

Safety Data Sheet

According to Annex II to REACH - Regulation 2015/830

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

1.1. Product identifier

Code: **946**
Product name: **EASY-LAST 90 NF**

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

Intended use: **LIQUID WATERPROOFING MEMBRANE.**

1.3. Details of the supplier of the safety data sheet

Name: **NORD RESINE S.p.A.**
Full address: **Via Fornace Vecchia, 79**
District and Country: **31058 Susegana (TV) Italia**
Tel.: **+39 0438-437511**
Fax: **+39 0438-435155**

e-mail address of the competent person responsible for the Safety Data Sheet: **annabreda@nordresine.com**

Product distribution by: **NORD RESINE S.p.A.**

1.4. Emergency telephone number

For urgent inquiries refer to: **+39 0438 437511**

SECTION 2. Hazards identification

2.1. Classification of the substance or mixture

The product is classified as hazardous pursuant to the provisions set forth in (EC) Regulation 1272/2008 (CLP) (and subsequent amendments and supplements). The product thus requires a safety datasheet that complies with the provisions of (EU) Regulation 2015/830.

Any additional information concerning the risks for health and/or the environment are given in sections 11 and 12 of this sheet.

Hazard classification and indication:

Flammable liquid, category 3	H226	Flammable liquid and vapour.
Respiratory sensitization, category 1	H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
Skin sensitization, category 1A	H317	May cause an allergic skin reaction.

2.2. Label elements

Hazard labelling pursuant to EC Regulation 1272/2008 (CLP) and subsequent amendments and supplements.

Hazard pictograms:



Signal words: **Danger**

Hazard statements:

H226	Flammable liquid and vapour.
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H317	May cause an allergic skin reaction.
EUH204	Contains isocyanates. May produce an allergic reaction.
EUH208	Contains: TOSYL ISOCYANATE

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SECTION 2. Hazards identification ... / >>

DIPHENYLMETHANE-4,4'-DIISOCYANATE
2 4'-METHYLENEBIS(PHENYL ISOCYANATE)

May produce an allergic reaction.

Precautionary statements:

- P210** Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
- P261** Avoid breathing dust / fume / gas / mist / vapours / spray.
- P280** Wear protective gloves/ protective clothing / eye protection / face protection.
- P304+P340** IF INHALED: remove person to fresh air and keep comfortable for breathing.
- P342+P311** If experiencing respiratory symptoms: call a POISON CENTER / doctor.
- P370+P378** In case of fire: use carbon anhydride, foam, nebulized water to extinguish.

Contains:

DIPHENYLMETHANE-4,4'-DIISOCYANATE
1,2-PROPANEDIOL, ETHYLENE OXIDE, PROPYLENE OXIDE, 4,4-DIPHENYLMETHANEDIISOCYANATE,
2,4-DIPHENYLMETHANE DIISOCYANATE POLYMER
2 4'-METHYLENEBIS(PHENYL ISOCYANATE)
1,6-hexanediyil-bis (2- (2- (1-ethylpentyl) -3-oxazolidinyl) ethyl) carbamate
Reaction mass of Bis (1,2,2,6,6 - pentamethyl - 4-piperidyl) sebacate and Methyl
1,2,2,6,6-pentamethyl-4-piperidyl sebacate

VOC (Directive 2004/42/EC) :

One-pack performance coatings.

VOC given in g/litre of product in a ready-to-use condition : 104,71
Limit value: 500,00

2.3. Other hazards

On the basis of available data, the product does not contain any PBT or vPvB in percentage greater than 0,1%.

SECTION 3. Composition/information on ingredients

3.1. Substances

Information not relevant

3.2. Mixtures

Contains:

Identification	x = Conc. %	Classification 1272/2008 (CLP)
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2-METHOXY-1-METHYLETHYL ACETATE

CAS	108-65-6	5 ≤ x < 9	Flam. Liq. 3 H226, STOT SE 3 H336
EC	203-603-9		
INDEX	607-195-00-7		
Reg. no.	01-2119475791-29		

1,2-PROPANEDIOL, ETHYLENE OXIDE, PROPYLENE OXIDE, 4,4-DIPHENYLMETHANEDIISOCYANATE, 2,4-DIPHENYLMETHANE DIISOCYANATE POLYMER

CAS	72088-97-2	1 ≤ x < 5	Acute Tox. 4 H332, STOT RE 2 H373, Eye Irrit. 2 H319, Skin Irrit. 2 H315, Resp. Sens. 1 H334, Skin Sens. 1 H317
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EC
INDEX

1,6-hexanediyil-bis (2- (2- (1-ethylpentyl) -3-oxazolidinyl) ethyl) carbamate

CAS	140921-24-0	1 ≤ x < 5	Skin Sens. 1 H317
EC	411-700-4		
INDEX	616-079-00-5		
Reg. no.	01-0000015906-63		

2 4'-METHYLENEBIS(PHENYL ISOCYANATE)

