Safety data sheet
according to UK REACH

Printing date 13.03.2026 Version number 4.1 Revision: 13.03.2026

*

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

Product identifier

Trade name: **Hardener for 2K Wood Oil (6633)**

Article number: 6633
CAS Number: 28182-81-2
NLP Number: 500-060-2
Registration number 01-2119488934-20
Relevant identified uses of the substance or mixture and uses advised against Use : For hardener coatings for industrial or professional applications.
Recommended use : Not suitable for household use.
Application of the substance / the mixture Hardening agent/ Curing agent

Details of the supplier of the safety data sheet
Manufacturer/Supplier: Osmo Holz und Color GmbH & Co. KG
Affhüppen Esch 12
D-48231 Warendorf
Germany
Further information obtainable from: Product safety department
Tel.: +49 (0) 251 / 692 - 188
Fax: +49 (0) 251 / 692 - 462
e-mail: helmut.starp@osmo.de
Emergency telephone number: emergency phone no. Berlin (24h): +49 (0) 30 / 30686 790 advisory service in German and English
IE: National Poisons Information Centre: +353 (1) 809 2166 (8.00 a.m. to 10.00 p.m. 7 days a week)
Healthcare Professionals: +353 (1) 809 2566 (24 hour service)
Members of the public seeking specific information on poisons should contact:
In England and Wales: NHS 111 - dial 111
In Scotland: NHS 24 - dial 111
Importer Importer for UK:
OSMO UK,
Smeaton Close
Unit 24 Anglo Business Park
Aylesbury, Bucks HP19 8UP
Phone: 01296 481 220, www.osmouk.com
United Kingdom

2 Hazards identification

Classification of the substance or mixture

Acute Tox. 4 H332 Harmful if inhaled.

(Contd. on page 2)

Safety data sheet
according to UK REACH

Printing date 13.03.2026 Version number 4.1 Revision: 13.03.2026

Trade name: Hardener for 2K Wood Oil (6633)

(Contd. of page 1)

Skin Sens. 1 H317 May cause an allergic skin reaction.

STOT SE 3 H335 May cause respiratory irritation.

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

Label elements

Hazard pictograms



GHS07

Signal word Warning

Hazard-determining components of labelling: Hexamethylene diisocyanate, oligomers
hexamethylene-di-isocyanate

Hazard statements
H332 Harmful if inhaled.
H317 May cause an allergic skin reaction.
H335 May cause respiratory irritation.

Precautionary statements
P271 Use only outdoors or in a well-ventilated area.
P280 Wear protective gloves.
P302+P352 IF ON SKIN: Wash with plenty of water.
P333+P313 If skin irritation or rash occurs: Get medical advice/attention.
P405 Store locked up.
P501 Dispose of contents/container in accordance with national regulations.

Additional information: EUH204 Contains isocyanates. May produce an allergic reaction.

Other hazards
Always wear a dust mask when sanding.
Observe the general safety regulations when handling chemicals.
In case of hypersensitivity of the respiratory tract (asthma, chronic bronchitis), handling of the product is not recommended.
Respiratory symptoms may occur even several hours after overexposure.
Dust, vapours and aerosols are the main respiratory hazards.

Results of PBT and vPvB assessment

PBT: Not applicable

vPvB: Not applicable

*

3 Composition/information on ingredients

Chemical characterisation: Substances

CAS No. Description CAS: 28182-81-2 Hexamethylene diisocyanate, oligomers

Identification number(s)

NLP Number: 500-060-2

(Contd. on page 3)

Safety data sheet
according to UK REACH

Printing date 13.03.2026 Version number 4.1 Revision: 13.03.2026

Trade name: Hardener for 2K Wood Oil (6633)

(Contd. of page 2)

Impurities and stabilising additives:	
CAS: 822-06-0 EINECS: 212-485-8 Index number: 615-011-00-1 Reg.nr.: 01-2119457571-37	hexamethylene-di-isocyanate Acute Tox. 3, H331; Resp. Sens. 1, H334; Skin Irrit. 2, H315; Eye Irrit. 2, H319; Skin Sens. 1, H317; STOT SE 3, H335 Specific concentration limits: Resp. Sens. 1; H334: C ≥ 0.5 % Skin Sens. 1; H317: C ≥ 0.5 %

Description: Substance

Dangerous components:		
CAS: 28182-81-2 NLP: 500-060-2 Reg.nr.: 01-2119488934-20	Hexamethylene diisocyanate, oligomers Acute Tox. 4, H332; Skin Sens. 1, H317; STOT SE 3, H335	>99.9%

4 First aid measures

Description of first aid measures

General information: Immediately remove any clothing soiled by the product.
Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.

