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

1.1. Product identifier

Code:
Product name **PAVILAND ARQ BARNIZ MATE Comp.A**

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

Intended use **Two-component water-based varnish for resin floors.**

Identified Uses	Industrial	Professional	Consumer
Film-forming paints	✓	✓	-

1.3. Details of the supplier of the safety data sheet

GRUPO PUMA ESPAÑA S.L.
AVDA. AGRUPACIÓN CÓRDOBA, NUM. 17 14014
CÓRDOBA - CÓRDOBA - ESPAÑA
Tfno.: +34 957 102 210 - Fax: +34 957 44 19 92
fds@grupopuma.com
http://www.grupopuma.com

1.4. Emergency telephone number

957 102 210 (Horario de atención: 08:30 – 13:30 y de 16:00 – 19:00)

SECTION 2. Hazards identification

2.1. Classification of the substance or mixture

The product is not classified as hazardous pursuant to the provisions set forth in EC Regulation 1272/2008 (CLP).
However, since the product contains hazardous substances in concentrations such as to be declared in section no. 3, it requires a safety data sheet with appropriate information, compliant to (EU) Regulation 2020/878.

Hazard classification and indication: --

2.2. Label elements

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

SECTION 2. Hazards identification ... / >>

Hazard pictograms: --

Signal words: --

Hazard statements:

EUH210 Safety data sheet available on request.

EUH208 Contains: Mixture of: 5-chloro-2-methyl-2H-isothiazol-3-one; 2-methyl-2H-isothiazol-3-one (3: 1)
1,2-BENZISOTHIAZOLINE 3 (2H) -ONE
May produce an allergic reaction.

Precautionary statements: --

VOC (Directive 2004/42/EC) :
Two-pack reactive performance coatings for specific end use such as floors.

VOC given in g/litre of product in a ready-to-use condition :		110,66
Limit value:		140,00
- Catalysed with :	20,00 %	Comp.B

2.3. Other hazards

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

The product does not contain substances with endocrine disrupting properties in concentration ≥ 0.1%.

SECTION 3. Composition/information on ingredients

3.1. Substances

Information not relevant

3.2. Mixtures

Contains:

Identification		**x = Conc. %**	**Classification (EC) 1272/2008 (CLP)**
2-(2-BUTOXYETHOXY)ETHANOL			
INDEX	*603-096-00-8*	3 ≤ x < 6	**Eye Irrit. 2 H319**
EC	*203-961-6*		
CAS	*112-34-5*		
REACH Reg.	*01-2119475104-44-XXXX*		
DIPROPYLENE GLYCOL MONOMETHYL ETHER			
INDEX		2,5 ≤ x < 3	**Substance with a community workplace exposure limit.**
EC	*252-104-2*		
CAS	*34590-94-8*		
REACH Reg.	*01-2119450011-XXXX*		
1,2-BENZISOTHIAZOLINE 3 (2H) -ONE			
INDEX	*613-088-00-6*	0 ≤ x < 0,05	**Acute Tox. 4 H302, Eye Dam. 1 H318, Skin Irrit. 2 H315, Skin Sens. 1 H317, Aquatic Acute 1 H400 M=1, Aquatic Chronic 2 H411**
EC	*220-120-9*		**Skin Sens. 1 H317: ≥ 0,05%**
CAS	*2634-33-5*		**LD50 Oral: 784 mg/kg**
REACH Reg.	*01-2120761540-60*		
Mixture of: 5-chloro-2-methyl-2H-isothiazol-3-one; 2-methyl-2H-isothiazol-3-one (3: 1)			
INDEX	*613-167-00-5*	0 ≤ x < 0,0015	**Acute Tox. 2 H310, Acute Tox. 2 H330, Acute Tox. 3 H301, Skin Corr. 1C H314, Eye Dam. 1 H318, Skin Sens. 1A H317, Aquatic Acute 1 H400 M=100, Aquatic Chronic 1 H410 M=100, EUH071**
EC	*911-418-6*		**Skin Corr. 1C H314: ≥ 0,6%, Skin Irrit. 2 H315: ≥ 0,06%, Skin Sens. 1A H317: ≥ 0,0015%, Eye Dam. 1 H318: ≥ 0,6%**
CAS	*55965-84-9*		**LD50 Oral: 53 mg/kg, STA Dermal: 50,001 mg/kg, STA Inhalation vapours: 0,501 mg/l**
REACH Reg.	*01-2120764691-48*		

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
The extinguishing equipment should be of the conventional kind: carbon dioxide, foam, powder and water spray.
UNSUITABLE EXTINGUISHING EQUIPMENT
None in particular.

5.2. Special hazards arising from the substance or mixture

HAZARDS CAUSED BY EXPOSURE IN THE EVENT OF FIRE
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
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.

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. 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

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. Do not eat, drink or smoke during use. Remove any contaminated clothes and personal protective equipment before entering places in which people eat. Avoid leakage of the product into the environment.

7.2. Conditions for safe storage, including any incompatibilities

Store only in the original container. Store in a cool and well ventilated place, keep far away from sources of heat, naked flames and sparks and other sources of ignition. Keep containers away from any incompatible materials, see section 10 for details.

7.3. Specific end use(s)

Information not available

SECTION 8. Exposure controls/personal protection

8.1. Control parameters

Regulatory references:

BGR	България	НАРЕДБА № 13 ОТ 30 ДЕКЕМВРИ 2003 Г. ЗА ЗАЩИТА НА РАБОТЕЩИТЕ ОТ РИСКОВЕ, СВЪРЗАНИ С ЕКСПОЗИЦИЯ НА ХИМИЧНИ АГЕНТИ ПРИ РАБОТА (изм. ДВ. бр.5 от 17 Януари 2020г.)
CZE	Česká Republika	NAŘÍZENÍ VLÁDY ze dne 10. května 2021, kterým se mění nařízení vlády č. 361/2007 Sb., kterým se stanoví podmínky ochrany zdraví při práci
DEU	Deutschland	Forschungsgemeinschaft MAK- und BAT-Werte-Liste 2022 Ständige Senatskommission zur Prüfung gesundheitsschädlicher Arbeitsstoffe Mitteilung 58
ESP	España	Límites de exposición profesional para agentes químicos en España 2023
FRA	France	Valeurs limites d'exposition professionnelle aux agents chimiques en FranceDécret n° 2021-1849 du 28 décembre 2021
GRC	Ελλάδα	Π.Δ. 26/2020 (ΦΕΚ 50/Α` 6.3.2020) Εναρμόνιση της ελληνικής νομοθεσίας προς τις διατάξεις των οδηγιών 2017/2398/ΕΕ, 2019/130/ΕΕ και 2019/983/ΕΕ «για την τροποποίηση της οδηγίας 2004/37/ΕΚ ''σχετικά με την προστασία των εργαζομένων από τους κινδύνους που συνδέονται με την έκθεση σε καρκινογόνους ή μεταλλαξιγόνους παράγοντες κατά την εργασία''»
HUN	Magyarország	Az innovációért és technológiáért felelős miniszter 5/2020. (II. 6.) ITM rendelete a kémiai kóroki tényezők hatásának kitett munkavállalók egészségének és biztonságának védelméről
ITA	Italia	Decreto Legislativo 9 Aprile 2008, n.81
NOR	Norge	Forskrift om endring i forskrift om tiltaksverdier og grenseverdier for fysiske og kjemiske faktorer i arbeidsmiljøet samt smitterisikogrupper for biologiske faktorer (forskrift om tiltaks- og grenseverdier), 21. august 2018 nr. 1255
NLD	Nederland	Arbeidsomstandighedenregeling. Lijst van wettelijke grenswaarden op grond van de artikelen 4.3, eerste lid, en 4.16, eerste lid, van het Arbeidsomstandighedenbesluit
PRT	Portugal	Decreto-Lei n.º 1/2021 de 6 de janeiro, valores-limite de exposição profissional indicativos para os agentes químicos. Decreto-Lei n.º 35/2020 de 13 de julho, proteção dos trabalhadores contra os riscos ligados à exposição durante o trabalho a agentes cancerígenos ou mutagénicos
POL	Polska	Rozporządzenie ministra rozwoju, pracy i technologii z dnia 18 lutego 2021 r. Zmieniające rozporządzenie w sprawie najwyższych dopuszczalnych stężeń i natężeń czynników szkodliwych dla zdrowia w środowisku pracy
ROU	România	Hotărârea nr. 53/2021 pentru modificarea hotărârii guvernului nr. 1.218/2006, precum și pentru modificarea și completarea hotărârii guvernului nr. 1.093/2006
SWE	Sverige	Hygieniska gränsvärden, Arbetsmiljöverkets föreskrifter och allmänna råd om hygieniska gränsvärden (AFS 2018:1)
SVK	Slovensko	NARIADENIE VLÁDY Slovenskej republiky z 12. augusta 2020, ktorým sa mení a dopĺňa nariadenie vlády Slovenskej republiky č. 356/2006 Z. z. o ochrane zdravia zamestnancov pred rizikami súvisiacimi s expozíciou karcinogénnym a mutagénnym faktorom pri práci v znení neskorších predpisov
SVN	Slovenija	Pravilnik o varovanju delavcev pred tveganji zaradi izpostavljenosti kemičnim snovem pri delu (Uradni list RS, št. 100/01, 39/05, 53/07, 102/10, 43/11 – ZVZD-1, 38/15, 78/18 in 78/19)
GBR	United Kingdom	EH40/2005 Workplace exposure limits (Fourth Edition 2020)
EU	OEL EU	Directive (EU) 2022/431; Directive (EU) 2019/1831; Directive (EU) 2019/130; Directive (EU) 2019/983; 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 98/24/EC; Directive 91/322/EEC.
	TLV-ACGIH	ACGIH 2023

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

Mixture of: 5-chloro-2-methyl-2H-isothiazol-3-one; 2-methyl-2H-isothiazol-3-one (3: 1)

Predicted no-effect concentration - PNEC		
Normal value in fresh water	0,339	mg/l
Normal value in marine water	0,339	mg/l
Normal value for fresh water sediment	0,027	mg/kg/d
Normal value for marine water sediment	0,027	mg/kg/d
Normal value of STP microorganisms	0,23	mg/l
Normal value for the terrestrial compartment	0,01	mg/kg/d

Health - Derived no-effect level - DNEL / DMEL

	Effects on consumers				Effects on workers			
Route of exposure	Acute local	Acute systemic	Chronic local	Chronic systemic	Acute local	Acute systemic	Chronic local	Chronic systemic
Oral		0,11 mg/kg bw/d		0,09 mg/kg bw/d				
Inhalation	0,04 mg/m3		0,02 mg/m3		0,04 mg/m3		0,02 mg/m3	

DIPROPYLENE GLYCOL MONOMETHYL ETHER

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations	
		mg/m3	ppm	mg/m3	ppm		
TLV	BGR	308	50			SKIN	
TLV	CZE	270	43,74	550	89,1	SKIN	
AGW	DEU	310	50	310	50		11
MAK	DEU	310	50	310	50		
VLA	ESP	308	50			SKIN	
VLEP	FRA	308	50			SKIN	
TLV	GRC	600	100	900	150		
AK	HUN	308	50				
VLEP	ITA	308	50			SKIN	
TLV	NOR	300	50			SKIN	
TGG	NLD	300					
VLE	PRT	308	50			SKIN	
NDS/NDSCh	POL	240		480		SKIN	
TLV	ROU	308	50			SKIN	
NGV/KGV	SWE	300	50	450 (C)	75 (C)	SKIN	
NPEL	SVK	308	50			SKIN	
MV	SVN	308	50			SKIN	
WEL	GBR	308	50			SKIN	
OEL	EU	308	50			SKIN	
TLV-ACGIH			50				

Predicted no-effect concentration - PNEC		
Normal value in fresh water	19	mg/l
Normal value in marine water	1,9	mg/l
Normal value for fresh water sediment	70,2	mg/kg/d
Normal value for marine water sediment	7,02	mg/kg/d
Normal value of STP microorganisms	4168	mg/l
Normal value for the terrestrial compartment	2,74	mg/kg/d

Health - Derived no-effect level - DNEL / DMEL

	Effects on consumers				Effects on workers			
Route of exposure	Acute local	Acute systemic	Chronic local	Chronic systemic	Acute local	Acute systemic	Chronic local	Chronic systemic
Oral				36 mg/kg bw/d				
Inhalation				37,2 mg/m3				308 mg/m3
Skin				121 mg/kg bw/d				283 mg/kg bw/d

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

2-(2-BUTOXYETHOXY)ETHANOL

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
TLV	BGR	67,5	10	101,2	15	
TLV	CZE	70	10,36	100	14,8	
AGW	DEU	67	10	100,5	15	Hinweis, 11
MAK	DEU	67	10	100,5	15	Hinweis
VLA	ESP	67,5	10	101,2	15	
VLEP	FRA	67,5	10	101,2	15	
TLV	GRC	67,5	10	101,2	15	
AK	HUN	67,5	10	101,2	15	
VLEP	ITA	67,5	10	101,2	15	
TLV	NOR	68	10			
TGG	NLD	50		100		SKIN
VLE	PRT	67,5	10	101,2	15	
NDS/NDSCh	POL	67		100		
TLV	ROU	67,5	10	101,2	15	
NGV/KGV	SWE	68	10	101	15	
NPEL	SVK	67,5	10	101,2	15	
MV	SVN	67,5	10	101,2	15	
WEL	GBR	67,5	10	101,2	15	
OEL	EU	67,5	10	101,2	15	
TLV-ACGIH		66	10			INHAL