CAS	5873-54-1	0,1 ≤ x < 1	Carc. 2 H351, Acute Tox. 4 H332, STOT RE 2 H373, Eye Irrit. 2 H319, Skin Irrit. 2 H315 , STOT SE 3 H335, Resp. Sens. 1 H334, Skin Sens. 1 H317
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EC 227-534-9
INDEX 615-005-00-9
Reg. no. 01-2119480143-45

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SECTION 3. Composition/information on ingredients ... / >>**DIPHENYLMETHANE-4,4'-DIISOCYANATE**

CAS 101-68-8 0,1 ≤ x < 1

Carc. 2 H351, Acute Tox. 4 H332, STOT RE 2 H373, Eye Irrit. 2 H319, Skin Irrit. 2 H315, STOT SE 3 H335, Resp. Sens. 1 H334, Skin Sens. 1 H317,
Classification note according to Annex VI to the CLP Regulation: 2 C

EC 202-966-0

INDEX 615-005-00-9

Reg. no. 01-2119457014-47

Reaction mass of Bis (1,2,2,6,6 - pentamethyl - 4-piperidyl) sebacate and Methyl 1,2,2,6,6-pentamethyl-4-piperidyl sebacate

CAS 1065336-91-50,1 ≤ x < 0,25

Skin Sens. 1A H317, Aquatic Acute 1 H400 M=1, Aquatic Chronic 1 H410 M=1

EC 915-687-0

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Reg. no. 01-2119491304-40

TOSYL ISOCYANATE

CAS 4083-64-1 0 ≤ x < 1

Eye Irrit. 2 H319, Skin Irrit. 2 H315, STOT SE 3 H335, Resp. Sens. 1 H334, EUH014

EC 223-810-8

INDEX 615-012-00-7

Reg. no. 01-2119980050-47

CHLOROENZENE

CAS 108-90-7 0 ≤ x < 1

Flam. Liq. 3 H226, Acute Tox. 4 H332, Skin Irrit. 2 H315, Aquatic Chronic 2 H411

EC 203-628-5

INDEX 602-033-00-1

The full wording of hazard (H) phrases is given in section 16 of the sheet.

SECTION 4. First aid measures**4.1. Description of first aid measures**

EYES: Remove contact lenses, if present. Wash immediately with plenty of water for at least 30-60 minutes, opening the eyelids fully. Get medical advice/attention.

SKIN: Remove contaminated clothing. Rinse skin with a shower immediately. Get medical advice/attention.

INGESTION: Have the subject drink as much water as possible. Get medical advice/attention. Do not induce vomiting unless explicitly authorised by a doctor.

INHALATION: Get medical advice/attention immediately. Remove victim to fresh air, away from the accident scene. If the subject stops breathing, administer artificial respiration. Take suitable precautions for rescue workers.

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

Specific information on symptoms and effects caused by the product are unknown.

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

Information not available

SECTION 5. Firefighting measures**5.1. Extinguishing media**

SUITABLE EXTINGUISHING EQUIPMENT

Extinguishing substances are: carbon dioxide, foam, chemical powder. For product loss or leakage that has not caught fire, water spray can be used to disperse flammable vapours and protect those trying to stem the leak.

UNSUITABLE EXTINGUISHING EQUIPMENT

Do not use jets of water. Water is not effective for putting out fires but can be used to cool containers exposed to flames to prevent explosions.

5.2. Special hazards arising from the substance or mixture

HAZARDS CAUSED BY EXPOSURE IN THE EVENT OF FIRE

Excess pressure may form in containers exposed to fire at a risk of explosion. Do not breathe combustion products.

5.3. Advice for firefighters

GENERAL INFORMATION

Use jets of water to cool the containers to prevent product decomposition and the development of substances potentially hazardous for health. Always wear full fire prevention gear. Collect extinguishing water to prevent it from draining into the sewer system. Dispose of contaminated water used for extinction and the remains of the fire according to applicable regulations.

SPECIAL PROTECTIVE EQUIPMENT FOR FIRE-FIGHTERS

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Normal fire fighting clothing i.e. fire kit (BS EN 469), gloves (BS EN 659) and boots (HO specification A29 and A30) in combination with self-contained open circuit positive pressure compressed air breathing apparatus (BS EN 137).

SECTION 6. Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Block the leakage if there is no hazard.

Wear suitable protective equipment (including personal protective equipment referred to under Section 8 of the safety data sheet) to prevent any contamination of skin, eyes and personal clothing. These indications apply for both processing staff and those involved in emergency procedures.

Send away individuals who are not suitably equipped. Eliminate all sources of ignition (cigarettes, flames, sparks, etc.) from the leakage site.

6.2. Environmental precautions

The product must not penetrate into the sewer system or come into contact with surface water or ground water.

6.3. Methods and material for containment and cleaning up

Collect the leaked product into a suitable container. If the product is flammable, use explosion-proof equipment. Evaluate the compatibility of the container to be used, by checking section 10. Absorb the remainder with inert absorbent material.

Make sure the leakage site is well aired. Contaminated material should be disposed of in compliance with the provisions set forth in point 13.

6.4. Reference to other sections

Any information on personal protection and disposal is given in sections 8 and 13.

