LANITZ-PRENA
FOLIEN FACTORY GmbH

Safety Data Sheet

according to Regulation (EC) No 1907/2006

Oracolor® HARDENER FOR SPRAYING

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

1.1. Product identifier

Oracolor® HARDENER FOR SPRAYING

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

Use of the substance/mixture

Curing agent

1.3. Details of the supplier of the safety data sheet

Company name:	Lanitz Prena Folien Factory GmbH	
Street:	Am Ritterschlösschen 20	
Place:	04179 Leipzig	
Contact person:	Frau Ploss / Albrecht	Telephone: +49 - 341 - 44 23 05 - 34
e-mail:	labor@oracover.de	

1.4. Emergency telephone number:

+49 (0)6132-84463 (24 h)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Regulation (EC) No. 1272/2008

Hazard categories:
Flammable liquid: Flam. Liq. 3
Acute toxicity: Acute Tox. 4
Aspiration hazard: Asp. Tox. 1
Skin corrosion/irritation: Skin Irrit. 2
Serious eye damage/eye irritation: Eye Irrit. 2
Respiratory or skin sensitisation: Skin Sens. 1
Specific target organ toxicity - single exposure: STOT SE 3
Specific target organ toxicity - single exposure: STOT SE 3
Specific target organ toxicity - repeated exposure: STOT RE 2
Hazardous to the aquatic environment: Aquatic Chronic 3
Hazard Statements:
Flammable liquid and vapour.
Harmful if inhaled.
May be fatal if swallowed and enters airways.
Causes skin irritation.
Causes serious eye irritation.
May cause an allergic skin reaction.
May cause respiratory irritation.
May cause drowsiness or dizziness.
May cause damage to organs through prolonged or repeated exposure.
Harmful to aquatic life with long lasting effects.

2.2. Label elements

Regulation (EC) No. 1272/2008

Hazard components for labelling

Hexamethylene diisocyanate, homopolymer
n-butyl acetate
low aromatic solvent
xylene

Signal word: Danger

Pictograms:

Hazard statements

H226	Flammable liquid and vapour.
H304	May be fatal if swallowed and enters airways.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H332	Harmful if inhaled.
H335	May cause respiratory irritation.
H336	May cause drowsiness or dizziness.
H373	May cause damage to organs through prolonged or repeated exposure.
H412	Harmful to aquatic life with long lasting effects.

Precautionary statements

P101	If medical advice is needed, have product container or label at hand.
P102	Keep out of reach of children.
P301+P310	IF SWALLOWED: Immediately call a POISON CENTER/doctor.
P331	Do NOT induce vomiting.
P405	Store locked up.
P501	Dispose of waste according to applicable legislation.

Special labelling of certain mixtures

EUH204 Contains isocyanates. May produce an allergic reaction.

Labelling of packages where the contents do not exceed 125 ml

Signal word: Danger

Pictograms:

Hazard statements

H304-H317-H332-H335-H336-H373-H412

Precautionary statements

P101-P102-P301+P310-P331-P405-P501

2.3. Other hazards

No information available.

SECTION 3: Composition/information on ingredients

3.2. Mixtures

Hazardous components

CAS No	Chemical name			Quantity
	EC No	Index No	REACH No	
	GHS Classification			
28182-81-2	Hexamethylene diisocyanate, homopolymer			50 - < 55 %
	500-060-2			
	Acute Tox. 4, Skin Sens. 1, STOT SE 3; H332 H317 H335			
123-86-4	n-butyl acetate			15 - < 20 %
	204-658-1	607-025-00-1	01-2119485493-29	
	Flam. Liq. 3, STOT SE 3; H226 H336 EUH066			
64742-47-8	low aromatic solvent			15 - < 20 %
	265-149-8		01-2119484819-18	
	Skin Irrit. 2, STOT SE 3, Asp. Tox. 1, Aquatic Chronic 2; H315 H336 H304 H411			
1330-20-7	xylene			10 - < 15 %
	215-535-7	601-022-00-9	01-2119488216-32	
	Flam. Liq. 3, Acute Tox. 4, Acute Tox. 4, Skin Irrit. 2, Eye Irrit. 2, STOT SE 3, STOT RE 2, Asp. Tox. 1; H226 H332 H312 H315 H319 H335 H373 H304			
822-06-0	hexamethylene-di-isocyanate			< 1 %
	212-485-8	615-011-00-1	01-2119457571-37	
	Acute Tox. 2, Acute Tox. 4, Skin Irrit. 2, Eye Irrit. 2, Resp. Sens. 1, Skin Sens. 1, STOT SE 3; H330 H302 H315 H319 H334 H317 H335			

Full text of H and EUH statements: see section 16.