Predicted no-effect concentration - PNEC

Normal value in fresh water	1,1	mg/l
Normal value in marine water	0,11	mg/l
Normal value for fresh water sediment	4,4	mg/kg/d
Normal value for marine water sediment	0,44	mg/kg/d
Normal value of STP microorganisms	200	mg/l
Normal value for the food chain (secondary poisoning)	56	mg/kg
Normal value for the terrestrial compartment	0,32	mg/kg/d
Normal value for the atmosphere	39	mg/m3

Health - Derived no-effect level - DNEL / DMEL

	Effects on consumers				Effects on workers			
Route of exposure	Acute local	Acute systemic	Chronic local	Chronic systemic	Acute local	Acute systemic	Chronic local	Chronic systemic
Oral				1,25 mg/kg bw/d				
Inhalation	50.6 mg/m3		34 mg/m3	34 mg/m3	101,2 mg/m3		67,5 mg/m3	67,5 mg/m3
Skin				10 mg/kg bw/d				20 mg/kg bw/d

1,2-BENZISOTHIAZOLINE 3 (2H) -ONE

Predicted no-effect concentration - PNEC

Normal value in fresh water	0,00403	mg/l
Normal value in marine water	0,00040	mg/l
Normal value for fresh water sediment	3 0,0499	mg/kg
Normal value for marine water sediment	0,499	mg/kg
Normal value of STP microorganisms	1,03	mg/l
Normal value for the terrestrial compartment	3	mg/kg/d

Health - Derived no-effect level - DNEL / DMEL

	Effects on consumers				Effects on workers			
Route of exposure	Acute local	Acute systemic	Chronic local	Chronic systemic	Acute local	Acute systemic	Chronic local	Chronic systemic
Inhalation				1,2 mg/m3				6,81 mg/m3
Skin				0,345 mg/kg bw/d				0,966 mg/kg bw/d

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 ; LOW = low hazard ; MED = medium hazard ; HIGH = high hazard.

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

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.
HAND PROTECTION
Protect hands with category III work gloves.
The following should be considered when choosing work glove material (see standard EN 374): 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 I professional long-sleeved overalls and safety footwear (see Regulation 2016/425 and standard EN ISO 20344). Wash body with soap and water after removing protective clothing.
EYE PROTECTION
Wear airtight protective goggles (see standard EN ISO 16321).
RESPIRATORY PROTECTION
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. 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).
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

Properties		Value	Information
Appearance		liquid	
Colour		white-yellow	
Odour		characteristic	
Melting point / freezing point		not available	Reason for missing data:Date not available
Initial boiling point		100 °C	
Flammability		not available	Reason for missing data:Date not available
Lower explosive limit		not available	Reason for missing data:Date not available
Upper explosive limit		not available	Reason for missing data:Date not available
Flash point	>	60 °C	
Auto-ignition temperature		not available	Reason for missing data:Date not available
Decomposition temperature		not available	Reason for missing data:Date not available
pH		8	
Kinematic viscosity		> 18 mm²/s	
Solubility		Water - glycols	
Partition coefficient: n-octanol/water		not available	Reason for missing data:Date not available
Vapour pressure		not available	Reason for missing data:Date not available
Density and/or relative density		1,06 kg/l	
Relative vapour density		not available	Reason for missing data:Date not available
Particle characteristics		not applicable	

9.2. Other information

9.2.1. Information with regard to physical hazard classes

Information not available

9.2.2. Other safety characteristics

VOC (Directive 2004/42/EC) : 6,40 % - 67,82 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.

DIPROPYLENE GLYCOL MONOMETHYL ETHER
Forms peroxides with: air.

10.2. Chemical stability

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

10.3. Possibility of hazardous reactions

No hazardous reactions are foreseeable in normal conditions of use and storage.

DIPROPYLENE GLYCOL MONOMETHYL ETHER
May react violently with: strong oxidising agents.
2-(2-BUTOXYETHOXY)ETHANOL
May react with: oxidising substances.May form peroxides with: oxygen.Develops hydrogen on contact with: aluminium.May form explosive mixtures with: air.

10.4. Conditions to avoid

None in particular. However the usual precautions used for chemical products should be respected.

DIPROPYLENE GLYCOL MONOMETHYL ETHER
Avoid exposure to: sources of heat.Possibility of explosion.
2-(2-BUTOXYETHOXY)ETHANOL
Avoid exposure to: air.

10.5. Incompatible materials

2-(2-BUTOXYETHOXY)ETHANOL
Incompatible with: oxidising substances,strong acids,alkaline metals.

10.6. Hazardous decomposition products

2-(2-BUTOXYETHOXY)ETHANOL
May develop: hydrogen.

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 hazard classes as defined in Regulation (EC) No 1272/2008

Metabolism, toxicokinetics, mechanism of action and other information

Information not available

Information on likely routes of exposure

2-(2-BUTOXYETHOXY)ETHANOL
WORKERS: inhalation; contact with the skin.

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

2-(2-BUTOXYETHOXY)ETHANOL
May be absorbed by inhalation, ingestion and skin contact; is irritating for the skin and especially for the eyes. May cause damage to the spleen. At room temperature the danger of inhalation is unlikely, due to the low vapour pressure of the substance.

