


**PROPAM SEAL PU20
(Before BETOFLEX M20)**

SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

- 1.1 Product identifier:** PROPAM SEAL PU20
(Before BETOFLEX M20)
- Other means of identification:**
Not relevant
- 1.2 Relevant identified uses of the substance or mixture and uses advised against:**
Relevant uses (): Sealant for concrete
Uses advised against: All uses not specified in this section or in section 7.3
- 1.3 Details of the supplier of the safety data sheet:**
PROPAMSA SAU
Ctra N-340 Km 1242,3
08620 Sant Vicenç dels Horts - España
Phone: +34 93 680 60 42
constructionsolutions@molins.es
molins.es
- 1.4 Emergency telephone number:** +34.93.680.60.42 (9:00 - 17:00)

SECTION 2: HAZARDS IDENTIFICATION **

- 2.1 Classification of the substance or mixture:**
CLP Regulation (EC) No 1272/2008:
Classification of this product has been carried out in accordance with CLP Regulation (EC) No 1272/2008.
Resp. Sens. 1: Sensitisation, respiratory, Category 1, H334
- 2.2 Label elements:**
CLP Regulation (EC) No 1272/2008:
Danger
- 
- Hazard statements:**
Resp. Sens. 1: H334 - May cause allergy or asthma symptoms or breathing difficulties if inhaled.
- Precautionary statements:**
P102: Keep out of reach of children.
P260: Do not breathe vapours
P304+P340: IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P342+P311: If experiencing respiratory symptoms: Call a POISON CENTER or doctor/physician.
P501: Dispose of the contents/containers in accordance with the current legislation on waste treatment.
- Supplementary information:**
EUH204: Contains isocyanates. May produce an allergic reaction.
Contains Bis[2-[2-(1-methylethyl)-3-oxazolidinyl]ethyl] hexan-1,2-diylbiscarbamate, Hydroxyphenyl benzotriazol derivative,
Reaction mass of Bis(1,2,2,6,6-pentamethyl-4-piperidyl) sebacate and Methyl 1,2,2,6,6-pentamethyl-4-piperidyl sebacate.
- Additional Labelling:**
As from 24 August 2023 adequate training is required before industrial or professional use.
UFI: 72Y2-39G6-120P-3N75
- 2.3 Other hazards:**
Product does not meet PBT/vPvB criteria
Endocrine-disrupting properties: The product does not meet the criteria.

** Changes with regards to the previous version

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

- 3.1 Substance:**
Not relevant

- CONTINUED ON NEXT PAGE -

**PROPAM SEAL PU20
(Before BETOFLEX M20)**

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS (continued)

3.2 Mixture:

Chemical description: Polyurethane resin

Components:

In accordance with Annex II of Regulation (EC) No 1907/2006 (point 3), the product contains:

Identification	Chemical name/Classification	Concentration
CAS: 64742-48-9 EC: 265-150-3 Index: 649-327-00-6 REACH: 01-2119486659-16-XXXX	Naphtha (petroleum), hydrotreated heavy, < 0.1 % EC 200-753-7⁽¹⁾ ATP ATP01 Regulation 1272/2008 Asp. Tox. 1: H304; Flam. Liq. 3: H226; STOT SE 3: H336; EUH066 - Danger	2.5 - <10%
CAS: 59719-67-4 EC: 261-879-6 Index: Not relevant REACH: 01-2119983487-19-XXXX	Bis[2-[2-(1-methylethyl)-3-oxazolidinyl]ethyl] hexan-1,2-diylbiscarbamate⁽¹⁾ Self-classified Regulation 1272/2008 Aquatic Chronic 2: H411; Eye Irrit. 2: H319; Skin Sens. 1B: H317 - Warning	1 - <2.5%
CAS: 101-68-8 EC: 202-966-0 Index: 615-005-00-9 REACH: 01-2119457014-47-XXXX	4,4'-methylenediphenyl diisocyanate⁽¹⁾ ATP CLP00 Regulation 1272/2008 Acute Tox. 4: H332; Carc. 2: H351; Eye Irrit. 2: H319; Resp. Sens. 1: H334; Skin Irrit. 2: H315; Skin Sens. 1: H317; STOT RE 2: H373; STOT SE 3: H335 - Danger	<1%
CAS: Not relevant EC: 400-830-7 Index: 607-176-00-3 REACH: 01-0000015075-76-XXXX	Hydroxyphenyl benzotriazol derivative⁽¹⁾ ATP CLP00 Regulation 1272/2008 Aquatic Chronic 2: H411; Skin Sens. 1: H317 - Warning	<1%
CAS: 95-47-6 EC: 202-422-2 Index: 601-022-00-9 REACH: 01-2119485822-30-XXXX	o-xylene⁽²⁾ ATP CLP00 Regulation 1272/2008 Acute Tox. 4: H312+H332; Flam. Liq. 3: H226; Skin Irrit. 2: H315 - Warning	<1%
CAS: 1065336-91-5 EC: 915-687-0 Index: Not relevant REACH: 01-2119491304-40-XXXX	Reaction mass of Bis(1,2,2,6,6-pentamethyl-4-piperidyl) sebacate and Methyl 1,2,2,6,6-pentamethyl-4-piperidyl sebacate⁽¹⁾ Self-classified Regulation 1272/2008 Aquatic Acute 1: H400; Aquatic Chronic 1: H410; Repr. 2: H361f; Skin Sens. 1A: H317 - Warning	<1%

⁽¹⁾ Substances presenting a health or environmental hazard which meet criteria laid down in Regulation (EU) No. 2020/878

⁽²⁾ Substance with a Union workplace exposure limit

To obtain more information on the hazards of the substances consult sections 11, 12 and 16.

