

Safety data sheet

Conforms to Regulation (EC) No. 1907/2006 (REACH), Annex II,
as amended by Commission Regulation (EU) 2020/878

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Date of revision: 23.12.2022
Date of previous issue: 17.12.2020
Version number 6 (replaces version 5)

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

- **1.1 Product identifier**
- **Trade name:** Normadur Aqua Comp. B
- **UFI:** 20CC-M0EF-600U-X8Q7
- **1.2 Relevant identified uses of the substance or mixture and uses advised against**
- **Sector of Use** Coating
- **Application of the substance / the mixture**
2-comp. water-borne polyurethane paint, Comp. B
Uses in Coatings - Industrial use
Uses in Coatings - Professional use
Coating compound/ Surface coating/ paint
- **1.3 Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
Nor-Maali Oy
Vanhatie 20, 15240 Lahti, FINLAND
- **Further information obtainable from:** MSDS (Nor-Maali Oy) tel.+358 3 874 650, sds@nor-maali.fi
- **1.4 Emergency telephone number:** Contact National Poison Center

SECTION 2: Hazards identification

- **2.1 Classification of the substance or mixture**
- Product definition: mixture
- **Classification according to Regulation (EC) No 1272/2008**



GHS07

Acute Tox. 4 H332 Harmful if inhaled.
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 GB CLP regulation.
- **Hazard pictograms**



GHS07

- **Signal word** Warning
- **Hazard-determining components of labelling:**
Hexamethylene-1,6-diisocyanate homopolymer
hexamethylene-di-isocyanate
- **Hazard statements**
H332 Harmful if inhaled.
H317 May cause an allergic skin reaction.
H335 May cause respiratory irritation.
- **Precautionary statements**
P261 Avoid breathing vapours.
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.
P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P312 Call a POISON CENTER/doctor if you feel unwell.
P403+P233 Store in a well-ventilated place. Keep container tightly closed.
P405 Store locked up.

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- **2.3 Other hazards**
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.

SECTION 3: Composition/information on ingredients

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

· **Dangerous components:**

CAS: 28182-81-2 NLP: 500-060-2	Hexamethylene-1,6-diisocyanate homopolymer Acute Tox. 4, H332; Skin Sens. 1, H317; STOT SE 3, H335	50 - 100%
CAS: 822-06-0 EINECS: 212-485-8 Reg.nr.: 01-2119457571-37-	hexamethylene-di-isocyanate Acute Tox. 3, H331; Resp. Sens. 1, H334; Acute Tox. 4, H302; Skin Irrit. 2, H315; Eye Irrit. 2, H319; Skin Sens. 1, H317; STOT SE 3, H335, EUH204 Specific concentration limits: Resp. Sens. 1; H334: C ≥ 0.5 % Skin Sens. 1; H317: C ≥ 0.5 %	< 0.25%

SECTION 4: First aid measures

- **4.1 Description of first aid measures**
- **General information:**
Never give anything by mouth or induce vomiting to an unconscious person or a person who has convulsions.
- **After inhalation:**
Remove person to fresh air, keep patient warm and at rest. If breathing is irregular, call national emergency number, if needed start giving artificial respiration and seek medical advice.
- **After skin contact:**
Remove contaminated clothing and shoes. Wash skin thoroughly with soap and water or use recognised skin cleanser. Do NOT use solvents or thinners.
- **After eye contact:**
Check for and remove any contact lenses. Immediately flush eyes with running water for at least 15 minutes, keeping eyelids open.
- **After swallowing:**
If swallowed, seek medical advice immediately and show the container or label. Keep person warm and at rest. Do not induce vomiting.
- **Information for doctor:** Treatment according to symptoms.
- **4.2 Most important symptoms and effects, both acute and delayed**
No further relevant information available.
- **4.3 Indication of any immediate medical attention and special treatment needed**
No further relevant information available.