Interactive effects

Information not available

ACUTE TOXICITY

ATE (Inhalation - vapours) of the mixture: > 20 mg/l

SECTION 11. Toxicological information ... / >>

ATE (Oral) of the mixture:	Not classified (no significant component)
ATE (Dermal) of the mixture:	Not classified (no significant component)

Mixture of: 5-chloro-2-methyl-2H-isothiazol-3-one; 2-methyl-2H-isothiazol-3-one (3: 1)

LD50 (Dermal):	> 2000 mg/kg ratto
STA (Dermal):	50,001 mg/kg estimate from table 3.1.2 of Annex I of the CLP (figure used for calculation of the acute toxicity estimate of the mixture)
LD50 (Oral):	53 mg/kg Ratto
LC50 (Inhalation vapours):	330 mg/m3 4h Ratto

DIPROPYLENE GLYCOL MONOMETHYL ETHER

LD50 (Dermal):	> 9510 mg/kg Rabbit
LD50 (Oral):	> 5000 mg/kg Rat
LC50 (Inhalation vapours):	> 275 ppm/7h Rat

2-(2-BUTOXYETHOXY)ETHANOL

LD50 (Dermal):	2764 mg/kg dw Rabbit OCSE 402
LD50 (Oral):	2410 mg/kg dw Rat OCSE 401

1,2-BENZISOTHIAZOLINE 3 (2H) -ONE

LD50 (Dermal):	> 2000 mg/kg Ratto
LD50 (Oral):	784 mg/kg Female Rat

SKIN 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 SENSITISATION

May produce an allergic reaction.
Contains:
Mixture of: 5-chloro-2-methyl-2H-isothiazol-3-one; 2-methyl-2H-isothiazol-3-one (3: 1)
1,2-BENZISOTHIAZOLINE 3 (2H) -ONE

GERM CELL MUTAGENICITY

Does not meet the classification criteria for this hazard class

CARCINOGENICITY

Does not meet the classification criteria for this hazard class

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

11.2. Information on other hazards

Based on the available data, the product does not contain substances listed in the main European lists of potential or suspected endocrine disruptors with human health effects under evaluation.

SECTION 12. Ecological information

Use this product according to good working practices. Avoid littering. Inform the competent authorities, should the product reach waterways or contaminate soil or vegetation.

12.1. Toxicity

Mixture of: 5-chloro-2-methyl-2H-isothiazol-3-one; 2-methyl-2H-isothiazol-3-one (3: 1)

LC50 - for Fish	0,19 mg/l/96h Pesce Oncorhynchus mykiss
EC50 - for Crustacea	0,16 mg/l/48h Dafnia
EC50 - for Algae / Aquatic Plants	0,037 mg/l/72h Alghe - Selenastrum capricornutum
Chronic NOEC for Fish	0,02 mg/l
Chronic NOEC for Crustacea	0,1 mg/l

DIPROPYLENE GLYCOL MONOMETHYL ETHER

LC50 - for Fish	> 1000 mg/l poecilia reticulata
EC50 - for Crustacea	1919 mg/l/48h Daphnia magna
EC50 - for Algae / Aquatic Plants	> 969 mg/l/72h Selenastrum capricornutum

2-(2-BUTOXYETHOXY)ETHANOL

LC50 - for Fish	1300 mg/l/96h lepomis macrochirus
EC50 - for Crustacea	> 100 mg/l/48h Daphnia magna

1,2-BENZISOTHIAZOLINE 3 (2H) -ONE

LC50 - for Fish	2,15 mg/l/96h
EC50 - for Crustacea	2,94 mg/l/48h
EC50 - for Algae / Aquatic Plants	0,11 mg/l/72h

12.2. Persistence and degradability

DIPROPYLENE GLYCOL MONOMETHYL ETHER

Solubility in water	1000 - 10000 mg/l
Rapidly degradable	

2-(2-BUTOXYETHOXY)ETHANOL

Solubility in water	1000 - 10000 mg/l
Rapidly degradable	

12.3. Bioaccumulative potential

DIPROPYLENE GLYCOL MONOMETHYL ETHER

Partition coefficient: n-octanol/water	0,0043

2-(2-BUTOXYETHOXY)ETHANOL

Partition coefficient: n-octanol/water	1

1,2-BENZISOTHIAZOLINE 3 (2H) -ONE

Partition coefficient: n-octanol/water	0,7

12.4. Mobility in soil

Information not available

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 ≥ than 0,1%.

12.6. Endocrine disrupting properties

Based on the available data, the product does not contain substances listed in the main European lists of potential or suspected endocrine disruptors with environmental effects under evaluation.

12.7. Other adverse effects

Information not available

SECTION 13. Disposal considerations

13.1. Waste treatment methods

Reuse, when possible. Neat product residues should be considered special non-hazardous waste.
Disposal must be performed through an authorised waste management firm, in compliance with national and local regulations.
CONTAMINATED PACKAGING
Contaminated packaging must be recovered or disposed of in compliance with national waste management regulations.

SECTION 14. Transport information

The product is not dangerous under current provisions of the Code of International Carriage of Dangerous Goods by Road (ADR) and by Rail (RID), of the International Maritime Dangerous Goods Code (IMDG), and of the International Air Transport Association (IATA) regulations.

14.1. UN number or ID number

not applicable

14.2. UN proper shipping name

not applicable

14.3. Transport hazard class(es)

not applicable

14.4. Packing group

not applicable

14.5. Environmental hazards

not applicable

14.6. Special precautions for user

not applicable

14.7. Maritime transport in bulk according to IMO instruments

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/EU: None

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

Product		
Point	40	
Contained substance		
Point	75	Mixture of: 5-chloro-2-methyl-2H-isothiazol-3-one; 2-methyl-2H-isothiazol-3-one (3: 1) REACH Reg.: 01-2120764691-48
Point	75	OttmethylCiclotetrasilossano REACH Reg.: 01-2119529238-36-XXXX
Point	75	1,2-BENZISOTHIAZOLINE 3 (2H) -ONE REACH Reg.: 01-2120761540-60
Point	75	2-DIMETHYLAMINOETHANOL REACH Reg.: 01-2119492298-24-XXXX
Point	55-75	2-(2-BUTOXYETHOXY)ETHANOL REACH Reg.: 01-2119475104-44-XXXX

Regulation (EU) 2019/1148 - on the marketing and use of explosives precursors

SECTION 15. Regulatory information ... / >>

not applicable

Substances in Candidate List (Art. 59 REACH)
On the basis of available data, the product does not contain any SVHC in percentage ≥ than 0,1%.

Substances subject to authorisation (Annex XIV REACH)
None

Substances subject to exportation reporting pursuant to Regulation (EU) 649/2012:
None

Substances subject to the Rotterdam Convention:
None

Substances subject to the Stockholm Convention:
None

Healthcare controls
Information not available

VOC (Directive 2004/42/EC) :
Two-pack reactive performance coatings for specific end use such as floors.

15.2. Chemical safety assessment

A chemical safety assessment has not been performed for the preparation/for the substances indicated in section 3.

SECTION 16. Other information

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

Acute Tox. 2	Acute toxicity, category 2
Acute Tox. 3	Acute toxicity, category 3
Acute Tox. 4	Acute toxicity, category 4
Skin Corr. 1C	Skin corrosion, category 1C
Eye Dam. 1	Serious eye damage, category 1
Eye Irrit. 2	Eye irritation, category 2
Skin Irrit. 2	Skin irritation, category 2
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
H310	Fatal in contact with skin.
H330	Fatal if inhaled.
H301	Toxic if swallowed.
H302	Harmful if swallowed.
H314	Causes severe skin burns and eye damage.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
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.
EUH071	Corrosive to the respiratory tract.
EUH210	Safety data sheet available on request.