SECTION 7. Handling and storage

7.1. Precautions for safe handling

Ensure that there is an adequate earthing system for the equipment and personnel. Avoid contact with eyes and skin. Do not breathe powders, vapours or mists. Do not eat, drink or smoke during use. Wash hands after use. Avoid leakage of the product into the environment.

Keep away from heat, sparks and naked flames; do not smoke or use matches or lighters. Without adequate ventilation, vapours may accumulate at ground level and, if ignited, catch fire even at a distance, with the danger of backfire. Avoid bunching of electrostatic charges. In order to avoid the risk of fires and explosions, never use compressed air when handling. Open containers with caution as they may be pressurised.

7.2. Conditions for safe storage, including any incompatibilities

Store only in the original container. Store in a ventilated and dry place, far away from sources of ignition. Keep containers well sealed. Keep the product in clearly labelled containers. Avoid overheating. Avoid violent blows. Keep containers away from any incompatible materials, see section 10 for details.

Store in a well ventilated place, keep far away from sources of heat, naked flames and sparks and other sources of ignition.

7.3. Specific end use(s)

Information not available

SECTION 8. Exposure controls/personal protection

8.1. Control parameters

Regulatory References:

CZE	Česká Republika	Nářzení vlády č. 361/2007 Sb. kterým se stanoví podmínky ochrany zdraví při práci
DEU	Deutschland	TRGS 900 (Fassung 4.11.2016) - Liste der Arbeitsplatzgrenzwerte und Kurzzeitwerte
ESP	España	INSHT - Límites de exposición profesional para agentes químicos en España 2017
FRA	France	JORF n°0109 du 10 mai 2012 page 8773 texte n° 102
GBR	United Kingdom	EH40/2005 Workplace exposure limits
GRC	Ελλάδα	ΕΦΗΜΕΡΙΣ ΤΗΣ ΚΥΒΕΡΝΗΣΕΩΣ - ΤΕΥΧΟΣ ΠΡΩΤΟ Αρ. Φύλλου 19 - 9 Φεβρουαρίου 2012

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SECTION 8. Exposure controls/personal protection ... / >>

ITA	Italia	Decreto Legislativo 9 Aprile 2008, n.81
NLD	Nederland	Databank of the social and Economic Council of Netherlands (SER) Values, AF 2011:18
POL	Polska	ROZPORZĄDZENIE MINISTRA PRACY I POLITYKI SPOŁECZNEJ z dnia 7 czerwca 2017 r
PRT	Portugal	Ministério da Economia e do Emprego Consolida as prescrições mínimas em matéria de proteção dos trabalhadores contra os riscos para a segurança e a saúde devido à exposição a agentes químicos no trabalho - Diário da República I 26; 2012-02-06
ROU	România	Monitorul Oficial al României 44; 2012-01-19
SVN	Slovenija	Uradni list Republike Slovenije 04.06.2015 (1602) - Pravilnik o spremembah in dopolnitvah Pravilnika o varovanju delavcev pred tveganji zaradi izpostavljenosti kemičnim snovem pri delu
EU	OEL EU	Directive (EU) 2017/2398; Directive (EU) 2017/164; Directive 2009/161/EU; Directive 2006/15/EC; Directive 2004/37/EC; Directive 2000/39/EC; Directive 91/322/EEC.
	TLV-ACGIH	ACGIH 2017

2-METHOXY-1-METHYLETHYL ACETATE

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		
		mg/m3	ppm	mg/m3	ppm	
TLV	CZE	270		550		SKIN
AGW	DEU	270	50	270	50	
MAK	DEU	270	50	270	50	
VLA	ESP	275	50	550	100	SKIN
VLEP	FRA	275	50	550	100	SKIN
WEL	GBR	274	50	548	100	
TLV	GRC	275	50	550	100	
VLEP	ITA	275	50	550	100	SKIN
OEL	NLD	550				
NDS	POL	260		520		
VLE	PRT	275	50	550	100	SKIN
TLV	ROU	275	50	550	100	SKIN
MV	SVN	275	50	550	100	SKIN
OEL	EU	275	50	550	100	SKIN

Predicted no-effect concentration - PNEC

Normal value in fresh water	0,635	mg/l
Normal value in marine water	0,0635	mg/l
Normal value for fresh water sediment	3,29	mg/kg
Normal value for marine water sediment	0,329	mg/kg
Normal value for water, intermittent release	6,35	mg/l
Normal value of STP microorganisms	100	mg/l
Normal value for the terrestrial compartment	0,29	mg/kg

Health - Derived no-effect level - DNEL / DMEL

Route of exposure	Effects on consumers				Effects on workers			
	Acute local	Acute systemic	Chronic local	Chronic systemic	Acute local	Acute systemic	Chronic local	Chronic systemic
Oral				1,67 mg/kg/d				
Inhalation				33 mg/m3				275 mg/m3
Skin				54,8 mg/kg/d				153,5 mg/kg/d

2 4'-METHYLENEBIS(PHENYL ISOCYANATE)

