

**Material Safety Data Sheets**  
according to 1907/2006/EC, Article 31

Printing date 23.05.2018

Version number 2

Revision: 14.05.2018

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

#### 1.1 Product identifier

**Trade name:** 6632 Hardener for Polyx®-Oil Express

#### 1.2 Relevant identified uses of the substance or mixture and uses advised against

Use : Hardener for coating materials or adhesives for industrial and trade applications  
Uses advised against : Not suitable for use in homemaker (DIY) applications.

#### Application of the substance / the mixture

Hardening agent/ Curing agent  
Use only in combination with Osmo Polyx®-Oil Express

#### 1.3 Details of the supplier of the safety data sheet

**Manufacturer/Supplier:** Osmo Holz und Color GmbH & Co. KG  
Affhüppen Esch 12  
D-48231 Warendorf

#### Further information obtainable from:

Product safety department  
Phone: +49 (0) 251 / 692 - 188  
Fax: +49 (0) 251 / 692 - 462  
e-mail: helmut.starp@osmo.de

#### 1.4 Emergency telephone number:

emergency phone no. Berlin (24h): +49 (0) 30 / 30686 790 advisory service in German and English

### SECTION 2: Hazards identification

#### 2.1 Classification of the substance or mixture

##### Classification according to Regulation (EC) No 1272/2008

Flam. Liq. 3 H226 Flammable liquid and vapour.

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 CLP regulation.

##### Hazard pictograms



GHS02 GHS07

##### Signal word

Warning

##### Hazard-determining components of labelling:

Hexamethylene diisocyanate, oligomers

##### Hazard statements

H226 Flammable liquid and vapour.

H332 Harmful if inhaled.

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**Precautionary statements**

H317 May cause an allergic skin reaction.  
 H335 May cause respiratory irritation.  
 P101 If medical advice is needed, have product container or label at hand.  
 P102 Keep out of reach of children.  
 P103 Read label before use.  
 P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.  
 P260 Do not breathe mist/vapours/spray.  
 P271 Use only outdoors or in a well-ventilated area.  
 P280 Wear protective gloves.  
 P302+P352 IF ON SKIN: Wash with plenty of soap and water.  
 P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.  
 P403+P233 Store in a well-ventilated place. Keep container tightly closed.  
 P501 Dispose of contents/container in accordance with national regulations.  
 Observe the general safety regulations when handling chemicals.  
 Always wear a dust mask when sanding.  
 Contains isocyanates. May produce an allergic reaction.

**Additional information:****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 Reg.nr.: 01-2119488934-20	Hexamethylene diisocyanate, oligomers ⚠ Acute Tox. 4, H332; Skin Sens. 1, H317; STOT SE 3, H335	50-100%
CAS: 108-65-6 EINECS: 203-603-9 Index number: 607-195-00-7 Reg.nr.: 01-2119475791-29	2-methoxy-1-methylethyl acetate ⚠ Flam. Liq. 3, H226	10-<25%

**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:** Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.

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<b>After inhalation:</b>	Supply fresh air and to be sure call for a doctor. In case of unconsciousness place patient stably in side position for transportation.
<b>After skin contact:</b>	Immediately wash with water and soap and rinse thoroughly. In case of skin reactions, seek medical advice.
<b>After eye contact:</b>	Rinse opened eye for several minutes under running water. Then consult a doctor.
<b>After swallowing:</b>	Do not induce vomiting; call for medical help immediately.
<b>4.2 Most important symptoms and effects, both acute and delayed</b>	No further relevant information available.
<b>4.3 Indication of any immediate medical attention and special treatment needed</b>	No further relevant information available.

**SECTION 5: Firefighting measures**

**5.1 Extinguishing media**

**Suitable extinguishing agents:** CO<sub>2</sub>, sand, extinguishing powder. Do not use water.

**For safety reasons unsuitable extinguishing agents:** Water with full jet

**5.2 Special hazards arising from the substance or mixture**

During heating or in case of fire poisonous gases are produced.

Carbon monoxide (CO)

Nitrogen oxides (NO<sub>x</sub>)

Isocyanate vapors

(Traces)

Hydrogen cyanide (HCN)

Do not inhale explosion gases or combustion gases.

**5.3 Advice for firefighters**

**Protective equipment:** Wear self-contained respiratory protective device.  
Wear fully protective suit.

**Additional information**

Cool endangered receptacles with water spray.

Dispose of fire debris and contaminated fire fighting water in accordance with official regulations.

**SECTION 6: Accidental release measures**

**6.1 Personal precautions, protective equipment and emergency procedures**

Wear protective equipment. Keep unprotected persons away.

Keep away from ignition sources.

Ensure adequate ventilation

**6.2 Environmental precautions:**

Inform respective authorities in case of seepage into water course or sewage system.

