

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

- **1.1 Product identifier**
- **Trade name:** OH 23
- **1.2 Relevant identified uses of the substance or mixture and uses advised against**
- **Sector of Use** Coating
- **Application of the substance / the mixture**
 Thinner
 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.



GHS08 health hazard

STOT RE 2 H373 May cause damage to the hearing organs through prolonged or repeated exposure.
 Asp. Tox. 1 H304 May be fatal if swallowed and enters airways.



GHS05 corrosion

Eye Dam. 1 H318 Causes serious eye damage.



GHS07

Skin Irrit. 2 H315 Causes skin irritation.
 STOT SE 3 H335-H336 May cause respiratory irritation. May cause drowsiness or dizziness.

• **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



GHS05



GHS07



GHS08

• **Signal word** Danger

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- **Hazard-determining components of labelling:**
 2-methylpropan-1-ol
 ethylbenzene
- **Hazard statements**
 H226 Flammable liquid and vapour.
 H315 Causes skin irritation.
 H318 Causes serious eye damage.
 H335-H336 May cause respiratory irritation. May cause drowsiness or dizziness.
 H373 May cause damage to the hearing organs through prolonged or repeated exposure.
 H304 May be fatal if swallowed and enters airways.
- **Precautionary statements**
 P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
 P260 Do not breathe dust/fume/gas/mist/vapours/spray.
 P280 Wear protective gloves/protective clothing/eye protection/face protection.
 P301+P310 IF SWALLOWED: Immediately call a POISON CENTER/ doctor.
 P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
 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: 1330-20-7 EINECS: 215-535-7 Reg.nr.: 01-2119488216-32-	xylene Flam. Liq. 3, H226; Acute Tox. 4, H312; Acute Tox. 4, H332; Skin Irrit. 2, H315	50-75%
CAS: 78-83-1 EINECS: 201-148-0 Reg.nr.: 01-2119484609-23-	2-methylpropan-1-ol Flam. Liq. 3, H226; Eye Dam. 1, H318; Skin Irrit. 2, H315; STOT SE 3, H335-H336	10-25%
CAS: 100-41-4 EINECS: 202-849-4 Reg.nr.: 01-2119489370-35-	ethylbenzene Flam. Liq. 2, H225; STOT RE 2, H373; Asp. Tox. 1, H304; Acute Tox. 4, H332	10-25%
CAS: 108-94-1 EINECS: 203-631-1	cyclohexanone Flam. Liq. 3, H226; Acute Tox. 3, H311; Acute Tox. 4, H302; Acute Tox. 4, H332	2.5-10%
CAS: 107-98-2 EINECS: 203-539-1 Reg.nr.: 01-2119457435-35-	1-methoxy-2-propanol Flam. Liq. 3, H226; STOT SE 3, H336	2.5-10%

- **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. Wash skin thoroughly with soap and water and apply skin cream.

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- **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.

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.
- **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).
- **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.

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- **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.
- **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:**

1330-20-7 xylene

HTP	Short-term value: 440 mg/m ³ , 100 ppm Long-term value: 220 mg/m ³ , 50 ppm Sk; BMGV
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78-83-1 2-methylpropan-1-ol

HTP	Short-term value: 230 mg/m ³ , 75 ppm Long-term value: 150 mg/m ³ , 50 ppm Sk
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100-41-4 ethylbenzene

HTP	Short-term value: 880 mg/m ³ , 200 ppm Long-term value: 220 mg/m ³ , 50 ppm Sk; BMGV
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108-94-1 cyclohexanone

HTP	Short-term value: 82 mg/m ³ , 20 ppm Long-term value: 41 mg/m ³ , 10 ppm Sk
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107-98-2 1-methoxy-2-propanol

HTP	Short-term value: 560 mg/m ³ , 150 ppm Long-term value: 370 mg/m ³ , 100 ppm Sk
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- **Ingredients with biological limit values:**

1330-20-7 xylene

BMGV	5.0 mmol/l creatinine Sampling time: post shift Parameter: methyl hippuric acid of urine
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100-41-4 ethylbenzene

BMGV	5.2 mmol/l creatinine Sampling time: post shift after working week or exposure period Parameter: mandelic acid of urine
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- **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.

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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) A2-P2 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.

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
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: 108 °C

Flash point: 24 °C

Flammability (solid, gas): Not applicable.

Ignition temperature: 270 °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 Vol %

Upper: 12 Vol %

Vapour pressure at 20 °C: 12 hPa

Density at 20 °C: 0.87 g/cm³

Relative density Not determined.