Other information:

Identification	Specific concentration limit
4,4'-methylenediphenyl diisocyanate CAS: 101-68-8 EC: 202-966-0	% (w/w) >=5: Skin Irrit. 2 - H315 % (w/w) >=5: Eye Irrit. 2 - H319 % (w/w) >=0,1: Resp. Sens. 1 - H334 % (w/w) >=5: STOT SE 3 - H335

SECTION 4: FIRST AID MEASURES

4.1 Description of first aid measures:

The symptoms resulting from intoxication can appear after exposure, therefore, in case of doubt, seek medical attention for direct exposure to the chemical product or persistent discomfort, showing the SDS of this product.

By inhalation:

Remove the person affected from the area of exposure, provide with fresh air and keep at rest. In serious cases such as cardiorespiratory failure, artificial resuscitation techniques will be necessary (mouth to mouth resuscitation, cardiac massage, oxygen supply, etc.) requiring immediate medical assistance.

By skin contact:

Remove contaminated clothing and footwear, rinse skin or shower the person affected if appropriate with plenty of cold water and neutral soap. In serious cases see a doctor. If the product causes burns or freezing, clothing should not be removed as this could worsen the injury caused if it is stuck to the skin. If blisters form on the skin, these should never be burst as this will increase the risk of infection.

By eye contact:

Rinse eyes thoroughly with water for at least 15 minutes. If the injured person uses contact lenses, these should be removed unless they are stuck to the eyes, in which case removal could cause further damage. In all cases, after cleaning, a doctor should be consulted as quickly as possible with the SDS for the product.

- CONTINUED ON NEXT PAGE -

**PROPAM SEAL PU20
(Before BETOFLEX M20)**

SECTION 4: FIRST AID MEASURES (continued)

By ingestion/aspiration:

Do not induce vomiting, but if it does happen keep the head down to avoid aspiration. Keep the person affected at rest. Rinse out the mouth and throat, as they may have been affected during ingestion.

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

Acute and delayed effects are indicated in sections 2 and 11.

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

Not relevant

SECTION 5: FIREFIGHTING MEASURES

5.1 Extinguishing media:

Suitable extinguishing media:

Product is non-flammable under normal conditions of storage, handling and use. In the case of combustion as a result of improper handling, storage or use preferably use polyvalent powder extinguishers (ABC powder), in accordance with the Regulation on fire protection systems.

Unsuitable extinguishing media:

Non-applicable

5.2 Special hazards arising from the substance or mixture:

As a result of combustion or thermal decomposition reactive sub-products are created that can become highly toxic and, consequently, can present a serious health risk.

5.3 Advice for firefighters:

Depending on the magnitude of the fire it may be necessary to use full protective clothing and Self Contained Breathing Apparatus. Minimum emergency facilities and equipment should be available (fire blankets, portable first aid kit,...)

Additional provisions:

Act in accordance with the Internal Emergency Plan and the Information Sheets on actions to take after an accident or other emergencies. Eliminate all sources of ignition. In case of fire, cool the storage containers and tanks for products susceptible to combustion, explosion or BLEVE as a result of high temperatures. Avoid spillage of the products used to extinguish the fire into an aqueous medium.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures:

For non-emergency personnel:

Isolate leaks provided that there is no additional risk for the people performing this task. Evacuate the area and keep out those without protection. Personal protection equipment must be used against potential contact with the spilt product (See section 8). Above all prevent the formation of any vapour-air flammable mixtures, through either ventilation or the use of an inert medium. Remove any source of ignition. Eliminate electrostatic charges by interconnecting all the conductive surfaces on which static electricity could form, and also ensuring that all surfaces are connected to the ground.

For emergency responders:

Wear protective equipment. Keep unprotected persons away. See section 8.

6.2 Environmental precautions:

It is recommended to avoid environmental spillage of both the product and its container.

6.3 Methods and material for containment and cleaning up:

It is recommended:

Prevent the entrance of product in drains, sewers or watercourses. Absorb the spill using sand or inert absorbent and move it to a safe place. Do not absorb in sawdust or other combustible absorbents. Collect the product in appropriate containers and manage it according to current legislation.

Spillages in water or sea:

Small spillages:

Contain spillage using barriers or similar equipment. Use suitable absorbents for collection and treat the waste in accordance with current regulations.

Large spillages:

If possible, contain spillage in open water using barriers or similar equipment. If this is not possible, try to control its spread and collect the product with suitable mechanical means. Always consult experts before using dispersants and make sure you have the necessary approvals if they are to be used. Treat the waste according to current regulations.

- CONTINUED ON NEXT PAGE -

**PROPAM SEAL PU20
(Before BETOFLEX M20)**

SECTION 6: ACCIDENTAL RELEASE MEASURES (continued)

6.4 Reference to other sections:

See sections 8 and 13.

SECTION 7: HANDLING AND STORAGE

7.1 Precautions for safe handling:

A.- General precautions for safe use

Comply with the current legislation concerning the prevention of industrial risks with regards manually handling weights. Maintain order, cleanliness and dispose of using safe methods (section 6).

B.- Technical recommendations for the prevention of fires and explosions

Avoid the evaporation of the product as it contains flammable substances, which could form flammable vapour/air mixtures in the presence of sources of ignition. Control sources of ignition (mobile phones, sparks,...) and transfer at slow speeds to avoid the creation of electrostatic charges. Consult section 10 for conditions and materials that should be avoided.

C.- Technical recommendations on general occupational hygiene

Do not eat or drink during the process, washing hands afterwards with suitable cleaning products.