Predicted no-effect concentration - PNEC

Normal value in fresh water	1	mg/l
Normal value in marine water	0,1	mg/l
Normal value of STP microorganisms	1	mg/l

Health - Derived no-effect level - DNEL / DMEL

Route of exposure	Effects on consumers				Effects on workers			
	Acute local	Acute systemic	Chronic local	Chronic systemic	Acute local	Acute systemic	Chronic local	Chronic systemic
Oral		VND 20 mg/kg/d						
Inhalation	0,05 mg/m3	0,05 mg/m3	0,025 mg/m3	0,025 mg/m3	0,1 mg/m3	0,1 mg/m3	0,05 mg/m3	0,05 mg/m3
Skin	17,2 mg/kg/d	25 mg/kg/d			VND	50 mg/kg/d		

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SECTION 8. Exposure controls/personal protection ... / >>

DIPHENYLMETHANE-4,4'-DIISOCYANATE

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		
		mg/m3	ppm	mg/m3	ppm	
TLV	CZE	0,05		0,1		
MAK	DEU	0,05		0,05		SKIN
MAK	DEU	0,05		0,05		INHAL
VLA	ESP	0,052	0,005			
VLEP	FRA	0,1	0,01	0,2	0,02	
TLV	GRC	0,2		0,2		
NDS	POL	0,03		0,09		
MV	SVN	0,05		0,05		
TLV-ACGIH		0,051	0,005			

Predicted no-effect concentration - PNEC

Normal value in fresh water	1	mg/l
Normal value in marine water	0,1	mg/l

Health - Derived no-effect level - DNEL / DMEL

Route of exposure	Effects on consumers				Effects on workers			
	Acute local	Acute systemic	Chronic local	Chronic systemic	Acute local	Acute systemic	Chronic local	Chronic systemic
Oral	VND	20 mg/kg bw/d						
Inhalation	0,05 mg/m3	0,05 mg/m3	0,025 mg/m3	0,025 mg/m3	0,1 mg/m3	0,1 mg/m3	0,05 mg/m3	0,05 mg/m3
Skin	17,2 mg/cm2	25 mg/kg bw/d			28,7 mg/kg/d	50 mg/kg/d		

Reaction mass of Bis (1,2,2,6,6 - pentamethyl - 4-piperidyl) sebacate and Methyl 1,2,2,6,6-pentamethyl-4-piperidyl sebacate

Predicted no-effect concentration - PNEC

Normal value in fresh water	0,0022	mg/l
Normal value in marine water	0,00022	mg/l
Normal value for fresh water sediment	1,05	mg/kg
Normal value for marine water sediment	0,11	mg/kg
Normal value for water, intermittent release	0,009	mg/l
Normal value of STP microorganisms	1	mg/l
Normal value for the terrestrial compartment	0,21	mg/kg

Health - Derived no-effect level - DNEL / DMEL

Route of exposure	Effects on consumers				Effects on workers			
	Acute local	Acute systemic	Chronic local	Chronic systemic	Acute local	Acute systemic	Chronic local	Chronic systemic
Oral	VND	1,25 mg/kg	VND	1,25 mg/kg				
Inhalation	VND	0,58 mg/m3	VND	0,58 mg/m3	VND	2,35 mg/m3	VND	2,35 mg/m3
Skin	VND	1,25 mg/kg	VND	1,25 mg/kg	VND	2,5 mg/kg	VND	2,5 mg/kg

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SECTION 8. Exposure controls/personal protection ... / >>

CHLOROBENZENE					
Threshold Limit Value					
Type	Country	TWA/8h		STEL/15min	
		mg/m3	ppm	mg/m3	ppm
TLV	CZE	25		70	
AGW	DEU	47	10	94	20
MAK	DEU	47	10	94	20
VLA	ESP	23	5	70	15
VLEP	FRA	23	5	70	15
WEL	GBR	4,7	1	14	3
TLV	GRC	23	5	70	15
VLEP	ITA	23	5	70	15
OEL	NLD	23		70	
NDS	POL	23		70	
VLE	PRT	23	5	70	15
TLV	ROU	23	5	70	15
MV	SVN	23	5	69	15
OEL	EU	23	5	70	15
TLV-ACGIH		46	10		

Legend:

(C) = CEILING ; INHAL = Inhalable Fraction ; RESP = Respirable Fraction ; THORA = Thoracic Fraction.
VND = hazard identified but no DNEL/PNEC available ; NEA = no exposure expected ; NPI = no hazard identified.

8.2. Exposure controls

As the use of adequate technical equipment must always take priority over personal protective equipment, make sure that the workplace is well aired through effective local aspiration.

When choosing personal protective equipment, ask your chemical substance supplier for advice.

Personal protective equipment must be CE marked, showing that it complies with applicable standards.

Provide an emergency shower with face and eye wash station.

HAND PROTECTION

Protect hands with category III work gloves (see standard EN 374).

The following should be considered when choosing work glove material: compatibility, degradation, failure time and permeability.

