

Safety Data Sheet

Lupragen® N 106 - 2,2'-Dimorpholinodiethylether

Revision date : 2017/05/17

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Version: 3.0

(30036740/SDS_GEN_CA/EN)

1. Identification

Product identifier used on the label

Lupragen® N 106 - 2,2'-Dimorpholinodiethylether

Recommended use of the chemical and restriction on use

Recommended use*: for industrial and professional users

* The "Recommended use" identified for this product is provided solely to comply with a Federal requirement and is not part of the seller's published specification. The terms of this Safety Data Sheet (SDS) do not create or infer any warranty, express or implied, including by incorporation into or reference in the seller's sales agreement.

Details of the supplier of the safety data sheet

Company:

BASF Canada Inc.
100 Milverton Drive
Mississauga, ON L5R 4H1, CANADA

Telephone: +1 289 360-1300

Emergency telephone number

CANUTEC (reverse charges): (613) 996-6666

BASF HOTLINE: (800) 454-COPE (2673)

Other means of identification

Molecular formula: C(12)H(24)N(2)O

Chemical family: No data available.

Synonyms: 2,2-DIMORPHOLINODIETHYLETHER PURE

2. Hazards Identification

According to Hazardous Products Regulations (HPR) (SOR/2015-17)

Classification of the product

Eye Dam./Irrit.

2B

Serious eye damage/eye irritation

Label elements

Signal Word:

Warning

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Hazard Statement:

H320 Causes eye irritation.
H316 Causes mild skin irritation.

Precautionary Statements (Prevention):

P264 Wash with plenty of water and soap thoroughly after handling.

Precautionary Statements (Response):

P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P337 + P311 If eye irritation persists: Call a POISON CENTER or doctor/physician.

P332 + P313 If skin irritation occurs: Get medical advice/attention.

Hazards not otherwise classified

If applicable information is provided in this section on other hazards which do not result in classification but which may contribute to the overall hazards of the substance or mixture.

3. Composition / Information on Ingredients

According to Hazardous Products Regulations (HPR) (SOR/2015-17)

<u>CAS Number</u>	<u>Weight %</u>	<u>Chemical name</u>
6425-39-4	>= 99.3 - <= 99.8%	2,2'-dimorpholinyl-diethylether

4. First-Aid Measures

Description of first aid measures

General advice:

Remove contaminated clothing.

If inhaled:

Keep patient calm, remove to fresh air. Assist in breathing if necessary. Consult a physician.

If on skin:

Wash affected areas thoroughly with soap and water. Remove contaminated clothing. If irritation develops, seek medical attention.

If in eyes:

In case of contact with the eyes, rinse immediately for at least 15 minutes with plenty of water. Immediate medical attention required.

If swallowed:

Rinse mouth and then drink plenty of water. Do not induce vomiting. Immediate medical attention required.

Most important symptoms and effects, both acute and delayed

Symptoms: The most important known symptoms and effects are described in the labelling (see section 2) and/or in section 11., Further symptoms are possible

Indication of any immediate medical attention and special treatment needed

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Note to physician

Treatment: Treat according to symptoms (decontamination, vital functions), no known specific antidote.

5. Fire-Fighting Measures

Extinguishing media

Suitable extinguishing media:
water spray, dry powder, foam, carbon dioxide

Special hazards arising from the substance or mixture

Hazards during fire-fighting:
nitrogen oxides, carbon oxides
The substances/groups of substances mentioned can be released in case of fire. Under certain conditions in case of fire other hazardous combustion products may be generated.

Advice for fire-fighters

Protective equipment for fire-fighting:
Wear a self-contained breathing apparatus.

Further information:

Collect contaminated extinguishing water separately, do not allow to reach sewage or effluent systems.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

Handle in accordance with good industrial hygiene and safety practice. Avoid contact with the skin, eyes and clothing. Information regarding personal protective measures see, section 8.

Environmental precautions

Do not discharge into drains/surface waters/groundwater.

