





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

- **1.1 Product identifier**
- **Trade name:** Normatop Clear Comp. B
- **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. polyurethane paint, Comp. B
 Uses in Coatings - Industrial use
 Uses in Coatings - Professional use
- **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**
- | | |
|---|-----------------------------------|
|  | GHS02 flame |
| Flam. Liq. 3 | H226 Flammable liquid and vapour. |
- | | |
|---|--|
|  | GHS07 |
| Skin Sens. 1 | H317 May cause an allergic skin reaction. |
| STOT SE 3 | H335-H336 May cause respiratory irritation. May cause drowsiness or dizziness. |
| Aquatic Chronic 3 | H412 Harmful to aquatic life with long lasting effects. |
- **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**
- | | |
|---|---|
|  |  |
| GHS02 | GHS07 |
- **Signal word** Warning
- **Hazard-determining components of labelling:**
 Hexamethylene-1,6-diisocyanatehomopolymer
 n-butyl acetate
 hexamethylene-di-isocyanate
- **Hazard statements**
 H226 Flammable liquid and vapour.
 H317 May cause an allergic skin reaction.
 H335-H336 May cause respiratory irritation. May cause drowsiness or dizziness.
 H412 Harmful to aquatic life with long lasting effects.
- **Precautionary statements**
 P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
 P261 Avoid breathing dust/fume/gas/mist/vapours/spray.

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P280 Wear protective gloves/protective clothing/eye protection/face protection.
 P333+P313 If skin irritation or rash occurs: Get medical advice/attention.
 P403+P233 Store in a well-ventilated place. Keep container tightly closed.

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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 Chemical characterisation: 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	25 - 50%
CAS: 123-86-4 EINECS: 204-658-1 Reg.nr.: 01-2119485493-29-	n-butyl acetate Flam. Liq. 3, H226; STOT SE 3, H336	25 - 50%
CAS: 108-65-6 EINECS: 203-603-9 Reg.nr.: 01-2119475791-29-	2-methoxy-1-methylethyl acetate Flam. Liq. 3, H226	10 - 25%
CAS: 64742-95-6 EINECS: 265-199-0 Reg.nr.: 01-2119486773-24-	Solvent naphtha (petroleum), light arom. Asp. Tox. 1, H304; Aquatic Chronic 2, H411; Acute Tox. 4, H332; Skin Irrit. 2, H315; STOT SE 3, H335	2.5 - 10%
CAS: 822-06-0 EINECS: 212-485-8 Reg.nr.: 01-2119457571-37-	hexamethylene-di-isocyanate Acute Tox. 3, H311; 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	< 0.2%

- **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:**
Never give anything by mouth or induce vomiting to an unconscious person or a person who has convulsions.
- **After inhalation:**
Remove person exposed to excessive solvent concentrations 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.
- **4.2 Most important symptoms and effects, both acute and delayed**
No further relevant information available.
- **Information for doctor:** Treatment according to symptoms.
- **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:** Alcohol resistant foam, CO₂, powders, water spray.
- **For safety reasons unsuitable extinguishing agents:** Water with full jet
- **5.2 Special hazards arising from the substance or mixture** No further relevant information available.
- **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.

SECTION 6: Accidental release measures

- **6.1 Personal precautions, protective equipment and emergency procedures**
 No flares, smoking or flames in hazard area. Avoid breathing vapour or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.
- **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). Water polluting material.
- **6.3 Methods and material for containment and cleaning up:**
 Absorb liquid components with liquid-binding material (sand, peat or other absorbent material). 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**
 Vapours are heavier than air and may spread along floors. Vapours may form explosive mixtures with air. Prevent the creation of flammable or explosive concentrations of vapours in air and avoid vapour concentrations higher than the occupational exposure limits. In addition, the product should only be used in areas from which all naked lights and other sources of ignition have been excluded. Electrical equipment should be protected to the appropriate standard. To dissipate static electricity during transfer, earth drum and connect to receiving container with bonding strap. Operators should wear antistatic footwear and clothing and floors should be of the conducting type. Keep container tightly closed. Keep away from heat, sparks and flame. No sparking tools should be used. Avoid contact with skin and eyes. Avoid the inhalation of dust, particulates, spray or mist arising from the application of this preparation. Avoid inhalation of dust from sanding. Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Put on appropriate personal protective equipment (see section 8). Never use pressure to empty. Container is not a pressure vessel. Always keep in containers made from the same material as the original one. Comply with the health and safety at work laws.
 When operators, whether spraying or not, have to work inside the spray booth, ventilation is unlikely to be sufficient to control particulates and solvent vapour in all cases. In such circumstances they should wear a compressed air-fed respirator during the spraying process and until such time as the particulates and solvent vapour concentration has fallen below the exposure limits.
- **Information about fire - and explosion protection:**
 Vapours are heavier than air and may spread along floors. Vapours may form explosive mixtures with air.
- **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.

