



MATERIAL SAFETY DATA SHEET

NORDIC MDI

according to 1907/2006/EC, Article 31

Printing date 15.11.2023


Version number 1.0

Revision: 15.11.2023

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

- **1.1 Product identifier**
- **Trade name:** **NORDIC MDI**
- **UFI:** RK81-NOVH-200P-0A78
- **1.2 Relevant identified uses of the substance or mixture and uses advised against**
- **Sector of Use**
SU22 Professional uses: Public domain (administration, education, entertainment, services, craftsmen) SU3
Industrial uses: Uses of substances as such or in preparations at industrial sites
- **Product category** PC32 Polymer preparations and compounds
- **Application of the substance / the mixture** Raw material for plastics
- **1.3 Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
Thermo-Logic AB
Gamla Landsvägen 3F
438 34 Landvetter, Sweden
Dir: +48 880 427 683, +46 73 350 10 40
Vxl: +46 10 200 82 22
info@thermo-logic.se
www.thermo-logic.se
- **Further information obtainable from:** Thermo-Logic AB
- **1.4 Emergency telephone number:**
Dir: +48 880 427 683, +46 73 350 10 40
Vxl: +46 10 200 82 22

SECTION 2: Hazards identification

- **2.1 Classification of the substance or mixture**
- **Classification according to Regulation (EC) No 1272/2008**
-  **GHS08 health hazard**
- Resp. Sens. 1 H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled. Carc. 2
H351 Suspected of causing cancer.
- STOT RE 2 H373 May cause damage to the respiratory system through prolonged or repeated exposure.



GHS07

- Acute Tox. 4 H332 Harmful if inhaled.
- Skin Irrit. 2 H315 Causes skin irritation. H319
- Eye Irrit. 2 Causes serious eye irritation.
- Skin Sens. 1 H317 May cause an allergic skin reaction.
- STOT SE 3 H335 May cause respiratory irritation.

- **2.2 Label elements**
- **Labelling according to Regulation (EC) No 1272/2008**
The product is classified and labelled according to the CLP regulation.
- **Hazard pictograms**



GHS07

GHS08

- **Signal word** Danger

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- **Hazard-determining components of labelling:**
diphenylmethanediisocyanate, isomers and homologues
- **Hazard statements**
H332 Harmful if inhaled.
H315 Causes skin irritation.
H319 Causes serious eye irritation.
H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H317 May cause an allergic skin reaction.
H351 Suspected of causing cancer.
H335 May cause respiratory irritation.
H373 May cause damage to the respiratory system through prolonged or repeated exposure.
- **Precautionary statements**
P261 Avoid breathing dust/fume/gas/mist/vapours/spray.
P280 Wear protective gloves/protective clothing/eye protection/face protection. IF ON
P302+P352 SKIN: Wash with plenty of 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.
P312 Call a POISON CENTER/doctor if you feel unwell.
- **Additional information:**
EUH204 Contains isocyanates. May produce an allergic reaction.
- **2.3 Other hazards**
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **Determination of endocrine-disrupting properties** Not applicable.

SECTION 3: Composition/information on ingredients

- **3.2 Mixtures**
- **Description:** Mixture of substances listed below with nonhazardous additions.

Dangerous components:

CAS: 9016-87-9	diphenylmethanediisocyanate, isomers and homologues	50-100%
	<ul style="list-style-type: none"> ⚠ Resp. Sens. 1, H334; Carc. 2, H351; STOT RE 2, H373 ⚠ Acute Tox. 4, H332; Skin Irrit. 2, H315; Eye Irrit. 2, H319; Skin Sens. 1, H317; STOT SE 3, H335 	
	EUH204 Specific concentration limits: Skin Irrit. 2; H315: C ≥ 5 % Eye Irrit. 2; H319: C ≥ 5 % Resp. Sens. 1; H334: C ≥ 0.1 % STOT SE 3; H335: C ≥ 5 %	

- **Additional information:** For the wording of the listed hazard phrases refer to section 16.

SECTION 4: First aid measures

- **4.1 Description of first aid measures**
- **General information:**
Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.
- **After inhalation:**
Supply fresh air and to be sure call for a doctor.
In case of unconsciousness place patient stably in side position for transportation.
- **After skin contact:** Immediately wash with water and soap and rinse thoroughly.
- **After eye contact:** Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.
- **After swallowing:** If symptoms persist consult doctor.
- **4.2 Most important symptoms and effects, both acute and delayed**
Allergic reactions
Coughing

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Breathing difficulty
Asthma attacks
· **4.3 Indication of any immediate medical attention and special treatment needed** No further relevant information available.

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SECTION 5: Firefighting measures

- **5.1 Extinguishing media**
- **Suitable extinguishing agents:**
CO₂, powder or water spray. Fight larger fire with alcohol resistant foam.
Use fire extinguishing methods suitable to surrounding conditions.
- **5.2 Special hazards arising from the substance or mixture** No further relevant information available.
- **5.3 Advice for firefighters**
- **Protective equipment:** Mouth respiratory protective device.