Methods and material for containment and cleaning up

For large amounts: Pump off product.
For residues: Pick up with suitable absorbent material (e.g. sand, sawdust, general-purpose binder, kieselguhr).
Collect waste in suitable containers, which can be labeled and sealed. Incinerate or take to a special waste disposal site in accordance with local authority regulations.

7. Handling and Storage

Precautions for safe handling

Ensure thorough ventilation of stores and work areas. Handle in accordance with good industrial hygiene and safety practice. When using do not eat, drink or smoke. Hands and/or face should be washed before breaks and at the end of the shift.

Protection against fire and explosion:

Prevent electrostatic charge - sources of ignition should be kept well clear - fire extinguishers should be kept handy.

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Conditions for safe storage, including any incompatibilities

Segregate from acids and acid forming substances.

Suitable materials for containers: Low density polyethylene (LDPE), Stainless steel 1.4301 (V2), Stainless steel 1.4401, High density polyethylene (HDPE)

Unsuitable materials for containers: Paper/Fibreboard, Copper, brass

Further information on storage conditions: Containers should be stored tightly sealed in a dry place.

Storage stability:

Storage duration: 24 Months

From the data on storage duration in this safety data sheet no agreed statement regarding the warrantee of application properties can be deduced.

8. Exposure Controls/Personal Protection

No occupational exposure limits known.

Personal protective equipment

Respiratory protection:

Wear respiratory protection if ventilation is inadequate. Gas filter for gases/vapours of organic compounds (boiling point >65 °C, e. g. EN 14387 Type A)

Hand protection:

Chemical resistant protective gloves

Eye protection:

Safety glasses with side-shields (frame goggles) (e.g. EN 166)

Body protection:

Body protection must be chosen depending on activity and possible exposure, e.g. apron, protecting boots, chemical-protection suit (according to EN 14605 in case of splashes or EN ISO 13982 in case of dust).

General safety and hygiene measures:

Handle in accordance with good industrial hygiene and safety practice. Wearing of closed work clothing is required additionally to the stated personal protection equipment. Avoid contact with the skin, eyes and clothing. Wash soiled clothing immediately.

9. Physical and Chemical Properties

Form:	liquid
Odour:	amine-like
Odour threshold:	not determined
Colour:	colourless to yellowish
pH value:	10.4 (100 g/l, 20 °C)
Melting point:	-28 °C
Boiling point:	> 320 °C (760 mmHg)
Flash point:	146 °C
Flammability:	hardly combustible

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Lower explosion limit:	0.6 %(V) For liquids not relevant for classification and labelling. The lower explosion point may be 5 - 15 °C below the flash point.	
Upper explosion limit:	3.3 %(V) For liquids not relevant for classification and labelling.	
Autoignition:	210 °C Literature data.	
Vapour pressure:	0.71 mbar (123 °C)	
Density:	1.0603 g/cm ³ (20 °C)	
Relative density:	1.06	
Vapour density:	not determined	
Partitioning coefficient n-octanol/water (log Pow):	0.5 (25 °C)	(OECD Guideline 117)
Self-ignition temperature:	not self-igniting	
Thermal decomposition:	150 °C, > 100 kJ/kg Thermal decomposition above the indicated temperature is possible. If product is heated above decomposition temperature toxic vapours may be released. No decomposition if used as directed. 350 °C, > 660 kJ/kg Exothermic decomposition.	
Viscosity, dynamic:	29 mPa.s (20 °C)	
Viscosity, kinematic:	216.6 mm ² /s (20 °C)	(measured)
Particle size:	The substance / product is marketed or used in a non solid or granular form.	
Solubility in water:	(20 °C) miscible	
Molar mass:	244.33 g/mol	
Evaporation rate:	Value can be approximated from Henry's Law Constant or vapor pressure.	

10. Stability and Reactivity

Reactivity

Corrosion to metals:
Corrosive effects to metal are not anticipated.