After inhalation: Take affected persons into fresh air and keep quiet.
Seek medical treatment in case of complaints.
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.
If skin irritation continues, consult a doctor.
If skin irritation or rash occurs: Get medical advice/attention.

After eye contact: Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.

After swallowing: Rinse mouth.
Seek medical treatment.

Information for doctor:

Most important symptoms and effects, both acute and delayed No further relevant information available.

Indication of any immediate medical attention and special treatment needed No further relevant information available.

(Contd. on page 4)

Safety data sheet
according to UK REACH

Printing date 13.03.2026 Version number 4.1 Revision: 13.03.2026

Trade name: Hardener for 2K Wood Oil (6633)

(Contd. of page 3)

5 Firefighting measures

Extinguishing media
Suitable extinguishing agents: CO2, powder or water spray. Fight larger fires with water spray.
Use fire extinguishing methods suitable to surrounding conditions.

For safety reasons unsuitable extinguishing agents: Water with full jet

Special hazards arising from the substance or mixture
Isocyanate vapors
Nitrogen oxides (NOx)
(Traces)
Hydrogen cyanide (HCN)

Advice for firefighters
Protective equipment: Wear fully protective suit.
Mouth respiratory protective device.

Additional information Collect contaminated fire fighting water separately. It must not enter the sewage system.
Cool endangered receptacles with water spray.

6 Accidental release measures

Personal precautions, protective equipment and emergency procedures Wear protective clothing.

Environmental precautions: Do not allow to enter sewers/ surface or ground water.

Methods and material for containment and cleaning up: Remove mechanically; cover residues with moist, liquid-binding material (e.g. sawdust, calcium silicate hydrate-based chemical binder, sand). After about 1 hour, take up in waste container, do not close (CO2 evolution!). Keep moist and leave in a safe place outdoors for several days.
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders).
Dispose of the material collected according to regulations.
Dispose contaminated material as waste according to section 13.
Ensure adequate ventilation.

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.

(Contd. on page 5)

Safety data sheet
according to UK REACH

Printing date 13.03.2026 Version number 4.1 Revision: 13.03.2026

Trade name: Hardener for 2K Wood Oil (6633)

(Contd. of page 4)

7 Handling and storage

Handling:

Precautions for safe handling Spraying requires the extraction of air.
The air limit values mentioned in Chapter 8 must be observed. In workplaces where aerosols and/or vapours of isocyanates may occur in higher concentrations, targeted air pollution control shall be used to avoid exceeding the occupational hygiene limit value. Air movement must be kept away from people.
The personal protection measures described in Chapter 8 must be followed.
When handling isocyanates, the required protective measures must be observed. Avoid contact with skin and eyes and inhalation of vapours.
Ensure good ventilation/exhaustion at the workplace.
Open and handle receptacle with care.
Prevent formation of aerosols.
Avoid contact with skin and eyes.

General protective and hygienic measures: Be sure to clean skin thoroughly after work and before breaks.
Immediately remove all soiled and contaminated clothing
Wash hands before breaks and at the end of work.
Avoid contact with the eyes and skin.
Do not eat, drink, smoke or sniff while working.
Do not carry product impregnated cleaning cloths in trouser pockets.

Information about fire - and explosion protection: Fumes can combine with air to form an explosive mixture.

Conditions for safe storage, including any incompatibilities

Storage:

Requirements to be met by storerooms and receptacles: Prevent any seepage into the ground.
Store only in the original receptacle.

Information about storage in one common storage facility: Store away from foodstuffs.

Further information about storage conditions: Store receptacle in a well ventilated area.
Store in dry conditions.
Keep container tightly sealed.
Store in cool, dry conditions in well sealed receptacles.

Specific end use(s) No further relevant information available.