SECTION 6: Accidental release measures

- **6.1 Personal precautions, protective equipment and emergency procedures**
Use respiratory protective device against the effects of fumes/dust/aerosol.
Ensure adequate ventilation
- **6.2 Environmental precautions:** Do not allow to enter sewers/ surface or ground water.
- **6.3 Methods and material for containment and cleaning up:**
Send for recovery or disposal in suitable receptacles.
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust). Dispose contaminated material as waste according to section 13.
Ensure adequate ventilation.
- **6.4 Reference to other sections**
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

SECTION 7: Handling and storage

- **7.1 Precautions for safe handling**
Wear suitable respiratory protective device when decanting larger quantities without extractor facilities. Store in cool, dry place in tightly closed receptacles.
Use only in well ventilated areas.
Ensure good ventilation/exhaustion at the workplace.
Prevent formation of aerosols.
- **Information about fire - and explosion protection:** No special measures required.
- **7.2 Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** Store only in the original receptacle.
- **Information about storage in one common storage facility:**
Store away from oxidising agents.
Store away from water.
- **Further information about storage conditions:**
Store receptacle in a well ventilated area.
Store in dry conditions.
Protect from humidity and water.
Keep container tightly sealed.
- **7.3 Specific end use(s)** No further relevant information available.

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SECTION 8: Exposure controls/personal protection

· **8.1 Control parameters**

· **Ingredients with limit values that require monitoring at the workplace:**

CAS: 9016-87-9 diphenylmethanediisocyanate, isomers and homologues

WEL (Great Britain)	Short-term value: 0.07 mg/m ³ Long-term value: 0.02 mg/m ³ Sen; as -NCO
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· **Additional information:** The lists valid during the making were used as basis.

· **8.2 Exposure controls**

· **Appropriate engineering controls** No further data; see section 7.

· **Individual protection measures, such as personal protective equipment**

· **General protective and hygienic measures:**

- Keep away from foodstuffs, beverages and feed.
- Immediately remove all soiled and contaminated clothing
- Wash hands before breaks and at the end of work.
- Avoid contact with the eyes and skin.

· **Respiratory protection:**

In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device.
Protective equipment with a type "A" filter against organic vapours and, in the event of dust or aerosols, a minimum of type A/P2 filters may be used.

· **Hand protection**



Protective gloves

Protective gloves, resistant to chemicals (EN 374).

Discard contaminated gloves.

· **Material of gloves**

Suggested protective glove materials: butyl rubber (BR), nitrile rubber (NR), chloroprene rubber (Neoprene).

In case of prolonged or frequent contact, gloves with protection class 5 or higher are recommended (according to EN374, permeation time greater than 240 minutes). If only brief contact is expected, gloves with protection class 3 or higher (with a permeation time of more than 60 minutes, according to EN374) are recommended. The thickness of the glove itself is not a good indicator of whether a glove provides protection against a chemical, as the level of protection is highly dependent on the specific composition of the glove material. Depending on the model and type of material, the thickness of the glove should generally be more than 0.35 mm to provide sufficient protection against prolonged and repeated contact with the substance. As an exception to this general rule, multilayer laminated gloves can provide longer protection with a thickness of less than 0.35 mm. Other gloves with a thickness of less than 0.35 mm may provide sufficient protection if only brief contact is expected.

· **Penetration time of glove material**

Examples:

- Polychloroprene (Neoprene): thickness ≥ 0.5 mm; throughput ≥ 480min.
- Nitrile/butadiene rubber (NBR): thickness ≥ 0.35 mm; capacity ≥ 480min.
- Butyl rubber (BR): thickness ≥ 0.5 mm; capacity ≥ 480 min.
- Fluorinated rubber (FKM): thickness ≥ 0.4 mm; capacity ≥ 480min.

· **Eye/face protection**



Tightly sealed goggles

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SECTION 9: Physical and chemical properties

· **9.1 Information on basic physical and chemical properties**

· **General Information**

· Colour:	Brown
· Odour:	Characteristic
· Odour threshold:	Not determined.
· Melting point/freezing point:	Undetermined.
· Boiling point or initial boiling point and boiling range	Undetermined.
· Flammability	Not applicable.
· Lower and upper explosion limit	
· Lower:	Not determined.
· Upper:	Not determined.
· Flash point:	Not applicable.
· Decomposition temperature:	Not determined.
· pH	Not determined.
· Viscosity:	
· Kinematic viscosity	Not determined.
· Dynamic at 25 °C:	150-250 mPas
· Solubility	
· water:	Not miscible or difficult to mix.
· Partition coefficient n-octanol/water (log value)	Not determined.
· Vapour pressure:	Not determined.
· Density and/or relative density	
· Density at 20 °C:	1.23 g/cm ³
· Relative density	Not determined.
· Vapour density	Not determined.