LEGEND:
- ADR: European Agreement concerning the carriage of Dangerous goods by Road
- ATE: Acute Toxicity Estimate
- CAS: Chemical Abstract Service Number
- CE50: Effective concentration (required to induce a 50% effect)
- CE: Identifier in ESIS (European archive of existing substances)
- CLP: Regulation (EC) 1272/2008

SECTION 16. Other information ... / >>

- 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: Identifier in Annex VI of CLP
- LC50: Lethal Concentration 50%
- LD50: Lethal dose 50%
- OEL: Occupational Exposure Level
- PBT: Persistent, bioaccumulative and toxic
- PEC: Predicted environmental Concentration
- PEL: Predicted exposure level
- PMT: Persistent, mobile and toxic
- PNEC: Predicted no effect concentration
- REACH: Regulation (EC) 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: Time-weighted average exposure limit
- TWA STEL: Short-term exposure limit
- VOC: Volatile organic Compounds
- vPvB: Very persistent and very bioaccumulative
- vPvM: Very persistent and very mobile
- 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) 2020/878 (II Annex of REACH Regulation)
4. Regulation (EC) 790/2009 (I Atp. CLP) 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)
14. Regulation (EU) 2018/669 (XI Atp. CLP)
15. Regulation (EU) 2019/521 (XII Atp. CLP)
16. Delegated Regulation (UE) 2018/1480 (XIII Atp. CLP)
17. Regulation (EU) 2019/1148
18. Delegated Regulation (UE) 2020/217 (XIV Atp. CLP)
19. Delegated Regulation (UE) 2020/1182 (XV Atp. CLP)
20. Delegated Regulation (UE) 2021/643 (XVI Atp. CLP)
21. Delegated Regulation (UE) 2021/849 (XVII Atp. CLP)
22. Delegated Regulation (UE) 2022/692 (XVIII Atp. CLP)
23. Delegated Regulation (UE) 2023/707

- 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.

SECTION 16. Other information ... / >>

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

CALCULATION METHODS FOR CLASSIFICATION
Chemical and physical hazards: Product classification derives from criteria established by the CLP Regulation, Annex I, Part 2. The data for evaluation of chemical-physical properties are reported in section 9.
Health hazards: Product classification is based on calculation methods as per Annex I of CLP, Part 3, unless determined otherwise in Section 11.
Environmental hazards: Product classification is based on calculation methods as per Annex I of CLP, Part 4, unless determined otherwise in Section 12.

Changes to previous review:
The following sections were modified:
03 / 08 / 10 / 11 / 12 / 15.

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

1.1. Product identifier

Code:
Product name **PAVILAND ARQ BARNIZ MATE Comp.B**

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

Intended use **Two-component water-based polyurethane varnish for wooden floor**

Identified Uses	Industrial	Professional	Consumer
Component B	✓	✓	-
Mixing or blending	**ERC: 2.** **PROC: 5, 8a.** **AC: 11, 11a.** **PC: 9a.** **LCS: F, IS.**	**ERC: 2.** **PROC: 5, 8a.** **AC: 11, 11a.** **PC: 9a.**	-

1.3. Details of the supplier of the safety data sheet

GRUPO PUMA ESPAÑA S.L.
AVDA. AGRUPACIÓN CÓRDOBA, NUM. 17 14014
CÓRDOBA - CÓRDOBA - ESPAÑA
Tfno.: +34 957 102 210 - Fax: +34 957 44 19 92
fds@grupopuma.com
http://www.grupopuma.com

1.4. Emergency telephone number

957 102 210 (Horario de atención: 08:30 – 13:30 y de 16:00 – 19:00)

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 2020/878.
Any additional information concerning the risks for health and/or the environment are given in sections 11 and 12 of this sheet.

SECTION 2. Hazards identification ... / >>

Product classification based on the tests carried out on the mixture

Hazard classification and indication:

Acute toxicity, category 4	H332	Harmful if inhaled.
Specific target organ toxicity - single exposure, category 3	H335	May cause respiratory irritation.
Skin sensitization, category 1	H317	May cause an allergic skin reaction.
Hazardous to the aquatic environment, chronic toxicity, category 3	H412	Harmful to aquatic life with long lasting effects.

2.2. Label elements

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

Hazard pictograms:

Signal words: Warning

Hazard statements:

H332	Harmful if inhaled.
H335	May cause respiratory irritation.
H317	May cause an allergic skin reaction.
H412	Harmful to aquatic life with long lasting effects.

Precautionary statements:

P280	Wear protective gloves.
P261	Avoid breathing dust / fume / gas / mist / vapours / spray.
P312	Call a POISON CENTER or doctor/physician if you feel unwell.
P403+P233	Store in a well-ventilated place. Keep container tightly closed.
P362+P364	Take off contaminated clothing and wash it before reuse.

Contains: HYDROPHILIC ALIPHATIC POLYISOCYANATE BASED ON HDI
HEXAMETHYLENE-1,6-DIISOCYANATE HOMOPOLYMER

2.3. Other hazards

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

The product does not contain substances with endocrine disrupting properties in concentration ≥ 0.1%.

In case of hypersensitivity (asthma, chronic bronchitis) handling of the product is not recommended.
Even several hours after any overexposure, symptoms of respiratory tract disorders may occur.
Dust, vapors and aerosols are the main danger for the respiratory tract.

SECTION 3. Composition/information on ingredients

3.1. Substances

Information not relevant

SECTION 3. Composition/information on ingredients ... / >>

3.2. Mixtures

Contains:

Identification	x = Conc. %	Classification (EC) 1272/2008 (CLP)
HYDROPHILIC ALIPHATIC POLYISOCYANATE BASED ON HDI		
INDEX	55 ≤ x < 75	**Acute Tox. 4 H332, STOT SE 3 H335, Skin Sens. 1B H317, Aquatic Chronic 3 H412, EUH204**
EC		**STA Inhalation vapours: 11 mg/l**
CAS *666723-27-9*		
HEXAMETHYLENE-1,6-DIISOCYANATE HOMOPOLYMER		
INDEX	20 ≤ x < 30	**Acute Tox. 4 H332, STOT SE 3 H335, Skin Sens. 1 H317**
EC *223-242-0*		**STA Inhalation vapours: 11 mg/l**
CAS *3779-63-3*		
REACH Reg. *01-2119949539-20-XXXX*		