SECTION 4: First aid measures

4.1. Description of first aid measures

After inhalation

Provide fresh air. If breathing is irregular or stopped, administer artificial respiration. Medical treatment necessary.

After contact with skin

Wash with plenty of soap and water. Take off immediately all contaminated clothing and wash it before reuse. Medical treatment necessary.

After contact with eyes

After contact with the eyes, rinse with water with the eyelids open for a sufficient length of time, then consult an ophthalmologist immediately. Remove contact lenses, if present and easy to do. Continue rinsing.

After ingestion

Do NOT induce vomiting. Observe risk of aspiration if vomiting occurs. Rinse mouth immediately and drink plenty of water. Medical treatment necessary.

4.2. Most important symptoms and effects, both acute and delayed

No information available.

4.3. Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media

Co-ordinate fire-fighting measures to the fire surroundings.

5.2. Special hazards arising from the substance or mixture

Flammable. Vapours can form explosive mixtures with air. Formation of: Gases/vapours, toxic (Hydrogen cyanide (hydrocyanic acid). Carbon monoxide. Carbon dioxide (CO2).)

5.3. Advice for firefighters

Wear a self-contained breathing apparatus and chemical protective clothing. Full protection suit.

Additional information

Suppress gases/vapours/mists with water spray jet. Collect contaminated fire extinguishing water separately. Do not allow entering drains or surface water.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Remove all sources of ignition. Provide adequate ventilation. Do not breathe gas/fumes/vapour/spray. Avoid contact with skin, eyes and clothes. Use personal protection equipment.

6.2. Environmental precautions

Do not allow uncontrolled discharge of product into the environment. Danger of explosion

6.3. Methods and material for containment and cleaning up

Absorb with liquid-binding material (e.g. sand, diatomaceous earth, acid- or universal binding agents). Treat the recovered material as prescribed in the section on waste disposal.

6.4. Reference to other sections

Safe handling: see section 7
Personal protection equipment: see section 8
Disposal: see section 13

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Advice on safe handling

If handled uncovered, arrangements with local exhaust ventilation have to be used. Do not breathe gas/fumes/vapour/spray.

Advice on protection against fire and explosion

Keep away from sources of ignition - No smoking. Take precautionary measures against static discharges. Vapours can form explosive mixtures with air.

7.2. Conditions for safe storage, including any incompatibilities

Requirements for storage rooms and vessels

Keep container tightly closed. Keep locked up. Provide adequate ventilation as well as local exhaustion at critical locations.

Hints on joint storage

Do not store together with: Oxidizing agent. Pyrophoric or self-heating substances.

7.3. Specific end use(s)

Curing agent

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Exposure limits (EH40)

CAS No	Substance	ppm	mg/m³	fibres/ml	Category	Origin
123-86-4	Butyl acetate	150	724		TWA (8 h)	WEL
		200	966		STEL (15 min)	WEL
-	Isocyanates, all (as -NCO) Except methyl isocyanate	-	0.02		TWA (8 h)	WEL
		-	0.07		STEL (15 min)	WEL
1330-20-7	Xylene: mixed isomers	50	220		TWA (8 h)	WEL
		100	441		STEL (15 min)	WEL

Biological Monitoring Guidance Values (EH40)

CAS No	Substance	Parameter	Value	Test material	Sampling time
1330-20-7	Xylene, o-, m-, p- or mixed isomers	methyl hippuric acid (creatinine)	650 mmol/mol	urine	Post shift

DNEL/DMEL values

CAS No	Substance			
DNEL type		Exposure route	Effect	Value
28182-81-2	Hexamethylene diisocyanate, homopolymer			
,				
123-86-4	n-butyl acetate			
Worker DNEL, acute		inhalation	systemic	960 mg/m³
Worker DNEL, acute		inhalation	local	960 mg/m³
Worker DNEL, long-term		inhalation	systemic	480 mg/m³
Worker DNEL, long-term		inhalation	local	480 mg/m³
1330-20-7	xylene			
Worker DNEL, acute		inhalation	systemic	289 mg/m³
Worker DNEL, acute		inhalation	local	289 mg/m³
Worker DNEL, long-term		dermal	systemic	180 mg/kg bw/day
Worker DNEL, long-term		inhalation	systemic	77 mg/m³