SECTION 5: Firefighting measures

- **5.1 Extinguishing media**
- **Suitable extinguishing agents:** Use fire extinguishing methods suitable to surrounding conditions.
- **5.2 Special hazards arising from the substance or mixture**
Burning releases carbon monoxide, carbon dioxide, oxides of nitrogen, isocyanate vapors and traces of hydrogen cyanide. In the event of fire and/or explosion do not breathe fumes.
- **5.3 Advice for firefighters**
Evacuate people from danger area and deny access to area. Remove containers from danger area and try to cool containers which cannot be removed safely. This material is harmful to aquatic life with long lasting effects. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.
- **Protective equipment:** Compressed air respirator and protective clothing.

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SECTION 6: Accidental release measures

- **6.1 Personal precautions, protective equipment and emergency procedures**
Avoid breathing vapor or mist. Provide adequate ventilation. Wear personal protective equipment (extinguishing suit, protective gloves, rubber boots). Keep unauthorized persons away.
- **6.2 Environmental precautions:**
Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
- **6.3 Methods and material for containment and cleaning up:**
Remove mechanically; cover the remainder with wet, absorbent material (e.g. sawdust, sand). After approximately one hour transfer to waste container and do not seal (evolution of carbon dioxide). Keep damp in a safe ventilated area for several days.
- **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**
Provide sufficient air exchange and/or exhaust in work rooms. Exhaust ventilation necessary if product is sprayed. The threshold limit values noted in Chapter 8 must be monitored. In all areas where isocyanate aerosols and/or vapor concentrations are produced in elevated concentrations, exhaust ventilation must be provided in such a way that the workplace exposure limits (HTP) is not exceeded. The air should be drawn away from the personnel handling the product.
The personal protective measures must be observed. The precautions required in the handling of isocyanates must be taken.
- **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 in accordance with local regulations. Observe label precautions. Store in a dry, cool and well-ventilated area. Keep away from heat and direct sunlight. Keep away from sources of ignition. Keep away from: oxidising agents, strong alkalis, strong acids. No smoking. Prevent unauthorised access. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not empty into drains.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:** Keep container tightly sealed.
- **7.3 Specific end use(s)** No further relevant information available.

SECTION 8: Exposure controls/personal protection

· 8.1 Control parameters

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

28182-81-2 Hexamethylene-1,6-diisocyanate homopolymer

HTP Short-term value: 0.035 mg/m³

· DNELs

822-06-0 hexamethylene-di-isocyanate

Inhalative DNEL 0.035 mg/m³ (Workers - Long-term local effects)

· PNECs

822-06-0 hexamethylene-di-isocyanate

PNEC	8.42 mg/L (Sewage treatment)
PNEC	0.674 mg/kg dwt (Fresh water sediment)
	0.0674 mg/kg dwt (Marine water sediment)
PNEC	0.523 mg/kg (Soil)
PNEC	49 µg/L (Freshwater)

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4.9 µg/L (Marine water)

Additional information:

The information is based on the valid lists at the time of manufacture (Finland 654/2020).

8.2 Exposure controls

Appropriate engineering controls No further data; see item 7.

Individual protection measures, such as personal protective equipment

General protective and hygienic measures:

Provide adequate ventilation. Where reasonably practicable, this should be achieved by the use of local exhaust ventilation and good general extraction. If these are not sufficient to maintain concentrations of particulates and solvent vapours below the HTP, suitable respiratory protection must be worn.

Respiratory protection:

If ventilation is insufficient or if workers are exposed to concentrations above the exposure limit they must use half- or full mask with gas filter A (brown, organic substances), and when grinding P2 (IIB) -type dust filter. Mask with combined filter (gas & dust) ABP must be used when spraying. In the continuous long-term work it is recommended to use motored air protector or separative protector (fresh air hood or compressed air hood or such).

Hand protection



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

Material of gloves

Wear suitable gloves tested to EN374.