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

HYDROPHILIC ALIPHATIC POLYISOCYANATE BASED ON HDI
Impurity of :

hexamethylene diisocyanate
Concentration [% by weight]: < 0.055
INDEX #: 615-011-00-1
REACH Registration Number: 01-2119457571-37-0000, 01-2119457571-37-0005, 01-2119457571-37-0006
CAS No: 822-06-0
Classification (1272/2008/CE): Acute Tox. 4 Oral H302 Acute Tox. 1 Inhalative H330 Skin Irrit. 2H315 Eye Irrit. 2 H319 Head Sens. 1 H334 Skin Sens. 1 H317 STOT SE 3 H335 (Respiratory system)
Specific limiting concentrations (GHS):
Rep. Sens. 1H334 >= 0.5%
Skin Sens. 1 H317 >= 0.5%
ATE (oral): 746 mg/kg
ATE (inhalation, vapour): 0.124 mg/l

3-isocyanatomethyl-3,5,5-trimethylcyclohexyl isocyanate; isophorone di-isocyanate
Concentration [% by weight]: < 0.045
INDEX #: 615-008-00-5
EC No: 223-861-6
REACH registration number: 01-2119490408-31-0002, 01-2119490408-31-0012
CAS No: 4098-71-9
Classification (1272/2008/CE): Acute Tox. 1 Inhalative H330 Skin Irrit. 2 H315 Eye Irrit. 2 H319 Head Sens. 1 H334 Skin Sens. 1 H317 STOT SE 3 H335 (Respiratory system) Aquatic Chronic 2 H411
Specific limiting concentrations (GHS):
Skin Sens. 1 H317 >= 0.5%
Rep. Sens. 1H334 >= 0.5%
ATE (inhalation, dust/mist): 0.031 mg/l

SECTION 4. First aid measures

4.1. Description of first aid measures

General advice: Immediately remove soaked and soiled shoes and clothing, decontaminate and dispose of them.
If inhaled: Remove the injured person to fresh air, keep him warm and at rest; in case of respiratory ailments it is medical assistance is required.
In case of skin contact: In case of skin contact, possibly clean with a detergent based on polyethylene glycol, or wash with plenty of warm water and soap. Consult a physician if skin reactions occur.
In case of contact with the eyes: Wash the eyes for a long time (at least 10 min.) With lukewarm water keeping the eyelids open, then consult an ophthalmologist.
If swallowed: DO NOT induce vomiting. Wash / clean mouth with water. It is necessary to consult a doctor.

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

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

SECTION 4. First aid measures ... / >>

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
The extinguishing equipment should be of the conventional kind: carbon dioxide, foam, powder and water spray.
UNSUITABLE EXTINGUISHING EQUIPMENT
None in particular.

5.2. Special hazards arising from the substance or mixture

HAZARDS CAUSED BY EXPOSURE IN THE EVENT OF FIRE
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
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

Contact emergency personnel immediately. Evacuate area. Keep away to avoid inhalation of vapours. Cleaning must only be performed by trained personnel. Keep unauthorized people away.
6.1.1. For non-emergency personnel: remove unaffected persons. Inform the competent authorities.
6.1.2. For the emergency team: they must wear full protective clothing, including respiratory protection. Use equipment suitable protections.

6.2. Environmental precautions

Do not allow contaminated extinguishing water to enter soil, groundwater or sewage superficial. Avoid dispersal of spilled material, runoff and contact with drains and sewers.

6.3. Methods and material for containment and cleaning up

Methods and material for containment and cleaning up: Absorb spills with sand, earth or any other suitable absorbent material. Leave to react for at least 30 minutes. Do not absorb with sawdust or other combustible materials. Transfer to open containers for further decontamination. Flush the spill area with water.

6.3.1. Appropriate cleaning procedures: The composition of liquid decontaminants is (percentages by weight or by volume):
Decontaminant 1:
- soda ash: 5 - 10%
- liquid detergent: 0.2 - 2%
- water: up to 100%.

Decontaminant 2:
- concentrated ammonia solution: 3 - 8%
- liquid detergent: 0.2 - 2%
- water: up to 100%.

Scavenger 1 reacts more slowly with diisocyanates but is more environmentally friendly than scavenger 2.
Decontaminant 2 contains ammonia. Ammonia has health risks.

HYDROPHILIC ALIPHATIC POLYISOCYANATE BASED ON HDI
Remove mechanically; cover the residues with damp absorbent material (eg sawdust, binders for chemical reactants based on hydrated calcium silicate, sand). After approx. 1 hour collect in a waste container. Do not close it (carbon dioxide develops). Keep in a humid place and leave several days outdoors, in a controlled place.
The spill area can be decontaminated using the following recommended decontamination solution:
Decontamination solution 1: 8-10% sodium carbonate and 2% liquid soap in water
Decontamination solution 2: liquid / Marseille soap (soap with potassium and with ~ 15% anionic surfactants): 20 ml; water: 700 ml; polyethylene glycol (PEG 400): 350 ml

SECTION 6. Accidental release measures ... / >>

Decontamination Medium 3: 30% commercial detergent (containing monoethanolamine 70% water

6.4. Reference to other sections

Refer to section 1 for emergency contact information and section 13 for waste disposal. Use appropriate personal protective equipment: see section 8.

SECTION 7. Handling and storage

7.1. Precautions for safe handling

7.1.1. Protective measures:Ensure sufficient exchange and/or extraction in working rooms. In all workplaces where you can generate high concentrations of isocyanate aerosols and / or vapors (e.g. during pressure release, mold venting or during cleaning of mixing heads with an air blast), proper ventilation must be provided). Avoid exceeding the limits of occupational exposure. The efficiency of the ventilation system must be checked regularly due to the possibility of blockage. Atmospheric concentrations should be minimized and kept as low as reasonably practicable below the occupational exposure limit.
7.1.2. Advice for general occupational hygiene: Do not eat, drink, smoke or use tobacco in the workplace. Contact with skin and eyes and inhalation of vapors should be avoided under all circumstances. Keep the equipment clean. A key element in the sampling, handling and storage is the prevention of contact with water. Keep stocks ready scavengers.

7.2. Conditions for safe storage, including any incompatibilities

Store in accordance with local regulations. Store in the original container protected from direct sunlight in a dry area, cool and well ventilated, away from incompatible materials, food and drink. Keep container tightly closed and sealed until use. THE Containers that have been opened should be carefully closed and kept upright to prevent leakage. Do not store in undesignated containers. Use adequate containment to avoid environmental contamination. Suitable containers: steel, stainless steel. Unsuitable containers: copper, copper alloys and galvanized surfaces.