PNEC values

CAS No	Substance	
Environmental compartment		Value
123-86-4	n-butyl acetate	
Freshwater		0,18 mg/l
Marine water		0,018 mg/l
Freshwater sediment		0,981 mg/kg
Marine sediment		0,0981 mg/kg
Micro-organisms in sewage treatment plants (STP)		35,6 mg/l
Soil		0,0903 mg/kg
1330-20-7	xylene	
Freshwater		0,327 mg/l
Marine water		0,327 mg/l
Freshwater sediment		12,46 mg/kg
Marine sediment		12,46 mg/kg
Micro-organisms in sewage treatment plants (STP)		6,58 mg/l
Soil		2,31 mg/kg

8.2. Exposure controls



Appropriate engineering controls

Provide adequate ventilation. Do not breathe gas/fumes/vapour/spray.

Protective and hygiene measures

Remove contaminated, saturated clothing immediately. Draw up and observe skin protection programme. Wash hands and face before breaks and after work and take a shower if necessary . When using do not eat or drink.

Eye/face protection

Tightly sealed safety glasses.

Hand protection

Wear suitable gloves. When handling with chemical substances, protective gloves must be worn with the CE-label including the four control digits. The quality of the protective gloves resistant to chemicals must be chosen as a function of the specific working place concentration and quantity of hazardous substances. For special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves.

Skin protection

Wear suitable protective clothing.

Respiratory protection

In case of inadequate ventilation wear respiratory protection.

Environmental exposure controls

Avoid release to the environment.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state:	Liquid
Colour:	No information available.
Odour:	No information available.
pH-Value:	not determined

Changes in the physical state

Melting point:	not determined
Initial boiling point and boiling range:	not determined
Flash point:	(Xylene) 24-30 °C

Flammability

Solid:	not applicable
Gas:	not applicable

Explosive properties

Vapours can form explosive mixtures with air.

Lower explosion limits:	not determined
Upper explosion limits:	not determined
Ignition temperature:	not determined

Auto-ignition temperature

Solid:	not applicable
Gas:	not applicable
Decomposition temperature:	not determined

Oxidizing properties

Not oxidising.

Vapour pressure:	not determined
Density:	1,02 g/cm³
Water solubility:	practically insoluble

Solubility in other solvents

not determined

Partition coefficient:	not determined
Viscosity / dynamic:	not determined
Viscosity / kinematic:	not determined
Flow time:	(4 mm) 20 s
Vapour density:	not determined
Evaporation rate:	not determined

9.2. Other information

Solid content:	52,2 %

Odour threshold: not determined

SECTION 10: Stability and reactivity

10.1. Reactivity

Ignition hazard.

10.2. Chemical stability

Danger of polymerisation.

10.3. Possibility of hazardous reactions

Polymerization with heat evolution may occur in the presence of radical forming substances (e.g. peroxides), reducing substances, and/or heavy metal ions.

10.4. Conditions to avoid

Risk of explosion by shock, friction, fire or other sources of ignition. Remove all sources of ignition. Keep away from heat. Ignition hazard.

10.5. Incompatible materials

Keep away from: Protect against: Contact with air/oxygen.
Radical former, Peroxides, Reducing agent.

10.6. Hazardous decomposition products

Hydrogen cyanide (hydrocyanic acid). Carbon monoxide. Carbon dioxide (CO_2).

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Toxicocinetics, metabolism and distribution

Hexamethylene diisocyanate, homopolymer
Acute inhalation toxicity (dust/mist): ATE 1,5 mg/l Data obtained by expert judgement.

Acute toxicity

Harmful if inhaled.

ATEmix calculated

ATE (inhalation vapour) 16,87 mg/l; ATE (inhalation aerosol) 2,301 mg/l

CAS No	Chemical name				
	Exposure route	Dose	Species	Source	Method
28182-81-2	Hexamethylene diisocyanate, homopolymer				
	oral	LD50 > 5000 mg/kg	Rat	Manufacturer	
	inhalation vapour	ATE 11 mg/l			
	inhalation aerosol	ATE 1,5 mg/l			
123-86-4	n-butyl acetate				
	oral	LD50 10760 mg/kg	Rat	Manufacturer	
	dermal	LD50 > 14112 mg/kg	Rabbit	Manufacturer	
64742-47-8	low aromatic solvent				
	oral	LD50 > 5000 mg/kg	Rat	Manufacturer	
	dermal	LD50 > 5000 mg/kg	Rabbit	Manufacturer	
1330-20-7	xylene				
	oral	LD50 4300 mg/kg	Rat	Manufacturer	
	dermal	LD50 1700 mg/kg	Rabbit	Manufacturer	
	inhalation vapour	ATE 11 mg/l			
	inhalation aerosol	ATE 1,5 mg/l			
822-06-0	hexamethylene-di-isocyanate				
	oral	ATE 500 mg/kg			
	dermal	LD50 > 7000 mg/kg	Rat	OECD 402	
	inhalation vapour	ATE 0,5 mg/l			
	inhalation aerosol	ATE 0,05 mg/l			