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- **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

- **Additional information about design of technical facilities:** No further data; see item 7.
- **8.1 Control parameters**

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

123-86-4 n-butyl acetate	
HTP	Short-term value: 960 mg/m ³ , 200 ppm Long-term value: 720 mg/m ³ , 150 ppm
108-65-6 2-methoxy-1-methylethyl acetate	
HTP	Short-term value: 550 mg/m ³ , 100 ppm Long-term value: 270 mg/m ³ , 50 ppm skin
822-06-0 hexamethylene-di-isocyanate	
HTP	Short-term value: 0.035 mg/m ³ NCO

- **Additional information:**
The information is based on the valid lists at the time of manufacture (Finland 538/2018).
- **8.2 Exposure controls**
- **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).
- **Protection of hands:**



Protective gloves

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

- **Material of gloves**
Wear suitable gloves tested to EN374.
Recommended, gloves(breakthrough time) > 8 hours: Viton®, nitrile rubber, 4H, Teflon, polyvinyl alcohol (PVA)
May be used, gloves(breakthrough time) 4 - 8 hours: butyl rubber, PVC

- **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 protection:**



Tightly sealed goggles

The eye flushing device should be located near the the paint work area.

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· **Body protection:** Protective work clothing

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SECTION 9: Physical and chemical properties

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

· **General Information**

· **Appearance:**

Form:	Fluid
Colour:	Colourless
Odour:	Strong
Odour threshold:	Not determined.

· **pH-value:** Not determined.

· **Change in condition**

Melting point/freezing point:	Undetermined.
Initial boiling point and boiling range:	124 - 128 °C

· **Flash point:** 27 °C

· **Flammability (solid, gas):** Not applicable.

· **Ignition temperature:** 315 °C

· **Decomposition temperature:** Not determined.

· **Auto-ignition temperature:** Product is not selfigniting.

· **Explosive properties:** Product is not explosive. However, formation of explosive air/vapour mixtures are possible.

· **Explosion limits:**

Lower:	1.2 Vol %
Upper:	10.8 Vol %

· **Vapour pressure at 20 °C:** 10.7 hPa

· **Density at 20 °C:** 1.02 g/cm³

· **Relative density:** Not determined.

· **Vapour density:** Not determined.

· **Evaporation rate:** Not determined.

· **Solubility in / Miscibility with water:**

Not miscible or difficult to mix.

· **Partition coefficient: n-octanol/water:** Not determined.

· **Viscosity:**

Dynamic: Not determined.

Kinematic: Not determined.

· **9.2 Other information:** No further relevant information available.

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**

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

· **10.4 Conditions to avoid:** No further relevant information available.

· **10.5 Incompatible materials:** No further relevant information available.

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- **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 toxicological effects**
- **Acute toxicity** Based on available data, the classification criteria are not met.

• **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)

123-86-4 n-butyl acetate

Oral	LD50	10,760 mg/kg (rat) (OECD 423)
Dermal	LD50	14,112 mg/kg (rabbit) (OECD 402)
Inhalative	LC50/4 h	23.4 mg/l (rat) (OECD 403)

108-65-6 2-methoxy-1-methylethyl acetate

Oral	LD50	8,532 mg/kg (rat)
Inhalative	LC50/4 h	35.7 mg/l (rat)

64742-95-6 Solvent naphtha (petroleum), light arom.

Oral	LD50	> 6,800 mg/kg (rat)
Dermal	LD50	> 3,400 mg/kg (rabbit)
Inhalative	LC50/4 h	> 10.2 mg/l (rat)

822-06-0 hexamethylene-di-isocyanate

Oral	LD50	738 mg/kg (rat)
Dermal	LD50	593 mg/kg (rat)
Inhalative	LC50/4 h	124 mg/l (rat)

- **Primary irritant effect:**
- **Skin corrosion/irritation** Based on available data, the classification criteria are not met.
- **Serious eye damage/irritation** Based on available data, the classification criteria are not met.
- **Respiratory or skin sensitisation**
 May cause an allergic skin reaction.
- **Other information (about experimental toxicology):**
 Exposure to component solvent vapour concentrations in excess of the stated occupational exposure limit may result in adverse health effects such as mucous membrane and respiratory system irritation and adverse effects on the kidneys, liver and central nervous system. Solvents may cause some of the above effects by absorption through the skin. Symptoms and signs include headache, dizziness, fatigue, muscular weakness, drowsiness and, in extreme cases, loss of consciousness. Repeated or prolonged contact with the preparation may cause removal of natural fat from the skin, resulting in non-allergic contact dermatitis and absorption through the skin. If splashed in the eyes, the liquid may cause irritation and reversible damage. Swallowing may cause nausea, diarrhea, vomiting, gastro-intestinal irritation and chemical pneumonia.
- **CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)**
- **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. May cause drowsiness or dizziness.
- **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.

