ventilation.

Eye and face protection

Wear eyes/face protection (EN 166)

Respiratory protection

In case of hypersensitivity to the respiratory tract and the skin (asthma, chronic bronchitis, and chronic skin disorders), the handling of the product is not recommended.

In the case of spray processing, it is mandatory to wear a blower helmet with a class TH2 rating to prevent the sticking of aerosol particles to the skin, hair, eyes, and respiratory tract.

Hand protection

Wear suitable gloves. Chemical protection gloves are suitable, which are tested according to EN 374. Check the leak tightness/Impermeability before use. If gloves are to be reused, clean them before removing them and air them well. For special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above, together with the supplier of these gloves.

Glove material

NBR: acrylonitrile-butadiene rubber, Nitrile.

Body protection

When applying and spreading by hand, long-sleeved work clothing is required (EN 368). In case of spray processing: it is mandatory to wear a level 3 chemical protective suit and a blower helmet with class TH2 to prevent sticking of aerosol particles on skin, hair, eyes, and respiratory tract.



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9. Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical state	Liquid
Colour	See the technical data sheet
Odour	Characteristics
Melting point/freezing point	Not determined
Boiling point or initial boiling point and boiling range	287.6C
Flammability	The material is combustible, but will not ignite readily
Lower and upper explosion limit	Not determined
Flash point	>100C
Auto-ignition temperature	305°C
Decomposition temperature	Not relevant
pH value	Not determined
Kinematic viscosity	Not determined
Solubility / Miscibility with water Wasser (20 °C)	Not determined
Partition coefficient n-octanol/water (log value)	No information available
Vapor pressure	0,001 hPa at 20°C
Density at 230C	1,05-1,6 g/cm3
Particle characteristics	Not relevant (liquid)
Information with regard to physical hazard classes acc. To GHS	Physical hazards: not relevant
Temperature class (EU, acc. to ATEX)	T2 (maximum permissible surface temperature on the equipment: 300°C)

10 Stability and reactivity

10.1 Reactivity

Concerning incompatibility: see below "Conditions to avoid" and "Incompatible materials"

10.2 Chemical stability

The material is stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.

10.3 Possibility of hazardous reactions

No known hazardous reactions.



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10.4 Conditions to avoid

There are no specific conditions known that have to be avoided.

10.5 Incompatible materials

Oxidizers.

Hazardous decomposition products

Reasonably anticipated hazardous decomposition products that may be produced as a result of use, storage, spill, or heating are not known. Hazardous combustion products: see section 5.

11 Toxicological information

11.1 Information on toxicological effects

Test data are not available for the complete mixture

Classification procedure

The method for classification of the mixture is based on the ingredients of the mixture (additivity formula).

Classification according to GHS (1272/2008/EC, CLP)

This mixture does not meet the criteria for classification in accordance with Regulation No 1272/2008/EC.

Acute toxicity

Shall not be classified as acutely toxic.

Skin corrosion/irritation

Shall not be classified as corrosive/irritant to skin.

Serious eye damage/eye irritation

Shall not be classified as seriously damaging to the eye or eye irritant.

Respiratory or skin sensitization

Shall not be classified as a respiratory or skin sensitizer.

Germ cell mutagenicity

Shall not be classified as germ cell mutagenic.

Carcinogenicity

Shall not be classified as carcinogenic.

Reproductive toxicity

Shall not be classified as a reproductive toxicant.



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Specific target organ toxicity-single exposure

Shall not be classified as a specific target organ toxicant (single exposure).

Specific target organ toxicity-repeated exposure

Shall not be classified as a specific target organ toxicant (repeated exposure).

Aspiration hazard

Shall not be classified as presenting an aspiration hazard.

11.2 Information on other hazards

There is no additional information.

12 Ecological information

12.1 Toxicity

According to 1272/2008/EC: is not classified as hazardous to the aquatic environment. Prevent from entering the drains or surface and groundwater.

12.2 Persistence and degradability

Data are not available.

12.3 Bioaccumulative potential

Data are not available.

12.4 Mobility in soil

Data are not available.