7.3. Specific end use(s)

Information not available

SECTION 8. Exposure controls/personal protection

8.1. Control parameters

Information not available

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.
The following should be considered when choosing work glove material (see standard EN 374): 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 Regulation 2016/425 and standard EN ISO 20344). Wash body with soap and water after removing protective clothing.
EYE PROTECTION
Wear airtight protective goggles (see standard EN ISO 16321).
RESPIRATORY PROTECTION
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. 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).
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.
Product residues must not be indiscriminately disposed of with waste water or by dumping in waterways.

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

HYDROPHILIC ALIPHATIC POLYISOCYANATE BASED ON HDI
Hand protection
Materials suitable for protective gloves; EN 374:
Nitrile rubber - NBR: thickness> = 0.35mm; onset time> = 480min.
Butyl rubber - IIR: thickness> = 0,5mm; onset time> = 480min.
Fluorinated rubber - FKM: thickness> = 0,4mm; onset time> = 480min.
Polyvinyl chloride - PVC: thickness> = 0.5mm; onset time> = 480min.
Recommendation: Properly dispose of contaminated gloves.

SECTION 9. Physical and chemical properties

9.1. Information on basic physical and chemical properties

Properties		Value	Information
Appearance		liquid	
Colour		colourless	
Odour		mild	
Melting point / freezing point		not available	Reason for missing data:Date not available
Initial boiling point		193 °C	Method:DIN 53171
Flammability		not available	Reason for missing data:Date not available
Lower explosive limit		not available	Reason for missing data:Date not available
Upper explosive limit		not available	Reason for missing data:Date not available
Flash point	>	88 °C	Method:DIN EN ISO 2719
Auto-ignition temperature		440 °C	Method:DIN 51794
Decomposition temperature		not available	Reason for missing data:Date not available
pH		not available	Reason for missing data:substance/mixture reacts with water
Kinematic viscosity		not available	Reason for missing data:Date not available
Dynamic viscosity		428 mPAS	Method:DIN 53019 Temperature: 20 °C
Solubility		Insoluble, it reacts with the development of CO2	
Partition coefficient: n-octanol/water		not available	Reason for missing data:Date not available
Vapour pressure		3 hPa	Method:EG A4
Density and/or relative density		1,13 kg/l	Method:DIN EN ISO 2811
Relative vapour density		not available	Reason for missing data:Date not available
Particle characteristics		not applicable	

9.2. Other information

9.2.1. Information with regard to physical hazard classes

Information not available

9.2.2. Other safety characteristics

VOC (Directive 2010/75/EU)	30,00 %	-	339,00	g/litre
VOC (volatile carbon)	8,39 %	-	94,82	g/litre

SECTION 10. Stability and reactivity

HYDROPHILIC ALIPHATIC POLYISOCYANATE BASED ON HDI
Exothermic reaction with amines and alcohols with water gradual development
CO2 increase pressure in closed containers; danger of bursting.

10.1. Reactivity

Reacts with water, acids, alcohols, amines, bases and oxidants. Ideal storage temperature 20 - 30°C to avoid the formation of dimers which lower the performance characteristics.

10.2. Chemical stability

TDI reacts with water to form mostly solid, insoluble polyureas. Under conditions typical of many types of environmental contact, for example with relatively little dispersion of the denser isocyanate, the interfacial reaction leads to the formation of a solid crust enclosing non or partially

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

reacted. This crust limits the entry of water and the exit of amine, and thus slows down and modifies hydrolysis.

Stability in alcohol, benzene, diglycol monomethyl ether, ether, kerosene, acetone, carbon tetrachloride, chlorobenzene

10.3. Possibility of hazardous reactions

Reaction is slow with cold or hot water (<50°C), with hot water or steam the reaction is faster, producing carbon dioxide which causes an increase in pressure. Acids, alcohols, amines, bases and oxidants can cause overheating due to the heat of exothermic reaction with a high risk of fire.

10.4. Conditions to avoid

High temperature, humidity, strong light.

10.5. Incompatible materials

Water, acids, alcohols, amines, bases and oxidants.

10.6. Hazardous decomposition products

No dangerous decomposition products when stored and treated as prescribed / indicated.

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 hazard classes as defined in Regulation (EC) No 1272/2008

Metabolism, toxicokinetics, mechanism of action and other information

Information not available

Information on likely routes of exposure

Information not available

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

Information not available

Interactive effects

Information not available

ACUTE TOXICITY

ATE (Inhalation - vapours) of the mixture:	10,48 mg/l
ATE (Oral) of the mixture:	Not classified (no significant component)
ATE (Dermal) of the mixture:	Not classified (no significant component)

HYDROPHILIC ALIPHATIC POLYISOCYANATE BASED ON HDI

LD50 (Oral):	> 5000 mg/kg OECD TG 423
LC50 (Inhalation vapours):	1,5 mg/l/4h Ratto, femmina
STA (Inhalation vapours):	11 mg/l estimate from table 3.1.2 of Annex I of the CLP (figure used for calculation of the acute toxicity estimate of the mixture)

HEXAMETHYLENE-1,6-DIISOCYANATE HOMOPOLYMER

LC50 (Inhalation vapours):	1,5 mg/l
STA (Inhalation vapours):	11 mg/l estimate from table 3.1.2 of Annex I of the CLP (figure used for calculation of the acute toxicity estimate of the mixture)

SECTION 11. Toxicological information ... / >>

HYDROPHILIC ALIPHATIC POLYISOCYANATE BASED ON HDI
ATEmix (inhalation): 2.72 mg / l, 4 h
Test atmosphere: dust / fog
Method: Method of calculation
Hydrophilic aliphatic polyisocyanate based on HDI
LC50 Rat, female: 0.390 mg / l, 4 hours
Test atmosphere: dust / fog
Method: OECD Test Guideline 403
The test atmosphere generated in the animal study is not representative of work environments, how the substance is placed on the market and how it is reasonable to expect it to be used. As a result of this, the test results cannot be directly applied to the objective of assessing the risks. Based on expert assessment and weight of evidence, a modified classification for acute inhalation toxicity is warranted.
Toxicological tests on a comparable product.
Conversion into point estimate of acute toxicity 1.5 mg / l
Test atmosphere: dust / fog
Method: Expert judgment
Assessment: Harmful if inhaled.

SKIN CORROSION / IRRITATION

Does not meet the classification criteria for this hazard class

HYDROPHILIC ALIPHATIC POLYISOCYANATE BASED ON HDI
Hydrophilic aliphatic polyisocyanate based on HDI
Species: Rabbit
Result: It is not possible to distinguish an irritating action from a mechanical stress due to the removal of the sample.
Classification: No skin irritation
Method: OECD Test Guideline 404
Studies on a similar product.