D.- Technical recommendations to prevent environmental risks

It is recommended to have absorbent material available at close proximity to the product (See subsection 6.3)

7.2 Conditions for safe storage, including any incompatibilities:

A.- Specific storage requirements

Minimum Temp.: 5 °C

Maximum Temp.: 25 °C

Maximum time: 12 Months

B.- General conditions for storage

Avoid sources of heat, radiation, static electricity and contact with food. For additional information see subsection 10.5

7.3 Specific end use(s):

Except for the instructions already specified it is not necessary to provide any special recommendation regarding the uses of this product.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters:

Substances whose occupational exposure limits have to be monitored in the workplace (European OEL, not country-specific legislation):

Directive (EU) 2000/39, Directive 2004/37/EC, Directive (EU) 2006/15, Directive (EU) 2009/161, Directive (EU) 2017/164, Directive (EU) 2019/1831:

Identification		Occupational exposure limits		
o-xylene ⁽¹⁾ CAS: 95-47-6 EC: 202-422-2		IOELV (8h)	50 ppm	221 mg/m ³
		IOELV (STEL)	100 ppm	442 mg/m ³

⁽¹⁾ Skin

DNEL (Workers):

Identification		Short exposure		Long exposure	
		Systemic	Local	Systemic	Local
Naphtha (petroleum), hydrotreated heavy, < 0.1 % EC 200-753-7 CAS: 64742-48-9 EC: 265-150-3	Oral	Not relevant	Not relevant	Not relevant	Not relevant
	Dermal	Not relevant	Not relevant	Not relevant	Not relevant
	Inhalation	1286,4 mg/m ³	1066,67 mg/m ³	Not relevant	837,5 mg/m ³
Bis[2-[2-(1-methylethyl)-3-oxazolidinyl]ethyl] hexan-1,2-diylbiscarbamate CAS: 59719-67-4 EC: 261-879-6	Oral	Not relevant	Not relevant	Not relevant	Not relevant
	Dermal	Not relevant	Not relevant	8,4 mg/kg	Not relevant
	Inhalation	Not relevant	Not relevant	14,8 mg/m ³	80,4 mg/m ³

- CONTINUED ON NEXT PAGE -

**PROPAM SEAL PU20
(Before BETOFLEX M20)**

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION (continued)

Identification		Short exposure		Long exposure	
		Systemic	Local	Systemic	Local
4,4'-methylenediphenyl diisocyanate CAS: 101-68-8 EC: 202-966-0	Oral	Not relevant	Not relevant	Not relevant	Not relevant
	Dermal	Not relevant	Not relevant	Not relevant	Not relevant
	Inhalation	Not relevant	0,1 mg/m ³	Not relevant	0,05 mg/m ³
Hydroxyphenyl benzotriazol derivative CAS: Not relevant EC: 400-830-7	Oral	Not relevant	Not relevant	Not relevant	Not relevant
	Dermal	Not relevant	Not relevant	0,5 mg/kg	Not relevant
	Inhalation	Not relevant	Not relevant	0,35 mg/m ³	Not relevant
o-xylene CAS: 95-47-6 EC: 202-422-2	Oral	Not relevant	Not relevant	Not relevant	Not relevant
	Dermal	Not relevant	Not relevant	212 mg/kg	Not relevant
	Inhalation	442 mg/m ³	442 mg/m ³	221 mg/m ³	221 mg/m ³
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: 1065336-91-5 EC: 915-687-0	Oral	Not relevant	Not relevant	Not relevant	Not relevant
	Dermal	Not relevant	Not relevant	0,5 mg/kg	Not relevant
	Inhalation	Not relevant	Not relevant	0,68 mg/m ³	Not relevant

DNEL (General population):

Identification		Short exposure		Long exposure	
		Systemic	Local	Systemic	Local
Naphtha (petroleum), hydrotreated heavy, < 0.1 % EC 200-753-7 CAS: 64742-48-9 EC: 265-150-3	Oral	Not relevant	Not relevant	Not relevant	Not relevant
	Dermal	Not relevant	Not relevant	Not relevant	Not relevant
	Inhalation	1152 mg/m ³	640 mg/m ³	Not relevant	178,57 mg/m ³
Bis[2-[2-(1-methylethyl)-3-oxazolidinyl]ethyl] hexan-1,2-diylbiscarbamate CAS: 59719-67-4 EC: 261-879-6	Oral	Not relevant	Not relevant	1,5 mg/kg	Not relevant
	Dermal	Not relevant	Not relevant	3 mg/kg	Not relevant
	Inhalation	Not relevant	Not relevant	2,6 mg/m ³	60 mg/m ³
4,4'-methylenediphenyl diisocyanate CAS: 101-68-8 EC: 202-966-0	Oral	Not relevant	Not relevant	Not relevant	Not relevant
	Dermal	Not relevant	Not relevant	Not relevant	Not relevant
	Inhalation	Not relevant	0,05 mg/m ³	Not relevant	0,025 mg/m ³
Hydroxyphenyl benzotriazol derivative CAS: Not relevant EC: 400-830-7	Oral	Not relevant	Not relevant	0,025 mg/kg	Not relevant
	Dermal	Not relevant	Not relevant	0,25 mg/kg	Not relevant
	Inhalation	Not relevant	Not relevant	0,085 mg/m ³	Not relevant
o-xylene CAS: 95-47-6 EC: 202-422-2	Oral	Not relevant	Not relevant	2,5 mg/kg	Not relevant
	Dermal	Not relevant	Not relevant	125 mg/kg	Not relevant
	Inhalation	260 mg/m ³	260 mg/m ³	65,3 mg/m ³	65,3 mg/m ³
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: 1065336-91-5 EC: 915-687-0	Oral	Not relevant	Not relevant	0,05 mg/kg	Not relevant
	Dermal	Not relevant	Not relevant	0,25 mg/kg	Not relevant
	Inhalation	Not relevant	Not relevant	0,17 mg/m ³	Not relevant

PNEC:

Identification					
Bis[2-[2-(1-methylethyl)-3-oxazolidinyl]ethyl] hexan-1,2-diylbiscarbamate CAS: 59719-67-4 EC: 261-879-6	STP	89,4 mg/L	Fresh water	0,019 mg/L	
	Soil	0,131 mg/kg	Marine water	0,002 mg/L	
	Intermittent	0,186 mg/L	Sediment (Fresh water)	0,709 mg/kg	
	Oral	Not relevant	Sediment (Marine water)	0,071 mg/kg	
4,4'-methylenediphenyl diisocyanate CAS: 101-68-8 EC: 202-966-0	STP	1 mg/L	Fresh water	1 mg/L	
	Soil	1 mg/kg	Marine water	0,1 mg/L	
	Intermittent	10 mg/L	Sediment (Fresh water)	Not relevant	
	Oral	Not relevant	Sediment (Marine water)	Not relevant	
Hydroxyphenyl benzotriazol derivative CAS: Not relevant EC: 400-830-7	STP	10 mg/L	Fresh water	0,002 mg/L	
	Soil	2 mg/kg	Marine water	0 mg/L	
	Intermittent	0,028 mg/L	Sediment (Fresh water)	3,37 mg/kg	
	Oral	Not relevant	Sediment (Marine water)	0,337 mg/kg	