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

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**6.3 Methods and material for containment and cleaning up:**

Ensure adequate ventilation.  
 Remove mechanically; cover remainders with wet, absorbent material (eg. as sawdust, chemical binder based on calcium silicate hydrate, sand). After approx. 1 hour transfer to waste container and do not seal (formation of CO<sub>2</sub>!). 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**

Keep away from heat and direct sunlight.  
 Keep receptacles tightly sealed.  
 Use only in well ventilated areas.  
 Prevent formation of aerosols.  
 Ensure good ventilation/exhaustion at the workplace.  
 When spraying air suction is required. Noted in Chapter 8 airborne concentrations should be monitored. At workplaces where isocyanate aerosols and / or vapors may occur in higher concentrations, must by deliberate air extraction exceeding hygienic workplace limits are prevented. The air must be moved away from the personnel. The personal protective measures described in Chapter 8 must be observed. The precautions required when handling isocyanates must be observed. Avoid contact with skin and eyes and do not breathe vapors.

**Information about fire - and explosion protection:**

Keep ignition sources away - Do not smoke.  
 Protect against electrostatic charges.

**7.2 Conditions for safe storage, including any incompatibilities**

**Storage:**

**Requirements to be met by**

**storerooms and receptacles:**

Store in a cool location.  
 Store only in the original receptacle.

**Information about storage in one common storage facility:**

Do not store together with alkalis (caustic solutions).  
 Do not store together with oxidising and acidic materials.

**Further information about storage conditions:**

Store in cool, dry conditions in well sealed receptacles.

**Storage class:**

3

**7.3 Specific end use(s)**

No further relevant information available.

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**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:**

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

WEL	Short-term value: 548 mg/m <sup>3</sup> , 100 ppm
	Long-term value: 274 mg/m <sup>3</sup> , 50 ppm
	Sk

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

**8.2 Exposure controls**

**Personal protective equipment:**

**General protective and hygienic measures:**

Keep away from foodstuffs, beverages and feed.  
 Do not eat, drink, smoke or sniff while working.  
 Do not carry product impregnated cleaning cloths in trouser pockets.  
 Immediately remove all soiled and contaminated clothing  
 Avoid contact with the eyes and skin.

**Respiratory protection:**

Use suitable respiratory protective device only when aerosol or mist is formed.  
 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.

**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**

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. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.  
 Butyl rubber, BR

**Penetration time of glove material** Recommended thickness of the material:  $\geq 0.5$  mm

The breakthrough time must be at least 480 minutes (Permeation according to EN 374 Part 3: Level 6)  
 The exact break trough time has to be found out by the manufacturer of the protective gloves and has to be observed.

**Not suitable are gloves made of the following materials:**

Nitrile rubber, NBR

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**Eye protection:** Tightly sealed goggles

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**SECTION 9: Physical and chemical properties**

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

**General Information**

**Appearance:**

<b>Form:</b>	Fluid
<b>Colour:</b>	Colourless
<b>Odour:</b>	Mild
<b>Odour threshold:</b>	Not determined.

**pH-value:** Not determined.

**Change in condition**

<b>Melting point/freezing point:</b>	Undetermined.
<b>Initial boiling point and boiling range:</b>	146 °C

**Flash point:** >45 °C (DIN EN ISO 2719)

**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:**

<b>Lower:</b>	1.5 Vol %
<b>Upper:</b>	10.8 Vol %

**Vapour pressure at 20 °C:** 3.4 hPa

**Density at 20 °C:** 0.97-1.15 g/cm<sup>3</sup> (DIN 51757)

**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:**

<b>Dynamic:</b>	Not determined.
<b>Kinematic:</b>	Not determined.

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**Solvent content:**

**VOC (EC)** ~ 150 g/L  
 150 g/l

**9.2 Other information**

No further relevant information available.

**SECTION 10: Stability and reactivity**

**10.1 Reactivity** No further relevant information available.

**10.2 Chemical stability****Thermal decomposition / conditions to be avoided:**

No decomposition if used according to specifications.

**10.3 Possibility of hazardous reactions**

Reacts with alcohols.

Reacts with amines.

**10.4 Conditions to avoid**

No further relevant information available.

**10.5 Incompatible materials:**

No further relevant information available.

**10.6 Hazardous decomposition products:**

No hazardous decomposition products when stored and handled correctly.