Irritation and corrosivity

Causes skin irritation.
Causes serious eye irritation.

Sensitising effects

Contains isocyanates. May produce an allergic reaction.May cause an allergic skin reaction. (Hexamethylene diisocyanate, homopolymer; hexamethylene-di-isocyanate)

Carcinogenic/mutagenic/toxic effects for reproduction

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

STOT-single exposure

May cause respiratory irritation. (Hexamethylene diisocyanate, homopolymer)
May cause drowsiness or dizziness.

STOT-repeated exposure

May cause damage to organs through prolonged or repeated exposure. (xylene)

Aspiration hazard

May be fatal if swallowed and enters airways. (low aromatic solvent; xylene)

SECTION 12: Ecological information

12.1. Toxicity

Harmful to aquatic life with long lasting effects.

CAS No	Chemical name						
	Aquatic toxicity	Dose		[h] | [d]	Species	Source	Method
28182-81-2	Hexamethylene diisocyanate, homopolymer						
	Acute fish toxicity	LC50 mg/l	> 100	96 h	Brachydanio rerio (zebra-fish)	Manufacturer	
	Acute algae toxicity	ErC50 mg/l	> 100	72 h	Scenedesmus subspicatus	Manufacturer	
	Acute crustacea toxicity	EC50 mg/l	> 100	48 h	Daphnia magna (Big water flea)	Manufacturer	
	Acute bacteria toxicity	(> 100 mg/l)		3 h	Activated sludge	Manufacturer	
123-86-4	n-butyl acetate						
	Acute algae toxicity	ErC50	648 mg/l	72 h	Algae	Manufacturer	
64742-47-8	low aromatic solvent						
	Fish toxicity	NOEC	2 mg/l	4 d	Salmo gairdneri	Manufacturer	
1330-20-7	xylene						
	Acute fish toxicity	LC50	2,6 mg/l	96 h	Oncorhynchus mykiss (Rainbow trout)	Manufacturer	
822-06-0	hexamethylene-di-isocyanate						
	Acute algae toxicity	ErC50 mg/l	> 77.4	72 h	Desmodesmus subspicatus	EU Method C.3	
	Algea toxicity	NOEC	11.7 mg/l	3 d	Desmodesmus subspicatus	EU Method C.3	

12.2. Persistence and degradability

The product has not been tested.

CAS No	Chemical name			
	Method	Value	d	Source
	Evaluation			
28182-81-2	Hexamethylene diisocyanate, homopolymer			
	67/548/EWG, Annex V, C.4.E.	1%	28	Manufacturer
	Not readily biodegradable (according to OECD criteria)			
123-86-4	n-butyl acetate			
	Abiotic degradation	83 %	28	Manufacturer
	Readily biodegradable (according to OECD criteria).			
822-06-0	hexamethylene-di-isocyanate			
	OECD Guideline 301 F	42 %	28	IUCLID
	Not readily biodegradable (according to OECD criteria)			

12.3. Bioaccumulative potential

The product has not been tested.

Partition coefficient n-octanol/water

CAS No	Chemical name	Log Pow
123-86-4	n-butyl acetate	2,3
1330-20-7	xylene	3,16

BCF

CAS No	Chemical name	BCF	Species	Source
28182-81-2	Hexamethylene diisocyanate, homopolymer	367,7		Manufacturer
1330-20-7	xylene	< 12,2		Manufacturer
822-06-0	hexamethylene-di-isocyanate	57,63		

12.4. Mobility in soil

The product has not been tested.

12.5. Results of PBT and vPvB assessment

The product has not been tested.

12.6. Other adverse effects

No information available.

Further information

Do not allow to enter into surface water or drains. Do not allow to enter into soil/subsoil.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Advice on disposal

Do not allow to enter into surface water or drains. Dispose of waste according to applicable legislation.