The work gloves' resistance to chemical agents should be checked before use, as it can be unpredictable. The gloves' wear time depends on the duration and type of use.

SKIN PROTECTION

Wear category II professional long-sleeved overalls and safety footwear (see Directive 89/686/EEC and standard EN ISO 20344). Wash body with soap and water after removing protective clothing.

Consider the appropriateness of providing antistatic clothing in the case of working environments in which there is a risk of explosion.

EYE PROTECTION

Wear airtight protective goggles (see standard EN 166).

RESPIRATORY PROTECTION

If the threshold value (e.g. TLV-TWA) is exceeded for the substance or one of the substances present in the product, use a mask with a type A filter whose class (1, 2 or 3) must be chosen according to the limit of use concentration. (see standard EN 14387). In the presence of gases or vapours of various kinds and/or gases or vapours containing particulate (aerosol sprays, fumes, mists, etc.) combined filters are required.

Respiratory protection devices must be used if the technical measures adopted are not suitable for restricting the worker's exposure to the threshold values considered. The protection provided by masks is in any case limited.

If the substance considered is odourless or its olfactory threshold is higher than the corresponding TLV-TWA and in the case of an emergency, wear open-circuit compressed air breathing apparatus (in compliance with standard EN 137) or external air-intake breathing apparatus (in compliance with standard EN 138). For a correct choice of respiratory protection device, see standard EN 529.

ENVIRONMENTAL EXPOSURE CONTROLS

The emissions generated by manufacturing processes, including those generated by ventilation equipment, should be checked to ensure compliance with environmental standards.

SECTION 9. Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance	liquid
Colour	TYPICAL
Odour	characteristic of solvent
Odour threshold	Not available
pH	Not available
Melting point / freezing point	Not available
Initial boiling point	Not available

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Boiling range	Not available
Flash point	51 °C
Evaporation Rate	Not available
Flammability of solids and gases	Not available
Lower inflammability limit	Not available
Upper inflammability limit	Not available
Lower explosive limit	Not available
Upper explosive limit	Not available
Vapour pressure	Not available
Vapour density	Not available
Relative density	1,51 kg/l
Solubility	immiscible with water
Partition coefficient: n-octanol/water	Not available
Auto-ignition temperature	Not available
Decomposition temperature	Not available
Viscosity	Not available
Explosive properties	Not available
Oxidising properties	Not available

9.2. Other information

VOC (Directive 2004/42/EC) :	6,93 % - 104,71	g/litre
VOC (volatile carbon) :	3,99 % - 60,29	g/litre

SECTION 10. Stability and reactivity**10.1. Reactivity**

There are no particular risks of reaction with other substances in normal conditions of use.

2-METHOXY-1-METHYLETHYL ACETATE

Stable in normal conditions of use and storage.

With the air it may slowly develop peroxides that explode with an increase in temperature.

DIPHENYLMETHANE-4,4'-DIISOCYANATE

Decomposes at 274°C/525°F.

With water it develops carbon dioxide and forms an insoluble solid polymer and consequently any wet material recovered must be stored in open containers.

10.2. Chemical stability

The product is stable in normal conditions of use and storage.

10.3. Possibility of hazardous reactions

The vapours may also form explosive mixtures with the air.

2-METHOXY-1-METHYLETHYL ACETATE

May react violently with: oxidising substances, strong acids, alkaline metals.

DIPHENYLMETHANE-4,4'-DIISOCYANATE

May react dangerously with: alcohols, amines, ammonia, sodium hydroxide, acids, water, strong acids, strong bases.

10.4. Conditions to avoid

Avoid overheating. Avoid bunching of electrostatic charges. Avoid all sources of ignition.

10.5. Incompatible materials**2-METHOXY-1-METHYLETHYL ACETATE**

Incompatible with: oxidising substances, strong acids, alkaline metals.

10.6. Hazardous decomposition products

In the event of thermal decomposition or fire, gases and vapours that are potentially dangerous to health may be released.

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SECTION 10. Stability and reactivity ... / >>

DIPHENYLMETHANE-4,4'-DIISOCYANATE

May develop: nitric oxide, carbon oxides, hydrogen cyanide.

SECTION 11. Toxicological information

In the absence of experimental data for the product itself, health hazards are evaluated according to the properties of the substances it contains, using the criteria specified in the applicable regulation for classification.
It is therefore necessary to take into account the concentration of the individual hazardous substances indicated in section 3, to evaluate the toxicological effects of exposure to the product.

11.1. Information on toxicological effects

Metabolism, toxicokinetics, mechanism of action and other information

2-METHOXY-1-METHYLETHYL ACETATE

The main route of entry is the skin, whereas the respiratory route is less important due to the low vapour pressure of the product.

Information on likely routes of exposure

2-METHOXY-1-METHYLETHYL ACETATE

WORKERS: inhalation; contact with the skin.

DIPHENYLMETHANE-4,4'-DIISOCYANATE

WORKERS: inhalation; contact with the skin.