12.5 Results of PBT and vPvB assessment

According to the results of its assessment, this substance is not a PBT or a vPvB. Does not contain a PBT-/vPvB- substance at a concentration of $\geq 0,1\%$.

12.6 Endocrine-disrupting properties

Does not contain an endocrine disruptor (ED) at a concentration of $\geq 0,1\%$.

12.7 Other adverse effects

Data are not available

13 Disposal considerations

13.1 Waste treatment methods

Information relevant to waste water disposal

Do not empty into drains. Avoid release to the environment. Refer to special instructions/safety data sheet.



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Waste treatment of containers/packaging

Completely emptied packaging can be recycled. Contaminated packaging should be treated in the same way as the substance. Incineration under approved, controlled conditions using an appropriate or specially designed incinerator for the destruction of dangerous chemicals is the preferred method of disposal. Observe the relevant national or regional regulations.

European waste catalogue

08 04 12: sludges containing adhesives and sealants other than those mentioned in 08 04 11.

14 Transportation information

- | | | |
|------|-------------------------------|--|
| 14.1 | UN number | Does not subject to transport regulations |
| 14.2 | UN proper shipping name | Not relevant |
| 14.3 | Transport hazardous class(es) | Not relevant |
| 14.4 | Packaging group | Not assigned |
| 14.5 | Environmental hazards | No environmental hazard according to dangerous goods regulations |

14.6 Special precautions for the user

There is no additional information.

14.7 Maritime transport in bulk according to IMO instruments

The cargo is not intended to be carried in bulk.

14.8 Information for each of the UN Model Regulations

Transport of dangerous goods by road, rail, and inland waterway (ADR/RID/AND)

Not subject to the regulations of ADR, RID, and AND.

International Maritime Dangerous Goods Code (IMDG)

It is not subject to the regulations of IMDG.

International Civil Aviation Organization (ICAO-IATA/DGR)

Not subject to the regulations of ICAO-IATA/DGR.



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15 Regulatory information

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

Relevant European Union (EU) Regulation

Restrictions according to REACH, Annex XVII.

None of the components is listed.

List of substances subject to authorization (REACH, Annex XIV) / SVHC - Candidate List

None of the components are listed.

Number	Substance group	Class	Concentration	Mass flow	Mass conc.	Notice

Decopaint Directive and Industrial Emissions Directive (IE Directive)

VOC content: 0%

Directive on the restriction of the use of certain hazardous substances in electrical and electronic equipment (RoHS)

None of the components is listed.

Regulation on the creation of a European Pollutant Release and Delivery Register (PRTR)

None of the components is listed.

Water Framework Directive(WFD)

None of the components is listed.

Regulation on persistent organic pollutants (POP)

None of the components is listed.

National regulations (Germany)

Ordinance on facilities for handling substances hazardous to water (AwSV)

Water hazard class (WGK): Not relevant

Technical instructions for keeping the air clean (Germany): Not covered by the TA-Luft

Storage of hazardous substances in portable containers (TRGS 510): Not relevant

15.2 Chemical safety assessment

A chemical safety assessment has not been carried out.



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16 Other information

16.1 Indication of changes

Section	Former entry text/value)	Current entry (text/value)	Safety relevant
1.1	UFI	UFI	Yes
2.2	Labelling according to Regulation (EC) No 1272/2008 (CLP)	Labelling according to Regulation (EC) No 1272/2008 (CLP): Not required	Yes
3.2	Description of the mixture	Description of the mixture This product does not meet any criteria for classification into a hazard class according to GHS.	Yes
9.1	Color: Transparent	Color: see the technical data sheet	Yes
9.1		Color: see the technical data sheet	Yes
10.2		Chemical stability: The material is stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.	Yes
11.1	Classification according to GHS (1272/2008/EC, CLP)	Classification according to GHS (1272/2008/EC, CLP): This mixture does not meet the criteria for classification in accordance with Regulation No 1272/2008/EC.	Yes
11.1		Acute toxicity estimate (ATE) of ingredients: Change in listing (table)	Yes
11.1	Respiratory or skin sensitisation: May cause an allergic skin reaction.	Respiratory or skin sensitisation: Shall not be classified as a respiratory or skin sensitiser	Yes
15.1		Dangerous substances with restrictions (REACH, Annex XVII): change in the listing (table)	Yes