(Contd. on page 6)

Safety data sheet
according to UK REACH

Printing date 13.03.2026 Version number 4.1 Revision: 13.03.2026

Trade name: Hardener for 2K Wood Oil (6633)

(Contd. of page 5)

8 Exposure controls/personal protection

Control parameters

Ingredients with limit values that require monitoring at the workplace:	
CAS: 822-06-0 hexamethylene-di-isocyanate	
WEL	Short-term value: 0.07 mg/m³ Long-term value: 0.02 mg/m³ Sen; as -NCO

PNECs	
CAS: 28182-81-2 Hexamethylene diisocyanate, oligomers	
PNEC sea water	0.0127 mg/l
PNEC fresh water	0.127 mg/l
PNEC sediment (fresh water)	266,701 mg/kg
PNEC sediment (sea water)	26,670 mg/kg /Trocke
PNEC soil	53,183 mg/kg /Trocke
PNEC sewage treatment plant	88 mg/l

Ingredients with biological limit values:	
CAS: 822-06-0 hexamethylene-di-isocyanate	
BMGV	1 µmol creatinine/mol Medium: urine Sampling time: At the end of the period od exposure Parameter: isocyanate-derived diamine

Additional information: The lists valid during the making were used as basis.

Exposure controls
Personal protective equipment:
General protective and hygienic measures:

Wash hands before breaks and at the end of work.
Keep away from foodstuffs, beverages and feed.
Avoid contact with the eyes and skin.
Immediately remove all soiled and contaminated clothing
The usual precautionary measures are to be adhered to when handling chemicals.
Store protective clothing separately.
Do not eat, drink, smoke or sniff while working.
See Section 7 for information on safe handling.

Respiratory protection:

In the case of respiratory and skin hypersensitivity (asthma, chronic bronchitis, chronic skin diseases), handling of the product is not recommended.
Not necessary if room is well-ventilated.
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.

(Contd. on page 7)

Safety data sheet
according to UK REACH

Printing date 13.03.2026 Version number 4.1 Revision: 13.03.2026

Trade name: Hardener for 2K Wood Oil (6633)

(Contd. of page 6)

Use a properly fitted, air-purifying or air-fed repirator complying with an approved standard if a risk assessment indicates this is necessary.

Protection of hands: Protective gloves
The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

Material of gloves Butyl rubber, BR
Fluorocarbon rubber (Viton)
The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.

Penetration time of glove material The exact break trough time has to be found out by the manufacturer of the protective gloves and has to be observed.

For the permanent contact gloves made of the following materials are suitable: chemical resistant gloves (EN 374)
Butyl rubber, BR

Not suitable are gloves made of the following materials: Nitrile rubber, NBR

Eye protection: Face protection
Safety glasses according to EN 166:2001 (e.g. densely closing frame glasses with side protection)

Body protection: Use protective suit.
Protective work clothing

9 Physical and chemical properties

Information on basic physical and chemical properties
General Information
Appearance:
Form: Fluid
Colour: Colourless
Odour: Nearly odourless
Odour threshold: Not determined

pH-value: Not applicable
Mixture is non-polar/aprotic.

Change in condition
Melting point/freezing point: Undetermined
Initial boiling point and boiling range: Not applicable

(Contd. on page 8)

Safety data sheet
according to UK REACH

Printing date 13.03.2026 Version number 4.1 Revision: 13.03.2026

Trade name: Hardener for 2K Wood Oil (6633)

(Contd. of page 7)

Flash point:	~158 °C (DIN 53213, CAS: 28182-81-2 Hexamethylene diisocyanate, oligomers)
Flammability	Not applicable
Auto-ignition temperature:	~445 °C (DIN 51794, CAS: 28182-81-2 Hexamethylene diisocyanate, oligomers)
Decomposition temperature:	Not determined
Ignition temperature:	Not determined
Explosive properties:	Product does not present an explosion hazard.
Explosion limits:	
Lower:	Not determined
Upper:	Not determined
Vapour pressure at 20 °C:	<0.00003 hPa (EG A4, CAS: 28182-81-2 Hexamethylene diisocyanate, oligomers)
Density at 20 °C:	~1.17 g/cm³ (DIN 53217)
Relative 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 at 20 °C:	~1,200 mPas (DIN EN ISO 3219/A.3)
Other information	No further relevant information available.

10 Stability and reactivity

Reactivity No further relevant information available.

Chemical stability

Thermal decomposition / conditions to be avoided: No decomposition if used and stored according to specifications.

Possibility of hazardous reactions

Reacts with alcohols.
Reacts with amines.
Decomposes with water, acids and alkalis.
Exothermic reaction.
Danger of bursting.

Conditions to avoid No further relevant information available.

(Contd. on page 9)

Safety data sheet
according to UK REACH

Printing date 13.03.2026 Version number 4.1 Revision: 13.03.2026

Trade name: Hardener for 2K Wood Oil (6633)

(Contd. of page 8)

Incompatible materials: No further relevant information available.