POPULATION: inhalation of ambient air; contact with the skin of products containing the substance.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

2-METHOXY-1-METHYLETHYL ACETATE

Above 100 ppm causes irritation of the eye, nose and oropharynx mucous membranes. At 1000 ppm, disturbance of equilibrium and severe eye irritation can be noticed. Clinical and biological examinations carried out on exposed volunteers revealed no anomalies. Acetate produces greater skin and eye irritation with direct contact. No chronic effects on humans have been reported (INCR, 2010).

DIPHENYLMETHANE-4,4'-DIISOCYANATE

Causes symptoms of irritation of the eye mucous membranes, upper respiratory and digestive tract and also to the skin; lung irritation of the bronchitis type (chest pains, cough, asthmatic wheezing), neurological symptoms (dizziness, balance disorders, headaches and consciousness disturbances). In severe cases, may give rise to delayed pulmonary edema (INRS, 2009). May cause hypersensitivity pneumonia which, in the event of continuous exposure, may progress to interstitial fibrosis (INRS, 2009).

Interactive effects

DIPHENYLMETHANE-4,4'-DIISOCYANATE

Cross sensitisations with other isocyanates are possible, in particular with TDI (toluene diisocyanate).

ACUTE TOXICITY

LC50 (Inhalation) of the mixture:	> 20 mg/l
LD50 (Oral) of the mixture:	Not classified (no significant component)
LD50 (Dermal) of the mixture:	Not classified (no significant component)

2-METHOXY-1-METHYLETHYL ACETATE

LD50 (Oral)	8530 mg/kg Rat
LD50 (Dermal)	> 5000 mg/kg Rat

CHLOROBENZENE

LD50 (Oral)	> 2000 mg/kg Rat
LC50 (Inhalation)	15,5 mg/l/4h Rat

1,2-PROPANEDIOL, ETHYLENE OXIDE, PROPYLENE OXIDE, 4,4-DIPHENYLMETHANEDIISOCYANATE,
2,4-DIPHENYLMETHANE DIISOCYANATE POLYMER

LD50 (Oral)	> 5000 mg/kg Rat
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2 4'-METHYLENEBIS(PHENYL ISOCYANATE)

LD50 (Oral)	> 2000 mg/kg Rat
LD50 (Dermal)	> 9400 mg/kg Rabbit

Safety Data Sheet According to Annex II to REACH - Regulation 2015/830**SECTION 11. Toxicological information** ... / >>Reaction mass of Bis (1,2,2,6,6 - pentamethyl - 4-piperidyl) sebacate and Methyl 1,2,2,6,6-pentamethyl-4-piperidyl sebacate
LD50 (Oral) 3230 mg/kg RatSKIN CORROSION / IRRITATION

Does not meet the classification criteria for this hazard class

SERIOUS EYE DAMAGE / IRRITATION

Does not meet the classification criteria for this hazard class

RESPIRATORY OR SKIN SENSITISATIONSensitising for the skin
Sensitising for the respiratory system
May produce an allergic reaction.

Contains:

TOSYL ISOCYANATE
DIPHENYLMETHANE-4,4'-DIISOCYANATE
2 4'-METHYLENEBIS(PHENYL ISOCYANATE)GERM CELL MUTAGENICITY

Does not meet the classification criteria for this hazard class

CARCINOGENICITY

Does not meet the classification criteria for this hazard class

DIPHENYLMETHANE-4,4'-DIISOCYANATE

Classified in Group 3 (not classifiable as a human carcinogen) by the International Agency for Research on Cancer (IARC) - (IARC, 1999).

REPRODUCTIVE TOXICITY

Does not meet the classification criteria for this hazard class

STOT - SINGLE EXPOSURE

Does not meet the classification criteria for this hazard class

STOT - REPEATED EXPOSURE

Does not meet the classification criteria for this hazard class

ASPIRATION HAZARD

Does not meet the classification criteria for this hazard class

SECTION 12. Ecological information

No specific data are available for this product. Handle it according to good working practices. Avoid littering. Do not contaminate soil and waterways. Inform the competent authorities, should the product reach waterways or contaminate soil or vegetation. Please take all the proper measures to reduce harmful effects on aquifers.

12.1. Toxicity

DIPHENYLMETHANE-4,4'-DIISOCYANATE

LC50 - for Fish > 1000 mg/l/96h Danio rerio

CHLORO BENZENE

LC50 - for Fish 7,72 mg/l/96h Pimephales promelas

2 4'-METHYLENEBIS(PHENYL ISOCYANATE)

LC50 - for Fish > 1000 mg/l/96h Daphnia magna

Safety Data Sheet According to Annex II to REACH - Regulation 2015/830**SECTION 12. Ecological information** ... / >>

Reaction mass of Bis (1,2,2,6,6 - pentamethyl - 4-piperidyl) sebacate and Methyl 1,2,2,6,6-pentamethyl-4-piperidyl sebacate

LC50 - for Fish	0,97 mg/l/96h <i>Lepomis macrochirus</i>
EC50 - for Algae / Aquatic Plants	1,68 mg/l/72h <i>Desmodesmus subspicatus</i>
Chronic NOEC for Crustacea	1 mg/l <i>Daphnia magna</i>