- CONTINUED ON NEXT PAGE -

**PROPAM SEAL PU20
(Before BETOFLEX M20)**

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION (continued)



Identification				
o-xylene CAS: 95-47-6 EC: 202-422-2	STP	1,6 mg/L	Fresh water	0,009 mg/L
	Soil	0,095 mg/kg	Marine water	0,001 mg/L
	Intermittent	0,001 mg/L	Sediment (Fresh water)	0,5 mg/kg
	Oral	Not relevant	Sediment (Marine water)	0,05 mg/kg
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: 1065336-91-5 EC: 915-687-0	STP	1 mg/L	Fresh water	0,002 mg/L
	Soil	0,21 mg/kg	Marine water	0 mg/L
	Intermittent	0,009 mg/L	Sediment (Fresh water)	1,05 mg/kg
	Oral	Not relevant	Sediment (Marine water)	0,11 mg/kg

8.2 Exposure controls:

A.- Individual protection measures, such as personal protective equipment

As a preventative measure it is recommended to use basic Personal Protective Equipment, with the corresponding <<CE marking>> in accordance with Regulation (EU) 2016/425. For more information on Personal Protective Equipment (storage, use, cleaning, maintenance, class of protection,...) consult the information leaflet provided by the manufacturer. For more information see subsection 7.1. All information contained herein is a recommendation which needs some specification from the labour risk prevention services as it is not known whether the company has additional measures at its disposal.

B.- Respiratory protection



Pictogram	PPE	Labelling	CEN Standard	Remarks
 Mandatory respiratory tract protection	Filter mask for gases and vapours (Filter type: A)	 CAT III	EN 405:2002+A1:2010	Replace when there is a taste or smell of the contaminant inside the face mask. If the contaminant comes with warnings it is recommended to use isolation equipment.

C.- Specific protection for the hands



Pictogram	PPE	Labelling	CEN Standard	Remarks
 Mandatory hand protection	Chemical protective gloves (Material: Butyl, Breakthrough time: > 240 min)	 CAT III	EN ISO 21420:2020	Replace the gloves at any sign of deterioration.

As the product is a mixture of several substances, the resistance of the glove material can not be calculated in advance with total reliability and has therefore to be checked prior to the application.

D.- Eye and face protection

Pictogram	PPE	Labelling	CEN Standard	Remarks
 Mandatory face protection	Panoramic glasses against splash/projections.	 CAT II	EN 166:2002 EN ISO 4007:2018	Clean daily and disinfect periodically according to the manufacturer's instructions. Use if there is a risk of splashing.

E.- Body protection

Pictogram	PPE	Labelling	CEN Standard	Remarks
	Work clothing	 CAT I		Replace before any evidence of deterioration. For periods of prolonged exposure to the product for professional/industrial users CE III is recommended, in accordance with the regulations in EN ISO 6529:2013, EN ISO 6530:2005, EN ISO 13688:2013, EN 464:1994.
	Anti-slip work shoes	 CAT II	EN ISO 20347:2022	Replace before any evidence of deterioration. For periods of prolonged exposure to the product for professional/industrial users CE III is recommended, in accordance with the regulations in EN ISO 20345:2022 y EN 13832-1:2019



F.- Additional emergency measures

It is advised to implement additional emergency equipments in workplaces that are particularly exposed to the product or in situations where risk assessments highlight the necessity of such equipments.

- CONTINUED ON NEXT PAGE -

**PROPAM SEAL PU20
(Before BETOFLEX M20)**

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION (continued)

Emergency measure	Standards	Emergency measure	Standards
 Emergency shower	ANSI Z358-1 ISO 3864-1:2011, ISO 3864-4:2011	 Eyewash stations	DIN 12 899 ISO 3864-1:2011, ISO 3864-4:2011

Environmental exposure controls:

To comply with environmental protection regulations, it is recommended to prevent any spillage of the product and its container. For more detailed information, please refer to subsection 7.1.D.

Volatile organic compounds:

With regard to Directive 2010/75/EU, this product has the following characteristics:

V.O.C. (Supply):	4,91 % weight
V.O.C. density at 20 °C:	68,75 kg/m ³ (68,75 g/L)
Average carbon number:	Not relevant
Average molecular weight:	Not relevant

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties:

For complete information see the product datasheet.

Appearance:

Physical state at 20 °C:	Liquid
Appearance:	Paste
Colour:	According to the markings on the package
Odour:	Mild
Odour threshold:	Not relevant *

Volatility:

Boiling point at atmospheric pressure:	148 °C
Vapour pressure at 20 °C:	481 Pa
Vapour pressure at 50 °C:	2705,16 Pa (2,71 kPa)
Evaporation rate at 20 °C:	Not relevant *

Product description:

Density at 20 °C:	1400 kg/m ³
Relative density at 20 °C:	1,4
Dynamic viscosity at 20 °C:	117 mPa·s
Kinematic viscosity at 20 °C:	Not relevant *
Kinematic viscosity at 40 °C:	>20,5 mm ² /s
Concentration:	Not relevant *
pH:	Not relevant *
Vapour density at 20 °C:	Not relevant *
Partition coefficient n-octanol/water 20 °C:	Not relevant *
Solubility in water at 20 °C:	Not relevant *
Solubility properties:	Soluble
Decomposition temperature:	Not relevant *
Melting point/freezing point:	Not relevant *

Flammability:

Flash Point:	71 °C
Flammability (solid, gas):	Not relevant *

*Not relevant due to the nature of the product, not providing information property of its hazards.