Hazardous decomposition products: No hazardous decomposition products when stored and handled correctly.

11 Toxicological information

Information on toxicological effects
Acute toxicity

LD/LC50 values relevant for classification:		
Inhalative	ATE-Wert (Nebel)	1.5 mg/l (rat)

CAS: 28182-81-2 Hexamethylene diisocyanate, oligomers		
Oral	LD50	>2,500 mg/kg (rat) (OECD 423)
Dermal	LD50	>2,000 mg/kg (rat) (Acute Dermal Toxicity)
Inhalative	LC50 / 4h	11 mg/l (ATE)
CAS: 822-06-0 hexamethylene-di-isocyanate		
Oral	LD50	738 mg/kg (rat)
Dermal	LD50	593 mg/kg (rat)
Inhalative	LC50 / 4h	3 mg/l (ATE)

Primary irritant effect:

Skin corrosion/irritation		
CAS: 28182-81-2 Hexamethylene diisocyanate, oligomers		
Dermal	Skin irritation	(rabbit) (OECD- Prüfrichtlinie 404)

Serious eye damage/irritation	
CAS: 28182-81-2 Hexamethylene diisocyanate, oligomers	
Eye irritation	(rabbit)

Respiratory or skin sensitisation May cause an allergic skin reaction.

CAS: 28182-81-2 Hexamethylene diisocyanate, oligomers		
Inhalative	sensitization	(mouse) (Lokaler Lymphknoten-Test (LLNA))

Other information (about experimental toxicology): Animal tests and other research indicate that skin contact with diisocyanates can play a role in
causing isocyanate sensitization and respiratory reaction.

Subacute to chronic toxicity:	
CAS: 28182-81-2 Hexamethylene diisocyanate, oligomers	
NOAEL	3.3 mg/Tag /inhalativ (rat)

Additional toxicological information: Special properties/effects: Over-exposure, especially when spraying coatings containing isocyanate without the necessary precautions, entails the risk of

(Contd. on page 10)

Safety data sheet
according to UK REACH

Printing date 13.03.2026 Version number 4.1 Revision: 13.03.2026

Trade name: Hardener for 2K Wood Oil (6633)

(Contd. of page 9)

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 UK Workplace Exposure Limit (WEL). Prolonged contact with the skin may cause tanning and irritant effects.
May cause an allergic skin reaction.

Sensitisation May cause an allergic skin reaction.

12 Ecological information

Toxicity

Aquatic toxicity: Do not allow product to reach ground water, water course or sewage system.

CAS: 28182-81-2 Hexamethylene diisocyanate, oligomers	
EC50 / 48h	>100 mg/l (Daphnia magna) (OECD- Prüfrichtlinie 202)
IC50 / 72h	>1,000 mg/l (algae) (DIN 38412)
LC50 / 96h	>100 mg/l (Brachydanio rerio) (OECD- Prüfrichtlinie 203)
biodegradability	28 % (OECD Guideline for Testing of Chemicals, No.301 D)
Bioconceived factor	3.2 /(berechnet)

Persistence and degradability Not easily biodegradable

Behaviour in environmental systems:

Bioaccumulative potential	
CAS: 28182-81-2 Hexamethylene diisocyanate, oligomers	
log POW	~8.38 (Wert berechnet)

Mobility in soil Oberflächenspannung: ca. 46,5 mN/m bei 20 °C

Ecotoxical effects:

Behaviour in sewage processing plants:	
CAS: 28182-81-2 Hexamethylene diisocyanate, oligomers	
EC0 / 3h	>100 mg/l (Daphnia magna)
EC50	3,828 mg/l (activated sludge organism) (OECD Guideline for Testing of Chemicals, No.209)

Additional ecological information:

General notes: The resin reacts with water at the interface forming CO2 and a solid insoluble product with high melting point (polyurea). This reaction is accelerated by surfactants (e.g. detergents) or by watersoluble solvents. Previous experience shows that polyurea is inert and non-degradable.
Water hazard class 1 (German Regulation) (Assessment by list): slightly hazardous for water

Results of PBT and vPvB assessment

PBT: Not applicable

vPvB: Not applicable

(Contd. on page 11)

Safety data sheet
according to UK REACH

Printing date 13.03.2026 Version number 4.1 Revision: 13.03.2026

Trade name: Hardener for 2K Wood Oil (6633)

(Contd. of page 10)

Other adverse effects No further relevant information available.