May be used, gloves(breakthrough time) 4 - 8 hours: butyl rubber, nitrile rubber

Penetration time of glove material

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

Eye/face protection



Tightly sealed goggles

Body protection: Protective work clothing

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

General Information

Physical state

Fluid

Colour:

Colourless

Odour:

Light

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:

1 vol-%

Upper:

11 vol-%

Flash point:

203 °C

Decomposition temperature:

Not determined.

pH

Not determined.

Viscosity:

Kinematic viscosity at 40 °C

> 20.5 mm²/s

Dynamic:

Not determined.

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· 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:	1.15 g/cm ³
· Relative density	Not determined.
· Vapour density	Not determined.
· 9.2 Other information	
· Appearance:	
· Form:	Fluid
· Important information on protection of health and environment, and on safety.	
· Auto-ignition temperature:	Not determined.
· 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

SECTION 10: Stability and reactivity

- **10.1 Reactivity** No specific test data related to reactivity available for this product or its ingredients.
- **10.2 Chemical stability**
- **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
- **10.3 Possibility of hazardous reactions**
Exothermic reaction with amines and alcohols; reacts slowly with water forming carbon dioxide, in closed containers risk of bursting owing to increase of pressure.
- **10.4 Conditions to avoid** No further relevant information available.
- **10.5 Incompatible materials:** No further relevant information available.
- **10.6 Hazardous decomposition products:**
Under normal conditions of storage and use, hazardous decomposition products should not be produced.

SECTION 11: Toxicological information

- **11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008**
- **Acute toxicity**
Harmful if inhaled.

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

28182-81-2 Hexamethylene-1,6-diisocyanate homopolymer

Oral	LD50	≥ 5,000 mg/kg (rat) (OECD TG 423)
Dermal	LD50	> 2,000 mg/kg (rat) (OECD TG 402)
Inhalative	LC50/4 h	390 mg/l (rat) (OECD TG 403)

822-06-0 hexamethylene-di-isocyanate

Oral	LD50	746 mg/kg (rat)
Dermal	LD50	7,000 mg/kg (rat)
Inhalative	LC50/4 h	124 mg/l (rat)

· **Skin corrosion/irritation**

Primary skin irritation:
Hexamethylene-1,6-diisocyanate homopolymer
Species: rabbit
Result: slight irritant
Classification: no skin irritation
Method: OECD TG 405

· **Serious eye damage/irritation**

Primary mucosae irritation:
Hexamethylene-1,6-diisocyanate homopolymer
Species: rabbit
Result: slight irritant
Classification: no eye irritation
Method: OECD TG 405

· **Respiratory or skin sensitisation**

Hexamethylene-1,6-diisocyanate homopolymer
Skin sensitization (local lymph node assay (LLNA)):
Species: mouse
Result: positive
Classification: may cause sensitization by skin contact
Method: OECD TG 429

· **Germ cell mutagenicity** Based on available data, the classification criteria are not met.

· **Carcinogenicity** Based on available data, the classification criteria are not met.

· **Reproductive toxicity** Based on available data, the classification criteria are not met.

· **STOT-single exposure**

May cause respiratory irritation.

· **STOT-repeated exposure** Based on available data, the classification criteria are not met.

· **Aspiration hazard** Based on available data, the classification criteria are not met.

· **Other information (about experimental toxicology):**

Special properties/effects: Over-exposure, especially when spraying coatings containing isocyanate without the necessary precautions, entails the risk of concentration-dependent irritating effects on eyes, nose throat, and respiratory tract. Delayed appearance of the complaints and development of hypersensitivity (difficult breathing, coughing, asthma) are possible. Hypersensitive persons may suffer from these effects even at low isocyanate concentrations, including concentrations below the HTP. Prolonged contact with the skin may cause tanning and irritant effects. Animal tests and other research indicate that skin contact with diisocyanates can play a role in causing isocyanate sensitization and respiratory reaction.