· **9.2 Other information**

· Appearance:	
· Form:	Liquid
· Important information on protection of health and environment, and on safety.	
· Ignition temperature:	Product is not selfigniting.
· Explosive properties:	Product does not present an explosion hazard.
· Change in condition	
· Evaporation rate	Not determined.

· **Information with regard to physical hazard classes**

· Explosives	Void
· Flammable gases	Void
· Aerosols	Void
· Oxidising gases	Void
· Gases under pressure	Void
· Flammable liquids	Void
· Flammable solids	Void
· Self-reactive substances and mixtures	Void
· Pyrophoric liquids	Void
· Pyrophoric solids	Void
· Self-heating substances and mixtures	Void
· Substances and mixtures, which emit flammable gases in contact with water	Void
· Oxidising liquids	Void
· Oxidising solids	Void
· Organic peroxides	Void
· Corrosive to metals	Void
· Desensitised explosives	Void

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SECTION 10: Stability and reactivity

- **10.1 Reactivity** No further relevant information available.
- **10.2 Chemical stability**
- **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
- **10.3 Possibility of hazardous reactions**
Reacts with alcohols, amines, aqueous acids and alkalis.
Reacts violently with water.
Exothermic reaction.
- **10.4 Conditions to avoid** No further relevant information available.
- **10.5 Incompatible materials:** No further relevant information available.
- **10.6 Hazardous decomposition products:**
Carbon monoxide and carbon dioxide
Nitrogen oxides (NOx)
Hydrocarbons
Hydrogen cyanide (prussic acid)

SECTION 11: Toxicological information

· **11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008**

· **Acute toxicity**
Harmful if inhaled.

· **LD/LC50 values relevant for classification:**

ATE (Acute Toxicity Estimates)

Inhalative	LC50/4 h	12.2 mg/l
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CAS: 9016-87-9 diphenylmethanediisocyanate, isomers and homologues

Oral	LD50	>10,000 mg/kg (rat) (OECD 401)
Dermal	LD50	>9,400 mg/kg (rabbit) (OECD 402)

Skin corrosion/irritation	mg/l (ATE)	
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- Causes skin irritation.
- **Serious eye damage/irritation**
Causes serious eye irritation.
- **Respiratory or skin sensitisation**
May cause allergy or asthma symptoms or breathing difficulties if inhaled.
May cause an allergic skin reaction.
- **Germ cell mutagenicity** Based on available data, the classification criteria are not met.
- **Carcinogenicity**
Suspected of causing cancer.
- **Reproductive toxicity** Based on available data, the classification criteria are not met.
- **STOT-single exposure**
May cause respiratory irritation.
- **STOT-repeated exposure**
May cause damage to the respiratory system through prolonged or repeated exposure.
- **Aspiration hazard** Based on available data, the classification criteria are not met.
- **11.2 Information on other hazards**
- **Endocrine disrupting properties** The product does not contain substances with endocrine disrupting properties.

SECTION 12: Ecological information

· **12.1 Toxicity**

· **Aquatic toxicity:**

CAS: 9016-87-9 diphenylmethanediisocyanate, isomers and homologues

LC0/96h	>1,000 mg/l (fish)
EC50/24h (static)	>1,000 mg/l (daphnia) (OECD 202 Daphnia sp. Acute Immobilisation Test)

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EC50/72h (static)	>1,640 mg/l (algae) (OECD 201 Growth Inhibition Test)
LC50/96h (static)	>1,000 mg/l (fish) (OECD 203 Acute Toxicity Test)
EC50/3h (static)	>100 mg/l (bacteria) (OECD 209 Respiration Inhibition Test)
NOEC/21 d (static)	>10 mg/l (daphnia) (OECD 211 Reproduction Test)
NOECr/72h (static)	1,640 mg/l (algae) (OECD 201 Growth Inhibition Test)

12.2 Persistence and degradability Not easily biodegradable

CAS: 9016-87-9 diphenylmethanediisocyanate, isomers and homologues

Not easily bio-degradable. 0 % (sediment)

12.3 Bioaccumulative potential

CAS: 9016-87-9 diphenylmethanediisocyanate, isomers and homologues

log Pow 8.56 (sediment)

BCF 200 (BCF)

12.4 Mobility in soil No further relevant information available.

12.5 Results of PBT and vPvB assessment

PBT: Not applicable.

vPvB: Not applicable.

12.6 Endocrine disrupting properties The product does not contain substances with endocrine disrupting properties.

12.7 Other adverse effects

Additional ecological information:

General notes:

Water hazard class 1 (German Regulation) (Self-assessment): slightly hazardous for water

Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Recommendation Must not be disposed together with household garbage. Do not allow product to reach sewage system.