- CONTINUED ON NEXT PAGE -

**PROPAM SEAL PU20
(Before BETOFLEX M20)**

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES (continued)

Autoignition temperature: 200 °C
Lower flammability limit: 0,1 % Volume
Upper flammability limit: 0,2 % Volume

Particle characteristics:

Median equivalent diameter: Not relevant *

9.2 Other information:

Information with regard to physical hazard classes:

Explosive properties: Not relevant *
Oxidising properties: Not relevant *
Corrosive to metals: Not relevant *
Heat of combustion: Not relevant *
Aerosols-total percentage (by mass) of flammable components: Not relevant *

Other safety characteristics:

Surface tension at 20 °C: Not relevant *
Refraction index: Not relevant *

*Not relevant due to the nature of the product, not providing information property of its hazards.

SECTION 10: STABILITY AND REACTIVITY

10.1 Reactivity:

No hazardous reactions are expected because the product is stable under recommended storage conditions. See section 7 from Safety Data Sheet.

10.2 Chemical stability:

Chemically stable under the indicated conditions of storage, handling and use.

10.3 Possibility of hazardous reactions:

Under the specified conditions, hazardous reactions that lead to excessive temperatures or pressure are not expected.

10.4 Conditions to avoid:

Applicable for handling and storage at room temperature:

Shock and friction	Contact with air	Increase in temperature	Sunlight	Humidity
Not applicable	Not applicable	Precaution	Precaution	Not applicable

10.5 Incompatible materials:

Acids	Water	Oxidising materials	Combustible materials	Others
Avoid strong acids	Not applicable	Avoid direct impact	Not applicable	Avoid alkalis or strong bases

10.6 Hazardous decomposition products:

See subsection 10.3, 10.4 and 10.5 to find out the specific decomposition products. Depending on the decomposition conditions, complex mixtures of chemical substances can be released: carbon dioxide (CO₂), carbon monoxide and other organic compounds.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008:

The experimental information related to the toxicological properties of the product itself is not available

Dangerous health implications:

In case of exposure that is repetitive, prolonged or at concentrations higher than the recommended occupational exposure limits, adverse effects on health may result, depending on the means of exposure:

A- Ingestion (acute effect):

- CONTINUED ON NEXT PAGE -

**PROPAM SEAL PU20
(Before BETOFLEX M20)**

SECTION 11: TOXICOLOGICAL INFORMATION (continued)

- Acute toxicity: Based on available data, the classification criteria are not met, as it does not contain substances classified as hazardous for consumption. For more information see section 3.
- Corrosivity/Irritability: Based on available data, the classification criteria are not met. However, it does contain substances classified as hazardous for this effect. For more information see section 3.
- B- Inhalation (acute effect):
 - Acute toxicity : Based on available data, the classification criteria are not met. However, it contains substances classified as hazardous for inhalation. For more information see section 3.
 - Corrosivity/Irritability: Based on available data, the classification criteria are not met. However, it contains substances classified as hazardous for inhalation. For more information see section 3.
- C- Contact with the skin and the eyes (acute effect):
 - Contact with the skin: Based on available data, the classification criteria are not met. However, it contains substances classified as hazardous for skin contact. For more information see section 3.
 - Contact with the eyes: Based on available data, the classification criteria are not met. However, it does contain substances classified as hazardous for this effect. For more information see section 3.
- D- CMR effects (carcinogenicity, mutagenicity and toxicity to reproduction):
 - Carcinogenicity: Based on available data, the classification criteria are not met. However, it contains substances classified as dangerous with carcinogenic effects. For more information see section 3.
IARC: Naphtha (petroleum), hydrotreated heavy, < 0.1 % EC 200-753-7 (3: Not classifiable as to its carcinogenicity to humans); 4,4'-methylenediphenyl diisocyanate (3: Not classifiable as to its carcinogenicity to humans); o-xylene (3: Not classifiable as to its carcinogenicity to humans)
 - Mutagenicity: Based on available data, the classification criteria are not met, as it does not contain substances classified as hazardous for this effect. For more information see section 3.
 - Reproductive toxicity: Based on available data, the classification criteria are not met. However, it does contain substances classified as hazardous for this effect. For more information see section 3.
- E- Sensitizing effects:
 - Respiratory: Prolonged exposure can result in specific respiratory hypersensitivity.
 - Skin: Based on available data, the classification criteria are not met. However, it contains substances classified as dangerous with sensitising effects. For more information see section 3.
- F- Specific target organ toxicity (STOT) - single exposure:

Based on available data, the classification criteria are not met. However, it contains substances classified as hazardous for inhalation. For more information see section 3.
- G- Specific target organ toxicity (STOT)-repeated exposure:
 - Specific target organ toxicity (STOT)-repeated exposure: Based on available data, the classification criteria are not met. However, it does contain substances which are classified as dangerous due to repetitive exposure. For more information see section 3.
 - Skin: Based on available data, the classification criteria are not met. However, it does contain substances which are classified as dangerous due to repetitive exposure. For more information see section 3.
- H- Aspiration hazard:

Based on available data, the classification criteria are not met. However, it does contain substances classified as hazardous for this effect. For more information see section 3.

Other information:

Not relevant

Specific toxicology information on the substances:

Identification	Acute toxicity		Genus
Naphtha (petroleum), hydrotreated heavy, < 0.1 % EC 200-753-7 CAS: 64742-48-9 EC: 265-150-3	LD50 oral	15000 mg/kg	Rat
	LD50 dermal	3160 mg/kg	Rabbit
	LC50 inhalation vapour		
4,4'-methylenediphenyl diisocyanate CAS: 101-68-8 EC: 202-966-0	LD50 oral	7616 mg/kg	Rat
	LD50 dermal	10000 mg/kg	Rabbit
	LC50 inhalation dust		
o-xylene CAS: 95-47-6 EC: 202-422-2	LD50 oral	3523 mg/kg	Rat
	LD50 dermal		
	LC50 inhalation vapour		

- CONTINUED ON NEXT PAGE -

**PROPAM SEAL PU20
(Before BETOFLEX M20)**

SECTION 11: TOXICOLOGICAL INFORMATION (continued)

Identification	Acute toxicity		Genus
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: 1065336-91-5 EC: 915-687-0	LD50 oral	3230 mg/kg	Rat
	LD50 dermal		
	LC50 inhalation vapour		

11.2 Information on other hazards:

Endocrine disrupting properties

Endocrine-disrupting properties: The product does not meet the criteria.