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16.2 Abbreviations and acronyms

Abbreviation	Descriptions of the abbreviations used
ADN	European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
ADR	European Agreement concerning the International Carriage of Dangerous Goods by Road
CAS	Chemical Abstracts Service
CLP	Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures
CMR	Carcinogenic, Mutagenic or toxic for Reproduction
DGR	Dangerous Goods Regulations (see IATA/DGR)
DMEL	Derived Minimal Effect Level
DNEL	Derived No-Effect Level
CE No	The EC Inventory (EINECS, ELINCS and the NLP-list) is the source for the seven-digit EC number, an identifier of substances commercially available within the EU (European Union)
EH40/2005	EH40/2005 Workplace exposure limits (http://www.nationalarchives.gov.uk/doc/open-government-l)
EINECS	European Inventory of Existing Commercial Chemical Substances
ELINCS	European List of Notified Chemical Substances
EmS	Emergency Schedule
Eye Dam	Seriously damaging to the eye
Eye Irrit.	Irritant to the eye
GHS	Globally Harmonized System of Classification and Labelling of Chemicals" developed by the United Nations
IATA	International Air Transport Association
IATA/DGR	Dangerous Goods Regulations (DGR) for the air transport (IATA)
ICAO	International Civil Aviation Organization
IMDG	International Maritime Dangerous Goods Code
INDEX nO	the Index number is the identification code given to the substance in Part 3 of Annex VI to Regulation (EC) No 1272/2008



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Abbreviation	Descriptions of the abbreviations used
MARPOL	International Convention for the Prevention of Pollution from Ships (abbr. of "Marine Pollutant")
M-Factor	Means a multiplying factor. It is applied to the concentration of a substance classified as hazardous to the aquatic environment, acute category 1 or chronic category 1, and is used to derive by the summation method the classification of a mixture in which the substance is present
NLP	No-Longer Polymer
Ox.Sol.	oxidising solid
PBT	Persistent, Bioaccumulative and Toxic
PNEC	Predicted No-Effect Concentration
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals
RID	Règlement concernant le transport International ferroviaire des marchandises Dangereuses (Regulations concerning the International carriage of Dangerous goods by Rail)
Skin Corr	corrosive to skin
Skin Irrit	irritant to skin
STEL	short-term exposure limit
SVHC	Substance of Very High Concern
TWA	time-weighted average
VOC	Volatile Organic Compounds
vPVB	very Persistent and very Bioaccumulative
WEL	workplace exposure limit

Key literature references and sources for data

- Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures.
- Regulation (EC) No. 1907/2006 (REACH), amended by 2020/878/EU.
- Agreement concerning the International Carriage of Dangerous Goods by Road (ADR).
- Regulations concerning the International Carriage of Dangerous Goods by Rail (RID).
- International Maritime Dangerous Goods Code (IMDG).
- Dangerous Goods Regulations (DGR) for air transport (IATA).



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Classification procedures

Physical and chemical properties: The classification is based on the tested mixture.
Health hazards, Environmental hazards: The method for classification of the mixture is based on the ingredients of the mixture (additivity formula).

Disclaimer

This information is based upon the present state of our knowledge. This SDS has been compiled and is solely intended for this product. It does not ensure specific characteristics.

List of relevant phrases

Code	Text
H317	May cause an allergic skin reaction
H332	Harmful if inhaled
H335	May cause respiratory irritation

The data is based on present-day knowledge. The SDS is intended to give you advice about safety, storage, processing, transport and disposal. It does not ensure certain characteristics.