**SECTION 11: Toxicological information****11.1 Information on toxicological effects**

**Acute toxicity** Harmful if inhaled.

**LD/LC50 values relevant for classification:****28182-81-2 Hexamethylene diisocyanate, oligomers**

Oral	LD50	>5000 mg/kg (rat)
Inhalative	LC50 / 4h	1.5 mg/l (rat) (OECD- Prüfrichtlinie 403)

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

Oral	LD50	8532 mg/kg (rat)
Dermal	LD50	>5000 mg/kg (rabbit)
Inhalative	LC50 / 4h	35.7 mg/l (rat)

**Primary irritant effect:****Skin corrosion/irritation**

At long or repeated contact with skin it may cause dermatitis due to the degreasing effect of the solvent.

**Serious eye damage/irritation**

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

**Respiratory or skin sensitisation**

May cause an allergic skin reaction.

**Experience with humans:**

Special properties / effects: Over-exposure - especially when spraying isocyanate based varnishes without protective measures - there is a risk of concentration-dependent irritation of eyes, nose, throat and airways. Delayed appearance of the complaints and development of hypersensitivity (difficult breathing, coughing, asthma) are possible. Hypersensitive persons may already be initiated at low isocyanate concentrations, also

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below the TLV value. For prolonged contact with skin, tanning and irritating effects are possible.

**Additional toxicological information:**

**Sensitisation**

May cause an allergic skin reaction.

**CMR effects (carcinogenity, 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 diisocyanate, oligomers**

EC50 / 48h > 100 mg/l (daphnia) (OECD- Prüfrichtlinie 202)

IC50 / 72h 199 mg/l (algae) (OECD- Prüfrichtlinie 201)

LC50 / 96h > 100 mg/l (Brachydanio rerio) (OECD- Prüfrichtlinie 203)

**12.2 Persistence and degradability** No further relevant information available.

**12.3 Bioaccumulative potential** No further relevant information available.

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

**Ecotoxicological effects:**

**Behaviour in sewage processing plants:**

**28182-81-2 Hexamethylene diisocyanate, oligomers**

EC0 / 3h >100 mg/l (daphnia)

EC50 > 10.000 mg/l (activated sludge organism) (OECD Guideline for Testing of Chemicals, No.209)

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

EC50 >1000 mg/l (algae)

>1000 mg/l (activated sludge organism)

>100 mg/l (daphnia)

>100 mg/l (fish)

**Additional ecological information:**

**General notes:**

Water hazard class 1 (German Regulation) (Self-assessment): slightly hazardous for water

**12.5 Results of PBT and vPvB assessment**

**PBT:** Not applicable.

**vPvB:** Not applicable.

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

### SECTION 13: Disposal considerations

#### 13.1 Waste treatment methods

**Recommendation** Must not be disposed together with household garbage. Do not allow product to reach sewage system.

#### Uncleaned packaging:

**Recommendation:** Disposal must be made according to official regulations.

### SECTION 14: Transport information

#### 14.1 UN-Number

**ADR, IMDG, IATA** UN1263

#### 14.2 UN proper shipping name

**ADR** 1263 PAINT  
**IMDG, IATA** PAINT

#### 14.3 Transport hazard class(es)

**ADR**  
**Class** 3 (F1) Flammable liquids.  
**Label** 3

#### IMDG, IATA

**Class** 3 Flammable liquids.  
**Label** 3

#### 14.4 Packing group

**ADR, IMDG, IATA** III

#### 14.5 Environmental hazards:

**Marine pollutant:** No

#### 14.6 Special precautions for user

Warning: Flammable liquids.  
**Danger code (Kemler):** 30  
**EMS Number:** F-E,S-E  
**Stowage Category** A

#### 14.7 Transport in bulk according to Annex II of Marpol and the IBC Code

Not applicable.

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**Transport/Additional information:****ADR****Limited quantities (LQ)**

5L

**Excepted quantities (EQ)**

Code: E1

Maximum net quantity per inner packaging: 30 ml

Maximum net quantity per outer packaging: 1000 ml

**Transport category**

3

**Tunnel restriction code**

D/E

**IMDG****Limited quantities (LQ)**

5L

**Excepted quantities (EQ)**

Code: E1

Maximum net quantity per inner packaging: 30 ml

Maximum net quantity per outer packaging: 1000 ml

**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.

**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

**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.

H317 May cause an allergic skin reaction.

H332 Harmful if inhaled.

H335 May cause respiratory irritation.

**Department issuing SDS:**

product safety department

**Contact:**

Hr. Dr. Starp

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**Abbreviations and acronyms:**

ADR: Accord européen sur le transport 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  
GHS: Globally Harmonised System of Classification and Labelling of Chemicals  
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)  
VOC: Volatile Organic Compounds (USA, EU)  
LC50: Lethal concentration, 50 percent  
LD50: Lethal dose, 50 percent  
PBT: Persistent, Bioaccumulative and Toxic  
vPvB: very Persistent and very Bioaccumulative  
Flam. Liq. 3: Flammable liquids – Category 3  
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

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