12.2. Persistence and degradability

2-METHOXY-1-METHYLETHYL ACETATE	
Solubility in water	> 10000 mg/l
Rapidly degradable	
DIPHENYLMETHANE-4,4'-DIISOCYANATE	
Solubility in water	0,1 - 100 mg/l
NOT rapidly degradable	
CHLOROBENZENE	
Solubility in water	100 - 1000 mg/l
NOT rapidly degradable	
TOSYL ISOCYANATE	
Solubility in water	1000 - 10000 mg/l
Rapidly degradable	

12.3. Bioaccumulative potential

2-METHOXY-1-METHYLETHYL ACETATE	
Partition coefficient: n-octanol/water	1,2
DIPHENYLMETHANE-4,4'-DIISOCYANATE	
Partition coefficient: n-octanol/water	4,51
CHLOROBENZENE	
Partition coefficient: n-octanol/water	3
TOSYL ISOCYANATE	
Partition coefficient: n-octanol/water	0,6

12.4. Mobility in soil

CHLOROBENZENE	
Partition coefficient: soil/water	2,42

12.5. Results of PBT and vPvB assessment

On the basis of available data, the product does not contain any PBT or vPvB in percentage greater than 0,1%.

12.6. Other adverse effects

Information not available

SECTION 13. Disposal considerations**13.1. Waste treatment methods**

Reuse, when possible. Product residues should be considered special hazardous waste. The hazard level of waste containing this product should be evaluated according to applicable regulations.
Disposal must be performed through an authorised waste management firm, in compliance with national and local regulations.
Waste transportation may be subject to ADR restrictions.
CONTAMINATED PACKAGING
Contaminated packaging must be recovered or disposed of in compliance with national waste management regulations.

Safety Data Sheet According to Annex II to REACH - Regulation 2015/830

SECTION 14. Transport information

14.1. UN number

ADR / RID, IMDG, IATA: 1263

The product, if packaged in packages of less than 450 litres, is not subject to ADR regulations as stated in 2.2.3.1.5.

The product, if packaged in packages of less than 30 litres, is not subject to obligations relating to marking, labelling and package testing in accordance with 2.3.2.5 of the IMDG CODE.

14.2. UN proper shipping name

ADR / RID: PAINT or PAINT RELATED MATERIAL
IMDG: PAINT or PAINT RELATED MATERIAL
IATA: PAINT or PAINT RELATED MATERIAL

14.3. Transport hazard class(es)

ADR / RID: Class: 3 Label: 3



IMDG: Class: 3 Label: 3



IATA: Class: 3 Label: 3



14.4. Packing group

ADR / RID, IMDG, IATA: III

14.5. Environmental hazards

ADR / RID: NO
IMDG: NO
IATA: NO

14.6. Special precautions for user

ADR / RID:	HIN - Kemler: 30	Limited Quantities: 5 L	Tunnel restriction code: (D/E)
	Special Provision: -		
IMDG:	EMS: F-E, S-E	Limited Quantities: 5 L	
IATA:	Cargo:	Maximum quantity: 220 L	Packaging instructions: 366
	Pass.:	Maximum quantity: 60 L	Packaging instructions: 355
	Special Instructions:	A3, A72, A192	

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

Information not relevant

SECTION 15. Regulatory information

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

Seveso Category - Directive 2012/18/EC: _____ P5c

Restrictions relating to the product or contained substances pursuant to Annex XVII to EC Regulation 1907/2006

Product
Point 3 - 40
Contained substance

Safety Data Sheet According to Annex II to REACH - Regulation 2015/830

SECTION 15. Regulatory information ... / >>

Point	56	2 4'-METHYLENEBIS(PHENYL ISOCYANATE) Reg. no.: 01-2119480143-45
Point	56	DIPHENYLMETHANE-4,4'-DIISOCYANATE Reg. no.: 01-2119457014-47

Substances in Candidate List (Art. 59 REACH)

On the basis of available data, the product does not contain any SVHC in percentage greater than 0,1%.

Substances subject to authorisation (Annex XIV REACH)

None

Substances subject to exportation reporting pursuant to (EC) Reg. 649/2012:

None

Substances subject to the Rotterdam Convention:

None

Substances subject to the Stockholm Convention:

None

Healthcare controls

Workers exposed to this chemical agent must not undergo health checks, provided that available risk-assessment data prove that the risks related to the workers' health and safety are modest and that the 98/24/EC directive is respected.

VOC (Directive 2004/42/EC) :

One-pack performance coatings.