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

1.1 Product identifier

Trade name: Microfusion
UFI MF 1500 and MF 2500

Registration number (REACH): Not relevant (mixture)

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

Relevant identified use: Two-component adhesive (B component),
Professional uses
Industrial uses

1.3 Details of the supplier of the safety data sheet

Microfusion International Inc,
67, Purlbrook Road,
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Phone: +1 902 318 5501
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Toll-free +1 877 330 2672
E-mail: info@microfusion.ca

1.4 Poison Centre Munich: 49 - 89 - 19240

2. Hazards identification

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008 (CLP)

Section	Hazard class	Hazard class category	Hazard statement
3.11	Acute toxicity (inhalation)	Acute Tox. 4	H332
3.4S	Skin sensitisation	Skin Sens	H317
3.8R	Specific target toxicity – single exposure (respiratory tract irritation)	STOT SE 3	H335



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Label elements

Labelling according to regulation (EC) No 1272/2008 (CLP)

Signal word:

Warning

Pictogram

GHS07



Hazard statements

H317: May cause an allergic skin reaction.

H332: Harmful if inhaled.

H335: May cause respiratory irritation.

Precautionary statements

- P101: If medical advice is needed, have the product container or label at hand.
- P102: Keep out of reach of children.
- P103: Read carefully and follow all instructions.
- P261: Avoid breathing dust/fume/gas/mist/vapors/spray.
- P271: Use only outdoors or in a well-ventilated area.
- P280: Wear protective gloves/protective clothing/eye protection/face protection.
- P304+340+312: IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor/physician if you feel unwell.
- P305+351+338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- P333+313: If skin irritation or rash occurs: Get medical advice/attention.
- P362+364: Take off contaminated clothing and wash before reuse.
- P403+P233: Store in a well-ventilated place. Keep the container tightly closed.
- P405: Store locked up. P501: Dispose of contents/container to industrial combustion plant

Tactile warning of danger: Yes

Hazardous ingredient for labelling: 2-Oxepanone, polymer with 1,6-diisocyanatohexane and 1,6-hexanediol.



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2.3 Other hazards

Results of PBT and vPvB assessment

Does not contain a PBT-/vPvB-substance at a concentration of $\geq 0,1\%$.

Endocrine-disrupting properties

Does not contain an endocrine disruptor (ED) at a concentration of $\geq 0,1\%$.

3 Compositions/information on ingredients

Substance

Not relevant (Mixture)

3.2 Mixtures

Description of the mixture: aliphatic polyisocyanate component of a 2-component system:

Name of the hazardous determining substance	Identifier	Wt%	Classification acc.GHS	Harard statement
2-Oxepanone, polymer with 1,6-diisocyanatohexane and 1,6-hexanediol	CAS-Nr.: 164250-92-4 EG-Nr.: 642-404-5	50 – <75%	Acute Tox. 4 Skin Sens. 1 STOT SE 3	H332 H317 H335
Other Polymers	-	0 – 50%	-	-

Name of the substance	Specific conc. limits	M-Factor	ATE
2-Oxepanone, polymer with 1,6-diisocyanatohexane and 1,6-hexanediol		11 mg/l/4h 1,5 mg/l/4 h	Inhalation: vapor Inhalation: dust/mist

For full text of Hazard and EU Hazard-statements: see section 16.



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4. First aid measures

4.1 Description of first aid measures

General notes

Do not leave the affected person unattended. Remove the victim from the danger area. Keep the affected person warm, still, and covered. Take off immediately all contaminated clothing. In all cases of doubt or when symptoms persist, seek medical advice. In case of unconsciousness, place the person in the recovery position. Never give anything by mouth.

Following inhalation

If breathing is irregular or stopped, immediately seek medical assistance and start first aid actions. Provide fresh air.

Following skin contact

Wash with plenty of soap and water.

Following eye contact

Remove contact lenses, if present and easy to do. Continue rinsing. Irrigate copiously with clean, fresh water for at least 10 minutes, holding the eyelids apart.

Following swallowing

Rinse mouth with water (only if the person is conscious). Do NOT induce vomiting.

4.2 Most important symptoms and effects, both acute and delayed

Symptoms and effects are not known until now.