Other information

Not relevant

SECTION 12: ECOLOGICAL INFORMATION

The experimental information related to the eco-toxicological properties of the product itself is not available

Based on available data, the classification criteria are not met. However, it does contain substances classified as hazardous for this effect. For more information see section 3.

12.1 Toxicity:

Acute toxicity:

Identification	Concentration		Species	Genus
Naphtha (petroleum), hydrotreated heavy, < 0.1 % EC 200-753-7 CAS: 64742-48-9 EC: 265-150-3	LC50	2200 mg/L (96 h)	Pimephales promelas	Fish
	EC50	1000 mg/L (96 h)	Daphnia magna	Crustacean
	EC50	Not relevant		
Bis[2-[2-(1-methylethyl)-3-oxazolidinyl]ethyl] hexan-1,2-diylbiscarbamate CAS: 59719-67-4 EC: 261-879-6	LC50	> 1 - 10 mg/L (96 h)		Fish
	EC50	> 1 - 10 mg/L (48 h)		Crustacean
	EC50	> 1 - 10 mg/L (72 h)		Algae
4,4'-methylenediphenyl diisocyanate CAS: 101-68-8 EC: 202-966-0	LC50	1000 mg/L (96 h)	Brachydanio rerio	Fish
	EC50	Not relevant		
	EC50	Not relevant		
Hydroxyphenyl benzotriazol derivative CAS: Not relevant EC: 400-830-7	LC50	> 1 - 10 mg/L (96 h)		Fish
	EC50	> 1 - 10 mg/L (48 h)		Crustacean
	EC50	> 1 - 10 mg/L (72 h)		Algae
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: 1065336-91-5 EC: 915-687-0	LC50	0,9 mg/L (96 h)	Danio rerio	Fish
	EC50	Not relevant		
	EC50	1,7 mg/L (72 h)	Desmodesmus subspicatus	Algae

Chronic toxicity:

Identification	Concentration		Species	Genus
4,4'-methylenediphenyl diisocyanate CAS: 101-68-8 EC: 202-966-0	NOEC	Not relevant		
	NOEC	10 mg/L	Daphnia magna	Crustacean
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: 1065336-91-5 EC: 915-687-0	NOEC	Not relevant		
	NOEC	1 mg/L	Daphnia magna	Crustacean

12.2 Persistence and degradability:

Substance-specific information:

Identification	Degradability		Biodegradability	
Naphtha (petroleum), hydrotreated heavy, < 0.1 % EC 200-753-7 CAS: 64742-48-9 EC: 265-150-3	BOD5	Not relevant	Concentration	Not relevant
	COD	Not relevant	Period	28 days
	BOD5/COD	Not relevant	% Biodegradable	89,9 %
o-xylene CAS: 95-47-6 EC: 202-422-2	BOD5	Not relevant	Concentration	16 mg/L
	COD	Not relevant	Period	28 days
	BOD5/COD	Not relevant	% Biodegradable	94 %

- CONTINUED ON NEXT PAGE -

**PROPAM SEAL PU20
(Before BETOFLEX M20)**

SECTION 12: ECOLOGICAL INFORMATION (continued)

Identification	Degradability		Biodegradability	
Reaction mass of Bis(1,2,2,6,6-pentamethyl-4-piperidyl) sebacate and Methyl 1,2,2,6,6-pentamethyl-4-piperidyl sebacate	BOD5	Not relevant	Concentration	20 mg/L
CAS: 1065336-91-5	COD	Not relevant	Period	28 days
EC: 915-687-0	BOD5/COD	Not relevant	% Biodegradable	38 %

12.3 Bioaccumulative potential:

Substance-specific information:

Identification	Bioaccumulation potential	
4,4'-methylenediphenyl diisocyanate	BCF	150
CAS: 101-68-8	Pow Log	4.51
EC: 202-966-0	Potential	High
o-xylene	BCF	26
CAS: 95-47-6	Pow Log	3.12
EC: 202-422-2	Potential	Low

12.4 Mobility in soil:

Identification	Absorption/desorption		Volatility	
Naphtha (petroleum), hydrotreated heavy, < 0.1 % EC 200-753-7	Koc	100	Henry	Not relevant
CAS: 64742-48-9	Conclusion	High	Dry soil	Not relevant
EC: 265-150-3	Surface tension	Not relevant	Moist soil	Not relevant
4,4'-methylenediphenyl diisocyanate	Koc	Not relevant	Henry	Not relevant
CAS: 101-68-8	Conclusion	Not relevant	Dry soil	Not relevant
EC: 202-966-0	Surface tension	2,068E-2 N/m (283,45 °C)	Moist soil	Not relevant
o-xylene	Koc	537	Henry	623 Pa·m ³ /mol
CAS: 95-47-6	Conclusion	Low	Dry soil	Yes
EC: 202-422-2	Surface tension	2,96E-2 N/m (25 °C)	Moist soil	Yes
Reaction mass of Bis(1,2,2,6,6-pentamethyl-4-piperidyl) sebacate and Methyl 1,2,2,6,6-pentamethyl-4-piperidyl sebacate	Koc	204400	Henry	0E+0 Pa·m ³ /mol
CAS: 1065336-91-5	Conclusion	Immobile	Dry soil	Not relevant
EC: 915-687-0	Surface tension	Not relevant	Moist soil	Not relevant

12.5 Results of PBT and vPvB assessment:

Product does not meet PBT/vPvB criteria

12.6 Endocrine disrupting properties:

Endocrine-disrupting properties: The product does not meet the criteria.