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· 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**
Keep away from the following materials to prevent strong exothermic reactions: oxidising agents, strong alkalis, strong acids.
- **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** Based on available data, the classification criteria are not met.

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

1330-20-7 xylene

Oral	LD50	4,300 mg/kg (rat)
Dermal	LD50	3,200 mg/kg (rabbit)
Inhalative	LC50/4 h	21.7 mg/l (rat)

78-83-1 2-methylpropan-1-ol

Oral	LD50	2,460 mg/kg (rat)
Dermal	LD50	3,400 mg/kg (rabbit)

100-41-4 ethylbenzene

Oral	LD50	3,500 mg/kg (rat)
Dermal	LD50	17,800 mg/kg (rabbit)
Inhalative	LC50/4 h	4,000 mg/l (rabbit)

108-94-1 cyclohexanone

Oral	LD50	1,535 mg/kg (rat)
Dermal	LD50	948 mg/kg (rabbit)
Inhalative	LC50/4 h	8,000 mg/l (rat)

107-98-2 1-methoxy-2-propanol

Oral	LD50	5,660 mg/kg (rat)
Dermal	LD50	13,000 mg/kg (rabbit)

- **Primary irritant effect:**
- **Skin corrosion/irritation**
Causes skin irritation.
- **Serious eye damage/irritation**
Causes serious eye damage.

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- **Respiratory or skin sensitisation** Based on available data, the classification criteria are not met.
- **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)**
 Ethylbenzene may cause cancer to humans (carcinogenic, group 2B, IARC), but information available is insufficient for satisfactory estimate.
- **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**
 May cause damage to the hearing organs through prolonged or repeated exposure.
- **Aspiration hazard**
 May be fatal if swallowed and enters airways.

SECTION 12: Ecological information

• 12.1 Toxicity

• Aquatic toxicity:

1330-20-7 xylene

48-h EC50	165 mg/L (Daphnia magna)
96-h LC50	26.7 mg/L (Pimephales promelas)
48-h LC50	86 mg/L (Leuciscus idus melanotus)

100-41-4 ethylbenzene

48-h EC50	7.2 mg/L (Daphnia magna)
96-h LC50	4.2 mg/L (Oncorhynchus mykiss)

107-98-2 1-methoxy-2-propanol

48-h EC50	23.3 mg/L (Daphnia magna)
96-h LC50	6.8 mg/L (Leuciscus idus melanotus)

• 12.2 Persistence and degradability

Biodegradability:

Xylene: readily

Ethylbenzene: readily

1-methoxy-2-propanol: 96 % (28 d) -> readily

• 12.3 Bioaccumulative potential

Xylene: LogPow = 3,12 (low)

Ethylbenzene: LogPow = 3,15 (low)

2-methylpropan-1-ol: LogPow = 0,76 (low)

• 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 Other adverse effects

No further relevant information available.

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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

- **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	UN1263
• ADR, IMDG, IATA	
• 14.2 UN proper shipping name	PAINT RELATED MATERIAL
• ADR, IMDG, IATA	
• 14.3 Transport hazard class(es)	
• ADR, IMDG, IATA	
	
• Class	3 Flammable liquids.
• 14.4 Packing group	III
• ADR, IMDG, IATA	
• 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	EMS number: F-E, S-E
• Limited quantities (LQ)	5L
• UN "Model Regulation":	UN1263, PAINT RELATED MATERIAL, 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

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P5c FLAMMABLE LIQUIDS

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- **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**

- H225 Highly flammable liquid and vapour.
- H226 Flammable liquid and vapour.
- H302 Harmful if swallowed.
- H304 May be fatal if swallowed and enters airways.
- H311 Toxic in contact with skin.
- H312 Harmful in contact with skin.
- H315 Causes skin irritation.
- H318 Causes serious eye damage.
- H332 Harmful if inhaled.
- H335 May cause respiratory irritation.
- H336 May cause drowsiness or dizziness.
- H373 May cause damage to the hearing organs through prolonged or repeated exposure.

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

· **Abbreviations and acronyms:**

- Flam. Liq. 2: Flammable liquids – Category 2
- Flam. Liq. 3: Flammable liquids – Category 3
- Acute Tox. 3: Acute toxicity - dermal – Category 3
- Acute Tox. 4: Acute toxicity - dermal – Category 4
- Skin Irrit. 2: Skin corrosion/irritation – Category 2
- Eye Dam. 1: Serious eye damage/eye irritation – Category 1
- STOT SE 3: Specific target organ toxicity (single exposure) – Category 3
- STOT RE 2: Specific target organ toxicity (repeated exposure) – Category 2
- Asp. Tox. 1: Aspiration hazard – Category 1

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