4.3 Indication of any immediate medical attention and special treatment needed

None

5. Firefighting measures

5.1 Extinguishing agents

Suitable extinguishing agents

Water spray, BC-powder, Carbon dioxide (CO₂). Adapt fire-fighting measures to the surrounding area.

For safety reasons, suitable extinguishing agents

Water jet.

5.2 Special hazards arising from the substance or mixture

Carbon monoxide (CO), Carbon dioxide (CO₂), isocyanate vapors, and traces of hydrogen cyanide.



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5.3 Advice for firefighters

When fighting fires, wear a self-contained breathing apparatus and suitable chemical protective clothing. Do not inhale gases. Adapt firefighting measures to the surrounding area. Do not allow firefighting water to enter drains or watercourses. Fight fire with normal precautions from a suitable distance.

6. Accidental release measures

6.1 Personal precautions, protective equipment, and emergency procedures

For non-emergency personnel

Remove uninvolved persons to safety.

For emergency responders

Use personal protective clothing.

When exposed to vapors, dust, aerosols, and gases, respiratory protection must be worn.

6.2 Environmental precautions

Prevent from entering the drains or surface and groundwater. Retain and dispose of contaminated washing water.

6.3 Methods and materials for containment and cleaning up

Advice on how to prevent spilled materials from spreading

Cover drains.

Advice on how to clean up spills

Wipe up with absorbent material (e.g., rag, fleece).

Absorb spilled quantities: sawdust, diatomaceous earth (diatomite), sand, universal binder.

Appropriate containment techniques

Use absorbent materials.

Further information relating to spills and releases

Remove contaminated material and dispose of it in suitable containers in accordance with section 13.

Ventilate the affected area.

6.4 References to other sections

Hazardous combustion products: see section 5. Personal protective equipment: see section 8. Incompatible materials: see section 10. Disposal considerations: see section 13.



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7. Handling and storage

7.1 Precautions for safe handling

Measures to prevent fires as well as aerosol and dust generation

Use local and general VENTILATION: Use only in well-ventilated areas.

Advice on general occupational hygiene and safety

The usual precautions for handling chemicals must be observed.

Prevent contact with eyes and skin. Depending on the equipment, handling, and packaging of the product,

Precautions against electrostatic charging should be generally taken.

Wash your hands after use. Do not drink, eat, or smoke in work areas. Remove contaminated clothing and protective equipment before entering eating areas. Never keep food or drink in the vicinity of chemicals. Never place chemicals in containers that are normally used for food or drink. Keep away from food, drink, and animal feeding stuffs.

When used in the spray process, provide sufficient air exchange and/or exhaust in workrooms. Section 8 stated that personal protective measures must be observed. Prevent contact with skin and eyes, and hair, and inhalation of fumes and aerosols

7.2 Conditions for safe storage, including any incompatibilities

Protect from direct sunlight. Store in cool, dry and well-ventilated position in well-sealed containers. For further information about the storage conditions have a look at the technical data sheet (TDS).

Concerning incompatibility: see below "Conditions to avoid" and "Incompatible materials" (Section 10).

7.3 Specific end use

Have a look at the technical data sheet (TDS).



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8. Exposure controls/personal protection

8.1 Control parameters

Occupational exposure limit values (Workplace Exposure Limits)

No information available.

8.2 Exposure control and protective equipment

Appropriate engineering controls

General ventilation.

General protective and hygienic measures

The usual precautions when handling chemicals should be observed. Instantly remove any contaminated clothing and wash before reuse. Prevent contact with the eyes and skin and inhalation of vapors and aerosols. Wash your hands before breaks and immediately after finishing work. Ensure adequate ventilation.

Eye and face protection

Wear eyes/face protection (EN 166)

Respiratory protection

In case of hypersensitivity to the respiratory tract and the skin (asthma, chronic bronchitis, and chronic skin disorders), the handling of the product is not recommended.

In case of spray processing, it is mandatory to wear a blower helmet with class TH2 to prevent the sticking of aerosol particles on skin, hair, eyes, and respiratory tract.

Hand protection

Wear suitable gloves. Chemical protection gloves are suitable, which are tested according to EN 374. Check the leak tightness/Impermeability before use. If gloves are to be reused, clean them before removing them and air them well. For special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above, together with the supplier of these gloves.