Oxidizing properties:
not fire-propagating

Formation of flammable gases: Remarks: Forms no flammable gases in the presence of water.

Chemical stability

Possibility of hazardous reactions

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Strong exothermic reaction with acids. Reacts with oxidizing agents. Violent reactions.

Conditions to avoid

Avoid all sources of ignition: heat, sparks, open flame.

Incompatible materials

acids, acid forming substances

Hazardous decomposition products

Decomposition products:

Hazardous decomposition products: At prolonged and/or strong thermal stressing above the decomposition temperature dangerous decomposition products can be formed.

Thermal decomposition:

150 °C

Thermal decomposition above the indicated temperature is possible. If product is heated above decomposition temperature toxic vapours may be released. No decomposition if used as directed.

350 °C

Exothermic decomposition.

11. Toxicological information

Primary routes of exposure

Routes of entry for solids and liquids are ingestion and inhalation, but may include eye or skin contact. Routes of entry for gases include inhalation and eye contact. Skin contact may be a route of entry for liquefied gases.

Acute Toxicity/Effects

Acute toxicity

Assessment of acute toxicity: Of low toxicity after single ingestion. Of low toxicity after short-term skin contact.

Oral

Type of value: LD50

Species: rat

Value: > 2,000 mg/kg (OECD Guideline 423)

Dermal

Type of value: LD50

Species: rabbit

Value: 3,038 mg/kg (similar to OECD guideline 402)

Assessment other acute effects

Assessment of STOT single:

Based on the available information there is no specific target organ toxicity to be expected after a single exposure.

Irritation / corrosion

Assessment of irritating effects: Eye contact causes irritation. Skin contact causes irritation.

Skin

Species: rabbit

Result: Irritant.

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Method: OECD Guideline 404

Eye

Species: rabbit

Result: Irritant.

Method: OECD Guideline 405

Sensitization

Assessment of sensitization: Skin sensitizing effects were not observed in animal studies.

Buehler test

Species: guinea pig

Result: Non-sensitizing.

Method: OECD Guideline 406

Aspiration Hazard

No aspiration hazard expected.

Chronic Toxicity/Effects

Repeated dose toxicity

Assessment of repeated dose toxicity: No adverse effects were observed after repeated oral exposure in animal studies. No adverse effects were observed after repeated inhalative exposure in animal studies. After repeated exposure the prominent effect is local irritation. The product has not been fully tested. The statements have been derived in parts from products of a similar structure or composition.

Genetic toxicity

Assessment of mutagenicity: Results from a number of mutagenicity studies with microorganisms, mammalian cell culture and mammals are available. Taking into account all of the information, there is no indication that the substance is mutagenic. Based on the structure, there is a suspicion of a mutagenic effect.

Carcinogenicity

Assessment of carcinogenicity: In long-term animal studies in which the substance was given by inhalation in high concentrations, a carcinogenic effect was not observed. The product has not been tested. The statement has been derived from substances/products of a similar structure or composition.

Reproductive toxicity

Assessment of reproduction toxicity: The results of animal studies gave no indication of a fertility impairing effect. The results were determined in a Screening test (OECD 421/422).

Teratogenicity

Assessment of teratogenicity: No indications of a developmental toxic / teratogenic effect were seen in animal studies. The product has not been tested. The statement has been derived from substances/products of a similar structure or composition.

Symptoms of Exposure

The most important known symptoms and effects are described in the labelling (see section 2) and/or in section 11., Further symptoms are possible

12. Ecological Information

Toxicity

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Aquatic toxicity

Assessment of aquatic toxicity:

There is a high probability that the product is not acutely harmful to aquatic organisms. The inhibition of the degradation activity of activated sludge is not anticipated when introduced to biological treatment plants in appropriate low concentrations.

Toxicity to fish

LC50 (96 h) > 2,150 mg/l, Brachydanio rerio (OECD Guideline 203, static)

The details of the toxic effect relate to the nominal concentration.