13 Disposal considerations

Waste treatment methods
Recommendation Must not be disposed together with household garbage. Do not allow product to reach sewage system.
Disposal must be made according to official regulations.

Uncleaned packaging:
Recommendation: Waste treatment methods:
After final product withdrawal, all residues must be removed from containers (drip-free, powderfree or paste-free). Once the product residues adhering to the walls of the containers have been rendered harmless, the product and hazard labels must be invalidated. These containers can be returned for recycling to the appropriate centres set up within the framework of the existing takeback scheme of the chemical industry. Containers must be recycled in compliance with national legislation and environmental regulations.

14 Transport information

UN-Number ***ADR, ADN, IMDG, IATA***	Not applicable
UN proper shipping name ***ADR, ADN, IMDG, IATA***	Not applicable
Transport hazard class(es) ***ADR, ADN, IMDG, IATA*** ***Class***	Not applicable
Packing group ***ADR, IMDG, IATA***	Not applicable
Environmental hazards: ***Marine pollutant:***	No
Special precautions for user	Not applicable
Transport in bulk according to Annex II of Marpol and the IBC Code	Not applicable
Transport/Additional information:	Special precautions for user : Not dangerous cargo. Slight smell. Keep dry. Avoid heat above +50 °C. Keep away from foodstuffs, acids and alkalis.

(Contd. on page 12)

Safety data sheet
according to UK REACH

Printing date 13.03.2026 Version number 4.1 Revision: 13.03.2026

Trade name: Hardener for 2K Wood Oil (6633)

(Contd. of page 11)

UN "Model Regulation":	Not applicable

15 Regulatory information

Safety, health and environmental regulations/ legislation specific for the substance or mixture
Poisons Act

No further relevant information available.

Regulated explosives precursors
None of the ingredients is listed.

Regulated poisons
None of the ingredients is listed.

Reportable explosives precursors
None of the ingredients is listed.

Reportable poisons
None of the ingredients is listed.

GHS label elements The substance is classified and labelled according to the Globally Harmonised System (GHS).

Hazard pictograms



GHS07

Signal word Warning

Hazard-determining components of labelling: Hexamethylene diisocyanate, oligomers
hexamethylene-di-isocyanate

Hazard statements
H332 Harmful if inhaled.
H317 May cause an allergic skin reaction.
H335 May cause respiratory irritation.

Precautionary statements
P271 Use only outdoors or in a well-ventilated area.
P280 Wear protective gloves.
P302+P352 IF ON SKIN: Wash with plenty of water.
P333+P313 If skin irritation or rash occurs: Get medical advice/attention.
P405 Store locked up.
P501 Dispose of contents/container in accordance with national regulations.

Chemical safety assessment: A Chemical Safety Assessment has been carried out.

(Contd. on page 13)

Safety data sheet
according to UK REACH

Printing date 13.03.2026 Version number 4.1 Revision: 13.03.2026

Trade name: Hardener for 2K Wood Oil (6633)

(Contd. of page 12)

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.
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.

Recommended restriction of use
The product is used as a hardener in coating materials. Appropriate protective measures are required to deal with coating materials that contain reactive polyisocyanates and residual monomeric HDI (see also this safety data sheet). They may therefore only be used in industrial or professional applications. They are not suitable for use in do-it-yourself applications.

Classification according to Regulation (EC) No 1272/2008
The classification of the mixture is generally based on the calculation method using substance data according to Regulation (EC) No 1272/2008.

Department issuing SDS: product safety department
Contact: Hr. Dr. Starp
Abbreviations and acronyms:
ICAO: International Civil Aviation Organisation
RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)
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
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)
PNEC: Predicted No-Effect Concentration (UK REACH)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
PBT: Persistent, Bioaccumulative and Toxic
vPvB: very Persistent and very Bioaccumulative
ATE: Acute toxicity estimate values
Acute Tox. 4: Acute toxicity – Category 4
Skin Sens. 1: Skin sensitisation – Category 1
STOT SE 3: Specific target organ toxicity (single exposure) – Category 3

Sources
ESIS : European chemical Substances Information System
ECHA Portal
Safety data sheets from raw material suppliers

(Contd. on page 14)

Safety data sheet

according to UK REACH

Printing date 13.03.2026 Version number 4.1 Revision: 13.03.2026

Trade name: **Hardener for 2K Wood Oil (6633)**

(Contd. of page 13)

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

Additions, Deletions, Revisions
Updated according to regulation (EU) 2020/878 amending regulation (EC) No: 1907/2006 (UK REACH)