Glove material

NBR: acrylonitrile-butadiene rubber, Nitrile.

Body protection

When applying and spreading by hand, long-sleeved work clothing is required (EN 368). In case of spray processing: it is mandatory to wear a level 3 chemical protective suit and a blower helmet with class TH2 to prevent sticking of aerosol particles on skin, hair, eyes, and respiratory tract.



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9. Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical state	Liquid
Colour	See the technical data sheet
Odour	Characteristics
Melting point/freezing point	Not determined
Boiling point or initial boiling point and boiling range	287.6C
Flammability	The material is combustible, but will not ignite readily
Lower and upper explosion limit	Not determined
Flash point	>100C
Auto-ignition temperature	305°C
Decomposition temperature	Not relevant
pH value	Not determined
Kinematic viscosity	Not determined
Solubility / Miscibility with water Wasser (20 °C)	Not determined
Partition coefficient n-octanol/water (log value)	No information available
Vapor pressure	0,001 hPa at 20°C
Density at 230C	1,05-1,6 g/cm3
Particle characteristics	Not relevant (liquid)
Information with regard to physical hazard classes acc. To GHS	Physical hazards: not relevant
Temperature class (EU, acc. to ATEX)	T2 (maximum permissible surface temperature on the equipment: 300°C)

10 Stability and reactivity

10.1 Reactivity

Concerning incompatibility: see below "Conditions to avoid" and "Incompatible materials"

10.2 Chemical stability

The material is stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.

10.3 Possibility of hazardous reactions

No known hazardous reactions.



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10.4 Conditions to avoid

There are no specific conditions known that have to be avoided.

10.5 Incompatible materials

Oxidizers.

Hazardous decomposition products

Reasonably anticipated hazardous decomposition products that may be produced as a result of use, storage, spill, or heating are not known. Hazardous combustion products: see section 5.

11 Toxicological information

11.1 Information on toxicological effects

Test data are not available for the complete mixture

Classification procedure

The method for classification of the mixture is based on the ingredients of the mixture (additivity formula).

Classification according to GHS (1272/2008/EG, CLP)

Acute toxicity

Not classified as acutely toxic

May be harmful if inhaled.

Acute toxicity estimation (ATE):

Name of the substance	CAS No.	Exposure route	ATE
2-Oxepanone, polymer with 1,6 diisocyanatohexane and 1,6-hexanediol	164250-92-4	Inhalation: vapor	11 mg/l/4h
2-Oxepanone, polymer with 1,6 diisocyanatohexane and 1,6-hexanediol	164250-92-4	Inhalation: dust/mist	1,5 mg/l/4h

Skin corrosion/irritation

Shall not be classified as corrosive/irritant to skin.

Serious eye damage/eye irritation

Shall not be classified as seriously damaging to the eye or eye irritant.

Respiratory or skin sensitization

Shall not be classified as a respiratory or skin sensitizer.



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Germ cell mutagenicity

Shall not be classified as germ cell mutagenic.

Carcinogenicity

Shall not be classified as carcinogenic.

Reproductive toxicity

Shall not be classified as a reproductive toxicant.

11.2 Specific target organ toxicity-single exposure

Shall not be classified as a specific target organ toxicant (single exposure).

Specific target organ toxicity-repeated exposure

Shall not be classified as a specific target organ toxicant (repeated exposure).

Aspiration hazard

Shall not be classified as presenting an aspiration hazard.

Information on other hazards

There is no additional information.

12 Ecological information

12.1 Toxicity

According to 1272/2008/EC: is not classified as hazardous to the aquatic environment.
Prevent from entering the drains or surface and groundwater.

12.2 Persistence and degradability

Data are not available.

12.3 Bioaccumulative potential

Data are not available.

12.4 Mobility in soil

Data are not available.

12.5 Results of PBT and vPvB assessment

According to the results of its assessment, this substance is not a PBT or a vPvB. Does not contain a PBT-/vPvB- substance at a concentration of $\geq 0,1\%$.