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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)

123-86-4 n-butyl acetate

72-h EC50	647.7 mg/L (Desmodesmus subspicatus)
48-h EC50	44 mg/L (Daphnia magna)
96-h LC50	18 mg/L (Pimephales promelas) (OECD 203)
NOEC	200 mg/L (Desmodesmus subspicatus)

108-65-6 2-methoxy-1-methylethyl acetate

48-h EC50	373 mg/L (Daphnia magna)
96-h LC50	> 100 mg/L (Ory)
NOEC (daphnia)	278 mg/L (Daphnia magna)
NOEC	556 mg/L (Ory)

64742-95-6 Solvent naphtha (petroleum), light arom.

48-h EC50	6.14 mg/L (Daphnia magna)
96-h LC50	9.22 mg/L (Oncorhynchus mykiss)
96-h EC50	19 mg/L (Pseudokirchneriella subcapitata)

822-06-0 hexamethylene-di-isocyanate

72-h EC50	> 77.4 mg/L (Desmodesmus subspicatus)
96-h LC0	≥ 82.8 mg/L (Danio rerio)
48-h EC0	≥ 89.1 mg/L (Daphnia magna)

• **12.2 Persistence and degradability**

Biodegradation:

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

n-butyl acetate: 90 %, 28 d -> readily

2-methoxy-1-methylethyl acetate: readily

Solvent naphtha (petroleum), light arom.: not readily

Stability in water:

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

• **12.3 Bioaccumulative potential** Solvent naphtha (petroleum), light arom.: LogPow = 3,7 -> 4,5 (high)

• **12.4 Mobility in soil** No further relevant information available.

• **Ecotoxicological effects:**

• **Remark:** Harmful to fish

• **12.5 Results of PBT and vPvB assessment**

• **PBT:** Not applicable.

• **vPvB:** Not applicable.

• **12.6 Other adverse effects** No further relevant information available.

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 11*	waste paint and varnish containing organic solvents or other hazardous substances
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• **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.

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SECTION 14: Transport information

<ul style="list-style-type: none"> 14.1 UN-Number ADR, IMDG, IATA 	UN1263
<ul style="list-style-type: none"> 14.2 UN proper shipping name ADR, IMDG IATA 	PAINT Paint
<ul style="list-style-type: none"> 14.3 Transport hazard class(es) ADR, IMDG, IATA 	3 Flammable liquids.
<ul style="list-style-type: none"> 14.4 Packing group ADR, IMDG, IATA 	III
<ul style="list-style-type: none"> 14.5 Environmental hazards: 	Not applicable.
<ul style="list-style-type: none"> 14.6 Special precautions for user 	Warning: Flammable liquids.
<ul style="list-style-type: none"> 14.7 Transport in bulk according to Annex II of Marpol and the IBC Code 	Not applicable.
<ul style="list-style-type: none"> Transport/Additional information: 	
<ul style="list-style-type: none"> ADR Limited quantities (LQ) Transport category Tunnel restriction code 	5L 3 D/E
<ul style="list-style-type: none"> IMDG Limited quantities (LQ) 	EMS number: F-E, S-E 5L
<ul style="list-style-type: none"> UN "Model Regulation": 	UN 1263 PAINT, 3, III

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.
 - Seveso category
FLAMMABLE LIQUIDS
P5c FLAMMABLE LIQUIDS
 - Qualifying quantity (tonnes) for the application of lower-tier requirements 5,000 t
 - Qualifying quantity (tonnes) for the application of upper-tier requirements 50,000 t
 - REGULATION (EC) No 1907/2006 ANNEX XVII Conditions of restriction: 3
- 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
 - H226 Flammable liquid and vapour.
 - H302 Harmful if swallowed.
 - H304 May be fatal if swallowed and enters airways.
 - H311 Toxic in contact with skin.
 - H315 Causes skin irritation.

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Safety data sheet
(EC) 1907/2006 (REACH), Annex II, as amended by Regulation
(EU) 2018/1480

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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.
H336 May cause drowsiness or dizziness.
H411 Toxic to aquatic life with long lasting effects.

• **Contact:** Nor-Maali Oy, tel. +358 3 874 650 or sds@nor-maali.fi

• **Abbreviations and acronyms:**

Flam. Liq. 3: Flammable liquids – Category 3
Acute Tox. 3: Acute toxicity - dermal – Category 3
Acute Tox. 4: Acute toxicity - inhalation – 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
Asp. Tox. 1: Aspiration hazard – Category 1
Aquatic Chronic 2: Hazardous to the aquatic environment - long-term aquatic hazard – Category 2
Aquatic Chronic 3: Hazardous to the aquatic environment - long-term aquatic hazard – Category 3

• *** Data compared to the previous version altered.**

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