

Safety data sheet



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

Date of revision: 28.06.2019
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Version number 7

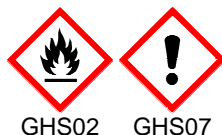
SECTION 1: Identification of the substance/mixture and of the company/undertaking

- **1.1 Product identifier**
- **Trade name:** Normafine Comp. B (Normafine HS, Normafine GTC, Normafine 20, Normafine 50 Topcoat)
- **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
- 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.
- 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**



- **Signal word** Warning
- **Hazard-determining components of labelling:**
Hexamethylene-1,6-diisocyanatehomopolymer
Solvent naphtha (petroleum), light arom.
hexamethylene-di-isocyanate
- **Hazard statements**
H226 Flammable liquid and vapour.
H332 Harmful if inhaled.
H317 May cause an allergic skin reaction.
H335 May cause respiratory irritation.

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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.
- P280 Wear protective gloves/protective clothing/eye protection/face protection.
- P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].
- 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.

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-diisocyanatehomopolymer Acute Tox. 4, H332; Skin Sens. 1, H317; STOT SE 3, H335	75-90%
CAS: 123-86-4 EINECS: 204-658-1 Reg.nr.: 01-2119485493-29-	n-butyl acetate Flam. Liq. 3, H226	2.5-10%
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.

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- **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**
 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.

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:**
 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:**
 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.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:** Keep container tightly sealed.

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· **7.3 Specific end use(s)** No further relevant information available. (Contd. of page 3)

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
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 (Ib) -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

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.

Recommended, gloves(breakthrough time) > 8 hours: 4H, Teflon, polyvinyl alcohol (PVA)

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 protection:**



Tightly sealed goggles

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

· **Body protection:** Protective work clothing

SECTION 9: Physical and chemical properties

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

· **General Information**

· **Appearance:**

Form: Fluid

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· Colour:	Colourless
· Odour:	Characteristic
· Odour threshold:	Not determined.
· pH-value:	Not determined.
· Change in condition	
Melting point/freezing point:	Undetermined.
Initial boiling point and boiling range:	127 °C
· Flash point:	50 °C
· Flammability (solid, gas):	Not applicable.
· 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 Vol %
Upper:	7.5 Vol %
· Vapour pressure:	Not determined.
· Density at 20 °C:	1.13 g/cm ³
· 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 at 40 °C:	> 20.5 mm ² /s
· 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**
 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 toxicological effects**
- **Acute toxicity**
 Harmful if inhaled.

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· LD/LC50 values relevant for classification:		
28182-81-2 Hexamethylene-1,6-diisocyanatehomopolymer		
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)
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)

- **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):**
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.
- **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.
- **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.

SECTION 12: Ecological information

· 12.1 Toxicity

· Aquatic toxicity:	
28182-81-2 Hexamethylene-1,6-diisocyanatehomopolymer	
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)
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)

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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
 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.
- **Waste disposal key:**
 08 01 11* waste paint and varnish containing organic solvents or other dangerous substances. If this product is mixed with other wastes, this code may no longer apply. If mixed with other wastes, the appropriate code should be assigned. For further information, contact your local waste authority.
- **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 • ADR, IMDG, IATA	UN1263
• 14.2 UN proper shipping name • ADR, IMDG, IATA	PAINT
• 14.3 Transport hazard class(es) • ADR, IMDG, IATA	
	
• Class	3 Flammable liquids.
• 14.4 Packing group • ADR, IMDG, IATA	III

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· 14.5 Environmental hazards:	
· Marine pollutant:	No
· 14.6 Special precautions for user	Warning: Flammable liquids.
· 14.7 Transport in bulk according to Annex II of Marpol and the IBC Code	Not applicable.
· Transport/Additional information:	
· ADR	
· Limited quantities (LQ)	5L
· Transport category	3
· Tunnel restriction code	D/E
· IMDG	
· Limited quantities (LQ)	EMS number: F-E, S-E
· UN "Model Regulation":	UN1263, 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**
- **Seveso category** 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.
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.
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 – 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
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.**