12.6 Endocrine-disrupting properties

Does not contain an endocrine disruptor (ED) at a concentration of $\geq 0,1\%$.



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12.7 Other adverse effects

Isocyanate reacts with water at the interface to form carbon dioxide to form a solid, high-melting and insoluble reaction product (polyurea). This reaction is strongly promoted by surface-active substances (e.g., liquid soaps) or water-soluble solvents. According to experience to date, polyurea is inert and non-degradable. No additional data is available.

13 Disposal considerations

13.1 Waste treatment methods

Information relevant to wastewater disposal

Do not empty into drains. Avoid release to the environment. Refer to special instructions/safety data sheet.

Waste treatment of containers/packaging

Completely emptied packaging can be recycled. Contaminated packaging should be treated in the same way as the substance. Incineration under approved, controlled conditions using an appropriate or specially designed incinerator for the destruction of dangerous chemicals is the preferred method of disposal. Observe the relevant national or regional regulations. Waste should be separated so that it can be treated separately by municipal or national waste disposal facilities.

European waste catalogue

08 04 12: sludges containing adhesives and sealants other than those mentioned in 08 04 11.

14 Transportation information

- | | | |
|------|-------------------------------|--|
| 14.1 | UN number | Does not subject to transport regulations |
| 14.2 | UN proper shipping name | Not relevant |
| 14.3 | Transport hazardous class(es) | Not relevant |
| 14.4 | Packaging group | Not assigned |
| 14.5 | Environmental hazards | No environmental hazard according to dangerous goods regulations |

14.6 Special precautions for the user

There is no additional information.



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14.7 Maritime transport in bulk according to IMO instruments

The cargo is not intended to be carried in bulk.

14.8 Information for each of the UN Model Regulations

Transport of dangerous goods by road, rail, and inland waterway (ADR/RID/AND)

Not subject to the regulations of ADR, RID, and AND.

International Maritime Dangerous Goods Code (IMDG)

It is not subject to the regulations of IMDG.

International Civil Aviation Organization (ICAO-IATA/DGR)

Not subject to the regulations of ICAO-IATA/DGR.

5

15 Regulatory information

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

Relevant European Union (EU) Regulation

Restrictions according to REACH, Annex XVII.

None of the components is listed.

List of substances subject to authorization (REACH, Annex XIV) / SVHC - Candidate List

None of the components are listed.

Decopaint Directive and Industrial Emissions Directive (IE Directive)

VOC content: 0%

Directive on the restriction of the use of certain hazardous substances in electrical and electronic equipment (RoHS)

None of the components is listed.

Regulation on the creation of a European Pollutant Release and Delivery Register (PRTR)

None of the components is listed.

Water Framework Directive(WFD)

None of the components is listed.

Regulation on persistent organic pollutants (POP)

None of the components is listed.



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National regulations (Germany)

Ordinance on facilities for handling substances hazardous to water (AwSV) Water hazard class (WGK): Not relevant

Technical instructions for keeping the air clean (Germany): Not covered by the TA-Luft

Number	Substance group	Class	Concentration	Mass flow	Mass con.	Notice
5.2.5	organic substance		≥ 25 Weight-%	0.5 kg/h 50 mg/m ³	0.5 kg/h 50 mg/m ³	1

15.2 Chemical safety assessment

A chemical safety assessment has not been carried out.

16 Other information

Indication of changes

Section	Former entry text/value)	Current entry (text/value)	Safety relevant
1.1	UFI	UFI	Yes
2.2	Labelling according to Regulation (EC) No 1272/2008 (CLP)	Labelling according to Regulation (EC) No 1272/2008 (CLP): Not required	Yes
3.2	Description of the mixture	Description of the mixture This product does not meet any criteria for classification into a hazard class according to GHS.	Yes
9.1	Color: Transparent	Color: see the technical data sheet	Yes
9.1		Color: see the technical data sheet	Yes
10.2		Chemical stability: The material is stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.	Yes
11.1	Classification according to GHS (1272/2008/EC, CLP)	Classification according to GHS (1272/2008/EC, CLP): This mixture does not meet the criteria for classification in accordance with Regulation No 1272/2008/EC.	Yes
11.1		Acute toxicity estimate (ATE) of ingredients: Change in listing (table)	Yes
11.1	Respiratory or skin sensitisation: May cause an allergic skin reaction.	Respiratory or skin sensitisation: Shall not be classified as a respiratory or skin sensitiser	Yes
15.1		Dangerous substances with restrictions (REACH, Annex XVII): change in the listing (table)	Yes