12.7 Other adverse effects:

Not described

SECTION 13: DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods:

Code	Description	Waste class (Regulation (EU) No 1357/2014)
08 04 10	waste adhesives and sealants other than those mentioned in 08 04 09	Non-hazardous

Type of waste (Regulation (EU) No 1357/2014):

Not relevant

Waste management (disposal and evaluation):

Consult the authorized waste service manager on the assessment and disposal operations in accordance with Annex 1 and Annex 2 (Directive 2008/98/EC). As under 15 01 (2014/955/EC) of the code and in case the container has been in direct contact with the product, it will be processed the same way as the actual product. Otherwise, it will be processed as non-hazardous residue. Waste should not be disposed of to drains. See paragraph 6.2.

Regulations related to waste management:

- CONTINUED ON NEXT PAGE -

**PROPAM SEAL PU20
(Before BETOFLEX M20)**

SECTION 13: DISPOSAL CONSIDERATIONS (continued)

In accordance with Annex II of Regulation (EC) No 1907/2006 (REACH) the community or state provisions related to waste management are stated
Community legislation: Directive 2008/98/EC, 2014/955/EU, Regulation (EU) No 1357/2014

SECTION 14: TRANSPORT INFORMATION

This product is not regulated for transport (ADR/RID,IMDG,IATA)

SECTION 15: REGULATORY INFORMATION

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

- Article 95, REGULATION (EU) No 528/2012: Not relevant
- Candidate substances for authorisation under the Regulation (EC) No 1907/2006 (REACH): Not relevant
- Regulation (EU) 2019/1021 on persistent organic pollutants: Not relevant
- Regulation (EU) No 2024/590, about substances that deplete the ozone layer: Not relevant
- REGULATION (EU) No 649/2012, in relation to the import and export of hazardous chemical products: *Naphtha (petroleum), hydrotreated heavy, < 0.1 % EC 200-753-7 (64742-48-9)*
- Substances included in Annex XIV of REACH ("Authorisation List") and sunset date: Not relevant

Seveso III:

Not relevant

Limitations to commercialisation and the use of certain dangerous substances and mixtures (Annex XVII REACH, etc):

Contains more than 0.1 % of 4,4'-methylenediphenyl diisocyanate by weight. This product may not be distributed in its present form for first-time sale to the general public after 27th December 2010 unless the packaging contains protective gloves meeting the provisions of Regulation (EU) 2016/425.

Shall not be used in:

- ornamental articles intended to produce light or colour effects by means of different phases, for example in ornamental lamps and ashtrays,
- tricks and jokes,
- games for one or more participants, or any article intended to be used as such, even with ornamental aspects.

Contains more than 0.1 % of diisocyanates by weight. 1. Shall not be used as substances on their own, as a constituent in other substances or in mixtures for industrial and professional use(s) after 24 August 2023, unless:

(a) the concentration of diisocyanates individually and in combination is less than 0,1 % by weight, or (b) the employer or self-employed ensures that industrial or professional user(s) have successfully completed training on the safe use of diisocyanates prior to the use of the substance(s) or mixture(s).

2. Shall not be placed on the market as substances on their own, as a constituent in other substances or in mixtures for industrial and professional use(s) after 24 February 2022, unless:

(a) the concentration of diisocyanates individually and in combination is less than 0,1 % by weight, or (b) the supplier ensures that the recipient of the substance(s) or mixture(s) is provided with information on the requirements referred to in point (b) of paragraph 1 and the following statement is placed on the packaging, in a manner that is visibly distinct from the rest of the label information: "As from 24 August 2023 adequate training is required before industrial or professional use".

3. For the purpose of this entry "industrial and professional user(s)" means any worker or self-employed worker handling diisocyanates on their own, as a constituent in other substances or in mixtures for industrial and professional use(s) or supervising these tasks.

4. The training referred to in point (b) of paragraph 1 shall include the instructions for the control of dermal and inhalation exposure to diisocyanates at the workplace without prejudice to any national occupational exposure limit value or other appropriate risk management measures at national level. Such training shall be conducted by an expert on occupational safety and health with competence acquired by relevant vocational training. That training shall cover as a minimum:

- (a) the training elements in point (a) of paragraph 5 for all industrial and professional use(s).
- (b) the training elements in points (a) and (b) of paragraph 5 for the following uses:
 - handling open mixtures at ambient temperature (including foam tunnels)
 - spraying in a ventilated booth
 - application by roller
 - application by brush
 - application by dipping and pouring
 - mechanical post treatment (e.g. cutting) of not fully cured articles which are not warm anymore
 - cleaning and waste
 - any other uses with similar exposure through the dermal and/or inhalation route
- (c) the training elements in points (a), (b) and (c) of paragraph 5 for the following uses:
 - handling incompletely cured articles (e.g. freshly cured, still warm)
 - foundry applications

- CONTINUED ON NEXT PAGE -

**PROPAM SEAL PU20
(Before BETOFLEX M20)**

SECTION 15: REGULATORY INFORMATION (continued)

- maintenance and repair that needs access to equipment
- open handling of warm or hot formulations (> 45 °C)
- spraying in open air, with limited or only natural ventilation (includes large industry working halls) and spraying with high energy (e.g. foams, elastomers)
- and any other uses with similar exposure through the dermal and/or inhalation route.