Aquatic invertebrates

EC50 (48 h) > 100 mg/l, Daphnia magna (OECD Guideline 202, part 1, static)

The details of the toxic effect relate to the nominal concentration. Limit concentration test only (LIMIT test).

Aquatic plants

EC50 (72 h) > 100 mg/l (growth rate), Pseudokirchneriella subcapitata (OECD Guideline 201, static)

The details of the toxic effect relate to the nominal concentration. Limit concentration test only (LIMIT test).

No observed effect concentration (72 h) 100 mg/l (growth rate), Pseudokirchneriella subcapitata (OECD Guideline 201, static)

The details of the toxic effect relate to the nominal concentration. Limit concentration test only (LIMIT test).

Chronic toxicity to fish

Study scientifically not justified.

Chronic toxicity to aquatic invertebrates

Study scientifically not justified.

Assessment of terrestrial toxicity

Study scientifically not justified.

Microorganisms/Effect on activated sludge

Toxicity to microorganisms

OECD Guideline 209 aerobic

activated sludge of a predominantly domestic sewage/EC50 (3 h): > 1,000 mg/l

The details of the toxic effect relate to the nominal concentration.

Persistence and degradability

Assessment biodegradation and elimination (H₂O)

Not readily biodegradable (by OECD criteria). Poorly biodegradable.

Elimination information

< 10 % BOD of the ThOD (28 d) (OECD 301C; ISO 9408; 92/69/EEC, C.4-F) (aerobic, Inoculum conforming to MITI requirements (OECD 301C))

< 10 % DOC reduction (28 d) (OECD 301 A (new version)) (aerobic, activated sludge, domestic, non-adapted)

Assessment of stability in water

In contact with water the substance will hydrolyse slowly.

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Information on Stability in Water (Hydrolysis)

$t_{1/2} > 1$ a, 0 % (5 d) (25 °C, pH value 7), (Directive 92/69/EEC, C.7)

Photodegradation

$t_{1/2}$ (Indirect photolysis) 0.045 d; OH radical (calculated)

After evaporation or exposure to the air, the product will be rapidly degraded by photochemical processes.

Bioaccumulative potential

Assessment bioaccumulation potential

Does not significantly accumulate in organisms.

Bioaccumulation potential

Bioconcentration factor: 2.9 - 3.1 (56 d), *Cyprinus carpio* (OECD Guideline 305 C)

Mobility in soil

Assessment transport between environmental compartments

The substance will not evaporate into the atmosphere from the water surface.

Adsorption to solid soil phase is not expected.

Additional information

Other ecotoxicological advice:

Due to the pH-value of the product, neutralization is generally required before discharging sewage into treatment plants.

The inhibition of the degradation activity of activated sludge is not anticipated when introduced to biological treatment plants in appropriate low concentrations.

13. Disposal considerations

Waste disposal of substance:

Incinerate in suitable incineration plant, observing local authority regulations. A waste code in accordance with the European waste catalog (EWC) cannot be specified, due to dependence on the usage. The waste code in accordance with the European waste catalog (EWC) must be specified in cooperation with disposal agency/manufacturer/authorities.

Container disposal:

Contaminated packaging should be emptied as far as possible; then it can be passed on for recycling after being thoroughly cleaned.

14. Transport Information

Land transport

TDG

Not classified as a dangerous good under transport regulations

Sea transport

IMDG

Not classified as a dangerous good under transport regulations

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Air transport IATA/ICAO

Not classified as a dangerous good under transport regulations

15. Regulatory Information

Federal Regulations

Registration status:

Chemical DSL, CA released / listed

Assessment of the hazard classes according to UN GHS criteria (most recent version):

Acute Tox.	5 (oral)	Acute toxicity
Acute Tox.	5 (dermal)	Acute toxicity
Skin Corr./Irrit.	3	Skin corrosion/irritation
Eye Dam./Irrit.	2B	Serious eye damage/eye irritation

16. Other Information

SDS Prepared by:

BASF NA Product Regulations

SDS Prepared on: 2017/05/17

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