European waste catalogue

1 Regulation of the Minister of Climate of 2 January 2020 on the waste catalogue (OJ 2020, item 10)

2. the Commission (EU) notice on technical guidance on waste classification (2018/C 124/01)

3. Commission Regulation (EU) No 1357/2014 of 18 December 2014 replacing Annex III to Directive 2008/98/EC of the European Parliament and of the Council on waste and repealing certain Directives (Guidelines for HP01-08, 10-13,15)

4 Council Regulation (EU) 2017/997 of 8 June 2017 amending Annex III to Directive 2008/98/EC of the European Parliament and of the Council with regard to the hazardous property HP 14 "Ecotoxic" (Guidance document for HP14)

The waste codes listed are a proposal based on the likely use of the product. Based on the specific types of use and waste management conditions, other waste codes may be assigned if necessary.

08 05 01*	waste isocyanates
15 01 10*	packaging containing residues of or contaminated by hazardous substances
HP4	Irritant - skin irritation and eye damage
HP5	Specific Target Organ Toxicity (STOT)/Aspiration Toxicity
HP7	Carcinogenic
HP13	Sensitising

Uncleaned packaging:

Recommendation: Disposal must be made according to official regulations.

SECTION 14: Transport information

14.1 UN number or ID number

Not determined

ADR/RID/ADN, IMDG, IATA

not regulated

14.2 UN proper shipping name

Not determined

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· ADR/RID/ADN, IMDG, IATA	not regulated
· 14.3 Transport hazard class(es)	Not determined
· ADR/RID/ADN, ADN, IMDG, IATA	
· Class	not regulated
· 14.4 Packing group	Not determined
· ADR/RID/ADN, IMDG, IATA	not regulated
· 14.5 Environmental hazards:	Not applicable.
· 14.6 Special precautions for user	Not applicable.
· 14.7 Maritime transport in bulk according to IMO instruments	Not applicable.
· UN "Model Regulation":	not regulated

SECTION 15: Regulatory information

- **15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**
 1. Regulation (EC) No 1272/2008 Of The European Parliament And Of The Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006
 2. Regulation (EC) No 1907/2006 of the European Parliament and the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), establishing a European Chemicals Agency, amending Directive 1999/45/EC and repealing Council Regulation (EEC) No 793/93 and Commission Regulation (EC) No 1488/94 and Council Directive 76/769/EEC and Commission Directives 91/155/EEC, 93/67/EEG, 93/105/EC and 2000/21/WE
 3. Commission Regulation (EU) 2020/878 of 18 June 2020 amending Annex II to Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH)
- **Directive 2012/18/EU**
- **Named dangerous substances - ANNEX I** None of the ingredients is listed.
- **REGULATION (EC) No 1907/2006 ANNEX XVII** Conditions of restriction: 3

· **DIRECTIVE 2011/65/EU on the restriction of the use of certain hazardous substances in electrical and electronic equipment – Annex II**

None of the ingredients is listed.

· **REGULATION (EU) 2019/1148**

· **Annex I - RESTRICTED EXPLOSIVES PRECURSORS (Upper limit value for the purpose of licensing under Article 5(3))**

None of the ingredients is listed.

· **Annex II - REPORTABLE EXPLOSIVES PRECURSORS**

None of the ingredients is listed.

· **Regulation (EC) No 273/2004 on drug precursors**

None of the ingredients is listed.

· **Regulation (EC) No 111/2005 laying down rules for the monitoring of trade between the Community and third countries in drug precursors**

None of the ingredients is listed.

- **15.2 Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

SECTION 16: Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· **Relevant phrases**

H315 Causes skin irritation.

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- H317 May cause an allergic skin reaction.
- H319 Causes serious eye irritation.
- H332 Harmful if inhaled.
- H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.
- H335 May cause respiratory irritation.
- H351 Suspected of causing cancer.
- H373 May cause damage to organs through prolonged or repeated exposure.
- EUH204 Contains isocyanates. May produce an allergic reaction.

• **Contact:** Thermo-Logic AB

• **Abbreviations and acronyms:**

ADR: Accord relatif au transport international des marchandises dangereuses par route (European Agreement Concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

GHS: Globally Harmonised System of Classification and Labelling of Chemicals

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

Acute Tox. 4: Acute toxicity – Category 4

Skin Irrit. 2: Skin corrosion/irritation – Category 2

Eye Irrit. 2: Serious eye damage/eye irritation – Category 2

Resp. Sens. 1: Respiratory sensitisation – Category 1

Skin Sens. 1: Skin sensitisation – Category 1

Carc. 2: Carcinogenicity – Category 2

STOT SE 3: Specific target organ toxicity (single exposure) – Category 3

STOT RE 2: Specific target organ toxicity (repeated exposure) – Category 2

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