Contaminated packaging

Wash with plenty of water. Completely emptied packages can be recycled.

SECTION 14: Transport information

Land transport (ADR/RID)

14.1. UN number:	UN 1263
14.2. UN proper shipping name:	Paint related material
14.3. Transport hazard class(es):	3
14.4. Packing group:	III
Hazard label:	3

Classification code:	F1
Special Provisions:	163 367 650
Limited quantity:	5 L
Excepted quantity:	E1
Transport category:	3
Hazard No:	30
Tunnel restriction code:	D/E

Inland waterways transport (ADN)

14.1. UN number:	UN 1263
14.2. UN proper shipping name:	Paint related material
14.3. Transport hazard class(es):	3
14.4. Packing group:	III
Hazard label:	3

Classification code:	F1
Special Provisions:	163 367 650
Limited quantity:	5 L
Excepted quantity:	E1

Marine transport (IMDG)

14.1. UN number:	UN 1263
14.2. UN proper shipping name:	Paint related material
14.3. Transport hazard class(es):	3
14.4. Packing group:	III
Hazard label:	3

Special Provisions:	163, 223, 367, 955
Limited quantity:	5 L
Excepted quantity:	E1
EmS:	F-E, S-E

Air transport (ICAO-TI/IATA-DGR)

14.1. UN number:	UN 1263
14.2. UN proper shipping name:	Paint related material
14.3. Transport hazard class(es):	3
14.4. Packing group:	III
Hazard label:	3

Special Provisions:	A3 A72 A192
Limited quantity Passenger:	10 L
Passenger LQ:	Y344
Excepted quantity:	E1
IATA-packing instructions - Passenger:	355
IATA-max. quantity - Passenger:	60 L
IATA-packing instructions - Cargo:	366
IATA-max. quantity - Cargo:	220 L

14.5. Environmental hazards

ENVIRONMENTALLY HAZARDOUS: no

14.6. Special precautions for user

No information available.

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

not applicable

SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

EU regulatory information

Restrictions on use (REACH, annex XVII):

Entry 3: Hexamethylene diisocyanate, homopolymer; n-butyl acetate; xylene; hexamethylene-di-isocyanate
Entry 40: n-butyl acetate; xylene

2010/75/EU (VOC):	< 35 %
2004/42/EC (VOC):	< 85 %
Information according to 2012/18/EU (SEVESO III):	P5c FLAMMABLE LIQUIDS

National regulatory information

Employment restrictions:	Observe restrictions to employment for juvenils according to the 'juvenile work protection guideline' (94/33/EC). Observe employment restrictions under the Maternity Protection Directive (92/85/EEC) for expectant or nursing mothers.
Water contaminating class (D):	2 - clearly water contaminating

15.2. Chemical safety assessment

Chemical safety assessments for substances in this mixture were not carried out.

SECTION 16: Other information

Changes

This data sheet contains changes from the previous version in section(s): 1,2,3,4,5,6,7,8,9,10,11,12,14,15.

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 Harmonized 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
LC50: Lethal concentration, 50%
LD50: Lethal dose, 50%

Classification for mixtures and used evaluation method according to Regulation (EC) No. 1272/2008 [CLP]

Classification	Classification procedure
Flam. Liq. 3; H226	On basis of test data
Acute Tox. 4; H332	Calculation method
Asp. Tox. 1; H304	Calculation method
Skin Irrit. 2; H315	Calculation method
Eye Irrit. 2; H319	Calculation method
Skin Sens. 1; H317	Calculation method
STOT SE 3; H335	Calculation method
STOT SE 3; H336	Calculation method
STOT RE 2; H373	Calculation method
Aquatic Chronic 3; H412	Calculation method

Relevant H and EUH statements (number and full text)

H226	Flammable liquid and vapour.
H302	Harmful if swallowed.
H304	May be fatal if swallowed and enters airways.
H312	Harmful in contact with skin.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.

H319	Causes serious eye irritation.
H330	Fatal 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.
H373	May cause damage to organs through prolonged or repeated exposure.
H411	Toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.
EUH066	Repeated exposure may cause skin dryness or cracking.
EUH204	Contains isocyanates. May produce an allergic reaction.

Further Information

The information is based on present level of our knowledge. It does not, however, give assurances of product properties and establishes no contract legal rights. The receiver of our product is singulary responsible for adhering to existing laws and regulations.

(The data for the hazardous ingredients were taken respectively from the last version of the sub-contractor's safety data sheet.)