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16.2 Abbreviations and acronyms

Abbreviation	Descriptions of the abbreviations used
ADN	European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
ADR	European Agreement concerning the International Carriage of Dangerous Goods by Road
CAS	Chemical Abstracts Service
CLP	Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures
CMR	Carcinogenic, Mutagenic or toxic for Reproduction
DGR	Dangerous Goods Regulations (see IATA/DGR)
DMEL	Derived Minimal Effect Level
DNEL	Derived No-Effect Level
CE No	The EC Inventory (EINECS, ELINCS and the NLP-list) is the source for the seven-digit EC number, an identifier of substances commercially available within the EU (European Union)
EH40/2005	EH40/2005 Workplace exposure limits (http://www.nationalarchives.gov.uk/doc/open-government-l)
EINECS	European Inventory of Existing Commercial Chemical Substances
ELINCS	European List of Notified Chemical Substances
EmS	Emergency Schedule
Eye Dam	Seriously damaging to the eye
Eye Irrit.	Irritant to the eye
GHS	Globally Harmonized System of Classification and Labelling of Chemicals" developed by the United Nations
IATA	International Air Transport Association
IATA/DGR	Dangerous Goods Regulations (DGR) for the air transport (IATA)
ICAO	International Civil Aviation Organization
IMDG	International Maritime Dangerous Goods Code
INDEX no	the Index number is the identification code given to the substance in Part 3 of Annex VI to Regulation (EC) No 1272/2008



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Abbreviation	Descriptions of the abbreviations used
MARPOL	International Convention for the Prevention of Pollution from Ships (abbr. of "Marine Pollutant")
M-Factor	Means a multiplying factor. It is applied to the concentration of a substance classified as hazardous to the aquatic environment, acute category 1 or chronic category 1, and is used to derive by the summation method the classification of a mixture in which the substance is present
NLP	No-Longer Polymer
Ox.Sol.	oxidising solid
PBT	Persistent, Bioaccumulative and Toxic
PNEC	Predicted No-Effect Concentration
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals
RID	Règlement concernant le transport International ferroviaire des marchandises Dangereuses (Regulations concerning the International carriage of Dangerous goods by Rail)
Skin Corr	corrosive to skin
Skin Irrit	irritant to skin
STEL	short-term exposure limit
SVHC	Substance of Very High Concern
TWA	time-weighted average
VOC	Volatile Organic Compounds
vPVB	very Persistent and very Bioaccumulative
WEL	workplace exposure limit

Key literature references and sources for data

- Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures.
- Regulation (EC) No. 1907/2006 (REACH), amended by 2020/878/EU.
- Agreement concerning the International Carriage of Dangerous Goods by Road (ADR).
- Regulations concerning the International Carriage of Dangerous Goods by Rail (RID).
- International Maritime Dangerous Goods Code (IMDG).
- Dangerous Goods Regulations (DGR) for air transport (IATA).



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16.2 Classification procedures

Physical and chemical properties: The classification is based on the tested mixture. Health hazards, Environmental hazards: The method for classification of the mixture is based on the ingredients of the mixture (additivity formula).

Disclaimer

This information is based upon the present state of our knowledge. This SDS has been compiled and is solely intended for this product. It does not ensure specific characteristics.

List of relevant phrases

Code	Text
H317	May cause an allergic skin reaction
H332	Harmful if inhaled
H335	May cause respiratory irritation

The data is based on present-day knowledge. The SDS is intended to give you advice about safety, storage, processing, transport and disposal. It does not ensure certain characteristics.