5. Training elements:

(a) general training, including on-line training, on:

- chemistry of diisocyanates
- toxicity hazards (including acute toxicity)
- exposure to diisocyanates
- occupational exposure limit values
- how sensitisation can develop
- odour as indication of hazard
- importance of volatility for risk
- viscosity, temperature, and molecular weight of diisocyanates
- personal hygiene
- personal protective equipment needed, including practical instructions for its correct use and its limitations
- risk of dermal contact and inhalation exposure
- risk in relation to application process used
- skin and inhalation protection scheme
- ventilation
- cleaning, leakages, maintenance
- discarding empty packaging
- protection of bystanders
- identification of critical handling stages
- specific national code systems (if applicable)
- behaviour-based safety
- certification or documented proof that training has been successfully completed

(b) intermediate level training, including on-line training, on:

- additional behaviour-based aspects
- maintenance
- management of change
- evaluation of existing safety instructions
- risk in relation to application process used
- certification or documented proof that training has been successfully completed

(c) advanced training, including on-line training, on:

- any additional certification needed for the specific uses covered
- spraying outside a spraying booth
- open handling of hot or warm formulations (> 45 °C)
- certification or documented proof that training has been successfully completed

6. The training shall comply with the provisions set by the Member State in which the industrial or professional user(s) operate. Member States may implement or continue to apply their own national requirements for the use of the substance(s) or mixture(s), as long as the minimum requirements set out in paragraphs 4 and 5 are met.

7. The supplier referred to in point (b) of paragraph 2 shall ensure that the recipient is provided with training material and courses pursuant to paragraphs 4 and 5 in the official language(s) of the Member State(s) where the substance(s) or mixture(s) are supplied. The training shall take into consideration the specificity of the products supplied, including composition, packaging, and design.

8. The employer or self-employed shall document the successful completion of the training referred to in paragraphs 4 and 5. The training shall be renewed at least every five years.

9. Member States shall include in their reports pursuant to Article 117(1) the following information:

- (a) any established training requirements and other risk management measures related to the industrial and professional uses of diisocyanates foreseen in national law
- (b) the number of cases of reported and recognised occupational asthma and occupational respiratory and dermal diseases in relation to diisocyanates
- (c) national exposure limits for diisocyanates, if there are any
- (d) information about enforcement activities related to this restriction.

10. This restriction shall apply without prejudice to other Union legislation on the protection of safety and health of workers at the workplace.

Specific provisions in terms of protecting people or the environment:

It is recommended to use the information included in this safety data sheet as a basis for conducting workplace-specific risk assessments in order to establish the necessary risk prevention measures for the handling, use, storage and disposal of this product.

Other legislation:

- CONTINUED ON NEXT PAGE -

**PROPAM SEAL PU20
(Before BETOFLEX M20)**

SECTION 15: REGULATORY INFORMATION (continued)

The product could be affected by sectorial legislation

15.2 Chemical safety assessment:

The supplier has not carried out evaluation of chemical safety.

SECTION 16: OTHER INFORMATION

Legislation related to safety data sheets:

The SDS shall be supplied in an official language of the country where the product is placed on the market. This safety data sheet has been designed in accordance with ANNEX II-Guide to the compilation of safety data sheets of Regulation (EC) No 1907/2006 (COMMISSION REGULATION (EU) 2020/878).

Modifications related to the previous Safety Data Sheet which concerns the ways of managing risks.:

CLP Regulation (EC) No 1272/2008 (SECTION 2, SECTION 16):

- Supplementary information

Texts of the legislative phrases mentioned in section 2:

H334: May cause allergy or asthma symptoms or breathing difficulties if inhaled.

Texts of the legislative phrases mentioned in section 3:

The phrases indicated do not refer to the product itself; they are present merely for informative purposes and refer to the individual components which appear in section 3

CLP Regulation (EC) No 1272/2008:

Acute Tox. 4: H312+H332 - Harmful in contact with skin or if inhaled.

Acute Tox. 4: H332 - Harmful if inhaled.

Aquatic Acute 1: H400 - Very toxic to aquatic life.

Aquatic Chronic 1: H410 - Very toxic to aquatic life with long lasting effects.

Aquatic Chronic 2: H411 - Toxic to aquatic life with long lasting effects.

Asp. Tox. 1: H304 - May be fatal if swallowed and enters airways.

Carc. 2: H351 - Suspected of causing cancer.

Eye Irrit. 2: H319 - Causes serious eye irritation.

Flam. Liq. 3: H226 - Flammable liquid and vapour.

Repr. 2: H361f - Suspected of damaging fertility.

Resp. Sens. 1: H334 - May cause allergy or asthma symptoms or breathing difficulties if inhaled.

Skin Irrit. 2: H315 - Causes skin irritation.

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

Skin Sens. 1A: H317 - May cause an allergic skin reaction.

Skin Sens. 1B: H317 - May cause an allergic skin reaction.

STOT RE 2: H373 - May cause damage to organs through prolonged or repeated exposure.

STOT SE 3: H335 - May cause respiratory irritation.

STOT SE 3: H336 - May cause drowsiness or dizziness.

Classification procedure:

Resp. Sens. 1: Calculation method

Advice related to training:

Training is recommended in order to prevent industrial risks for staff using this product and to facilitate their comprehension and interpretation of this safety data sheet, as well as the label on the product.

Principal bibliographical sources:

<http://echa.europa.eu>

<http://eur-lex.europa.eu>

Abbreviations and acronyms:

ADR: European agreement concerning the international carriage of dangerous goods by road

IMDG: International maritime dangerous goods code

IATA: International Air Transport Association

ICAO: International Civil Aviation Organisation

COD: Chemical Oxygen Demand

BOD5: 5day biochemical oxygen demand

BCF: Bioconcentration factor

LD50: Lethal Dose 50

LC50: Lethal Concentration 50

EC50: Effective concentration 50

LogPOW: Octanolwater partition coefficient

Koc: Partition coefficient of organic carbon

UFI: unique formula identifier

IARC: International Agency for Research on Cancer

- CONTINUED ON NEXT PAGE -

PROPAM SEAL PU20
(Before BETOFLEX M20)

The information contained in this safety data sheet is based on sources, technical knowledge and current legislation at European and state level, without being able to guarantee its accuracy. This information cannot be considered a guarantee of the properties of the product, it is simply a description of the security requirements. The occupational methodology and conditions for users of this product are not within our awareness or control, and it is ultimately the responsibility of the user to take the necessary measures to obtain the legal requirements concerning the manipulation, storage, use and disposal of chemical products. The information on this safety data sheet only refers to this product, which should not be used for needs other than those specified.

- END OF SAFETY DATA SHEET -