· **Additional toxicological information:**

· **Acute effects (acute toxicity, irritation and corrosivity)**

STOT evaluation - repeated exposure:
Hexamethylene-1,6-diisocyanate homopolymer
Route of exposure: inhalative
May cause respiratory irritation
Hexamethylene-1,6-diisocyanate homopolymer
NOAEL: 3,3 mg/m³ air
Application Route: Inhalative
Species: rat, male/female
Dose Levels: 0 - 0,5 - 3,3 - 26,4 mg/m³
Exposure duration: 90 d
Frequency of treatment: 6 hours a day, 5 days a week
Test substance: as aerosol
Method: OECD Test Guideline 413
Toxicological studies of a comparable product.

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Evidence of damage to organs other than the organs of respiration was not found.

11.2 Information on other hazards

Endocrine disrupting properties

None of the ingredients is listed.

SECTION 12: Ecological information

12.1 Toxicity

Aquatic toxicity:

28182-81-2 Hexamethylene-1,6-diisocyanate homopolymer

48-h EC50 > 100 mg/L (Daphnia magna)

96-h LC50 > 100 mg/L (Danio rerio)

822-06-0 hexamethylene-di-isocyanate

72-h EC50 77.4 mg/L (Algae)

96-h LC0 82.8 mg/L (Fish)

48-h EC0 89.1 mg/L (Daphnia magna)

12.2 Persistence and degradability

Hexamethylene-1,6-diisocyanate homopolymer: 2 %, 28 d; not readily degradable

Hexamethylene-1,6-diisocyanate homopolymer: 7,7 h @ 23 °C -> the substance hydrolyzes rapidly in water

12.3 Bioaccumulative potential

No further relevant information available.

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:

Isocyanate reacts with water at the interface forming carbon dioxide and a solid insoluble product with high melting point (polyurea). This reaction is accelerated by surfactants (e.g. detergents) or by water-soluble solvents. Previous experience shows that polyurea is inert and non-degradable.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Recommendation

Do not allow to enter drains or watercourses. Material and/or container must be disposed of as hazardous waste.

European waste catalogue

08 01 15* aqueous sludges containing paint or varnish containing organic solvents or other hazardous substances

Uncleaned packaging:

Recommendation:

Empty, dry paint containers (hole made to the bottom) should be taken to collection centres for metallic paint packages. If this collecting/recycling centre doesn't exist, containers can be taken to a local dump pit. For more information contact your local waste disposal authorities or paint deliverer.

SECTION 14: Transport information

14.1 UN number or ID number

ADR, ADN, IMDG, IATA

Not dangerous goods

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- | | |
|--|---------------------|
| · 14.2 UN proper shipping name
· ADR, ADN, IMDG, IATA | Not dangerous goods |
| · 14.3 Transport hazard class(es)
· ADR, ADN, IMDG, IATA
· Class | Not dangerous goods |
| · 14.4 Packing group
· ADR, IMDG, IATA | Not dangerous goods |
| · 14.5 Environmental hazards:
· Marine pollutant: | No |
| · 14.6 Special precautions for user | Not applicable. |
| · 14.7 Maritime transport in bulk according to IMO instruments | Not applicable. |
| · UN "Model Regulation": | Not dangerous goods |

SECTION 15: Regulatory information

- 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture
- 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, 74

· 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

- H302 Harmful if swallowed.
- H315 Causes skin irritation.
- H317 May cause an allergic skin reaction.
- H319 Causes serious eye irritation.
- H331 Toxic if inhaled.
- H332 Harmful if inhaled.
- H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.
- H335 May cause respiratory irritation.
- EUH204 Contains isocyanates. May produce an allergic reaction.
- **Contact:** Nor-Maali Oy, tel. +358 3 874 650 or sds@nor-maali.fi

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- **Date of previous version:** 17.12.2020
- **Version number of previous version:** 5
- **Abbreviations and acronyms:**
 - Acute Tox. 3: Acute toxicity – Category 3
 - 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
 - STOT SE 3: Specific target organ toxicity (single exposure) – Category 3
- *** Data compared to the previous version altered.**

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