15.2. Chemical safety assessment

A chemical safety assessment has been performed for the following contained substances

Reaction mass of Bis (1,2,2,6,6 - pentamethyl - 4-piperidyl) sebacate and Methyl 1,2,2,6,6-pentamethyl-4-piperidyl sebacate

SECTION 16. Other information

Text of hazard (H) indications mentioned in section 2-3 of the sheet:

Flam. Liq. 3	Flammable liquid, category 3
Carc. 2	Carcinogenicity, category 2
Acute Tox. 4	Acute toxicity, category 4
STOT RE 2	Specific target organ toxicity - repeated exposure, category 2
Eye Irrit. 2	Eye irritation, category 2
Skin Irrit. 2	Skin irritation, category 2
STOT SE 3	Specific target organ toxicity - single exposure, category 3
Resp. Sens. 1	Respiratory sensitization, category 1
Skin Sens. 1	Skin sensitization, category 1
Skin Sens. 1A	Skin sensitization, category 1A
Aquatic Acute 1	Hazardous to the aquatic environment, acute toxicity, category 1
Aquatic Chronic 1	Hazardous to the aquatic environment, chronic toxicity, category 1
Aquatic Chronic 2	Hazardous to the aquatic environment, chronic toxicity, category 2
H226	Flammable liquid and vapour.
H351	Suspected of causing cancer.
H332	Harmful if inhaled.
H373	May cause damage to organs through prolonged or repeated exposure.
H319	Causes serious eye irritation.
H315	Causes skin irritation.
H335	May cause respiratory irritation.
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H317	May cause an allergic skin reaction.
H336	May cause drowsiness or dizziness.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
H411	Toxic to aquatic life with long lasting effects.
EUH014	Reacts violently with water.
EUH204	Contains isocyanates. May produce an allergic reaction.

LEGEND:

- ADR: European Agreement concerning the carriage of Dangerous goods by Road
- CAS NUMBER: Chemical Abstract Service Number

Safety Data Sheet According to Annex II to REACH - Regulation 2015/830**SECTION 16. Other information** ... / >>

- CE50: Effective concentration (required to induce a 50% effect)- CE NUMBER: Identifier in ESIS (European archive of existing substances)
- CLP: EC Regulation 1272/2008
- DNEL: Derived No Effect Level
- EmS: Emergency Schedule
- GHS: Globally Harmonized System of classification and labeling of chemicals
- IATA DGR: International Air Transport Association Dangerous Goods Regulation
- IC50: Immobilization Concentration 50%
- IMDG: International Maritime Code for dangerous goods
- IMO: International Maritime Organization
- INDEX NUMBER: Identifier in Annex VI of CLP
- LC50: Lethal Concentration 50%
- LD50: Lethal dose 50%
- OEL: Occupational Exposure Level
- PBT: Persistent bioaccumulative and toxic as REACH Regulation
- PEC: Predicted environmental Concentration
- PEL: Predicted exposure level
- PNEC: Predicted no effect concentration
- REACH: EC Regulation 1907/2006
- RID: Regulation concerning the international transport of dangerous goods by train
- TLV: Threshold Limit Value
- TLV CEILING: Concentration that should not be exceeded during any time of occupational exposure.
- TWA STEL: Short-term exposure limit
- TWA: Time-weighted average exposure limit
- VOC: Volatile organic Compounds
- vPvB: Very Persistent and very Bioaccumulative as for REACH Regulation
- WGK: Water hazard classes (German).

GENERAL BIBLIOGRAPHY

1. Regulation (EC) 1907/2006 (REACH) of the European Parliament
2. Regulation (EC) 1272/2008 (CLP) of the European Parliament
3. Regulation (EU) 790/2009 (I Atp. CLP) of the European Parliament
4. Regulation (EU) 2015/830 of the European Parliament
5. Regulation (EU) 286/2011 (II Atp. CLP) of the European Parliament
6. Regulation (EU) 618/2012 (III Atp. CLP) of the European Parliament
7. Regulation (EU) 487/2013 (IV Atp. CLP) of the European Parliament
8. Regulation (EU) 944/2013 (V Atp. CLP) of the European Parliament
9. Regulation (EU) 605/2014 (VI Atp. CLP) of the European Parliament
10. Regulation (EU) 2015/1221 (VII Atp. CLP) of the European Parliament
11. Regulation (EU) 2016/918 (VIII Atp. CLP) of the European Parliament
12. Regulation (EU) 2016/1179 (IX Atp. CLP)
13. Regulation (EU) 2017/776 (X Atp. CLP)

- The Merck Index. - 10th Edition
- Handling Chemical Safety
- INRS - Fiche Toxicologique (toxicological sheet)
- Patty - Industrial Hygiene and Toxicology
- N.I. Sax - Dangerous properties of Industrial Materials-7, 1989 Edition
- IFA GESTIS website
- ECHA website
- Database of SDS models for chemicals - Ministry of Health and ISS (Istituto Superiore di Sanità) - Italy

Note for users:

The information contained in the present sheet are based on our own knowledge on the date of the last version. Users must verify the suitability and thoroughness of provided information according to each specific use of the product.

This document must not be regarded as a guarantee on any specific product property.

The use of this product is not subject to our direct control; therefore, users must, under their own responsibility, comply with the current health and safety laws and regulations. The producer is relieved from any liability arising from improper uses.

Provide appointed staff with adequate training on how to use chemical products.

Changes to previous review:

The following sections were modified:

01 / 02 / 03 / 04 / 08 / 09 / 11 / 12 / 14 / 16.