SERIOUS EYE DAMAGE / IRRITATION

Does not meet the classification criteria for this hazard class

HYDROPHILIC ALIPHATIC POLYISOCYANATE BASED ON HDI
Primary irritation of the mucous membranes
Hydrophilic aliphatic polyisocyanate based on HDI
Species: Rabbit
Result: slightly irritating
Classification: No eye irritation
Method: OECD Test Guideline 405
Studies on a similar product.

RESPIRATORY OR SKIN SENSITISATION

Sensitising for the skin

HYDROPHILIC ALIPHATIC POLYISOCYANATE BASED ON HDI
Hydrophilic aliphatic polyisocyanate based on HDI
Skin sensitization (LLNA (Local Lymph Node Assay)):
Species: Mouse
Result: positive
Classification: May cause sensitization by skin contact (sub-category 1B)
Method: OECD TG 429
Studies on a similar product.
Respiratory sensitization
Classification: No classification under EC Directives 2006/121 / EC or 1999/45 / EC as a respiratory sensitizer.
No pulmonary sensitization in animal testing.
No pulmonary sensitization potential was established in guinea pigs either after intradermal induction or after inhalation of hexamethylene diisocyanate-based polyisocyanate.

GERM CELL MUTAGENICITY

Does not meet the classification criteria for this hazard class

HYDROPHILIC ALIPHATIC POLYISOCYANATE BASED ON HDI
Genotoxicity in vitro
Hydrophilic aliphatic polyisocyanate based on HDI
Test type: Salmonella / microsome test (Ames-test)

SECTION 11. Toxicological information ... / >>

Result: No indications suggesting a mutagenic effect.
Method: OECD TG 471
Studies on a similar product.

CARCINOGENICITY

Does not meet the classification criteria for this hazard class

HYDROPHILIC ALIPHATIC POLYISOCYANATE BASED ON HDI
CMR evaluation
Hydrophilic aliphatic polyisocyanate based on HDI
Carcinogenicity: Based on available data, the classification criteria are not met.
Mutagenicity: In vitro tests did not reveal mutagenic effects
Teratogenicity: Based on available data, the classification criteria are not met.
Reproductive toxicity / fertility: Based on available data, the classification criteria are not met.

REPRODUCTIVE TOXICITY

Does not meet the classification criteria for this hazard class

Adverse effects on sexual function and fertility

HYDROPHILIC ALIPHATIC POLYISOCYANATE BASED ON HDI
Reproductive toxicity / fertility
Hydrophilic aliphatic polyisocyanate based on HDI
Available data show no evidence of reproductive toxicity

Adverse effects on development of the offspring

HYDROPHILIC ALIPHATIC POLYISOCYANATE BASED ON HDI
Reproductive toxicity / developmental toxicity / Teratogenicity
Hydrophilic aliphatic polyisocyanate based on HDI
Animal studies of structurally similar compounds did not reveal specific reproductive toxicities.

STOT - SINGLE EXPOSURE

May cause respiratory irritation

HYDROPHILIC ALIPHATIC POLYISOCYANATE BASED ON HDI
Specific target organ toxicity (single exposure)
Hydrophilic aliphatic polyisocyanate based on HDI
It can irritate the respiratory tract.

STOT - REPEATED EXPOSURE

Does not meet the classification criteria for this hazard class

HYDROPHILIC ALIPHATIC POLYISOCYANATE BASED ON HDI
Hydrophilic aliphatic polyisocyanate based on HDI
NOAEL: 3.3 mg / m³ air
Method of application: Inhalation
Species: Rat, male / female
Dosage levels: 0 - 0.5 - 3.3 - 26.4 mg / m³
Duration of exposure: 90 d
Treatment frequency: 6 hours a day, 5 days a week
Test substance: as an aerosol
Method: OECD TG 413
No indications were found that would suggest damage to other organs other than those of respiration.
Toxicological tests on a comparable product.

ASPIRATION HAZARD

Does not meet the classification criteria for this hazard class

HYDROPHILIC ALIPHATIC POLYISOCYANATE BASED ON HDI
Aspiration toxicity
Hydrophilic aliphatic polyisocyanate based on HDI
Based on available data, the classification criteria are not met.

SECTION 11. Toxicological information ... / >>

11.2. Information on other hazards

Based on the available data, the product does not contain substances listed in the main European lists of potential or suspected endocrine disruptors with human health effects under evaluation.

HYDROPHILIC ALIPHATIC POLYISOCYANATE BASED ON HDI
Hydrophilic aliphatic polyisocyanate based on HDI
Particular characteristics / effects: In the case of overexposure there is a danger, depending on the concentration, of irritation of the eyes, nose, throat and respiratory tract. Possible delayed appearance of disorders and development of a form of hypersensitivity (respiratory disorders, cough, asthma). Hypersensitive people may experience these effects even at low concentrations of isocyanate, including concentrations below the occupational exposure limit. In case of prolonged contact with the skin, irritating and dehydrating effects are possible.
In animal experiments and other tests it was found that skin contact with diisocyanates
it could play a role in isocyanate sensitization and pathway reactions
respiratory.

SECTION 12. Ecological information

This product is dangerous for the environment and the aquatic organisms. In the long term, it have negative effects on aquatic environment.

12.1. Toxicity

HYDROPHILIC ALIPHATIC POLYISOCYANATE BASED ON HDI

LC50 - for Fish	35,2 mg/l/96h Danio Rerio (pesce zebra)
EC50 - for Crustacea	> 100 mg/l/48h Saggio sulla specie: Daphnia magna
EC50 - for Algae / Aquatic Plants	> 72 mg/l/72h Testato su: alghe

12.2. Persistence and degradability

HYDROPHILIC ALIPHATIC POLYISOCYANATE BASED ON HDI
NOT rapidly degradable

12.3. Bioaccumulative potential

Information not available

12.4. Mobility in soil

Information not available

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 ≥ than 0,1%.

12.6. Endocrine disrupting properties

Based on the available data, the product does not contain substances listed in the main European lists of potential or suspected endocrine disruptors with environmental effects under evaluation.

12.7. Other adverse effects

HYDROPHILIC ALIPHATIC POLYISOCYANATE BASED ON HDI
Reacts with water in correspondence of the contact surface with the development of CO2
forming a solid reaction product, insoluble high melting point (polyurea). This reaction is accelerated by surfactants (eg. Liquid soap) and water-soluble solvents. According to the experience gained to date, polyurea is inert and non-degradable.

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.
CONTAMINATED PACKAGING
Contaminated packaging must be recovered or disposed of in compliance with national waste management regulations.

SECTION 14. Transport information

The product is not dangerous under current provisions of the Code of International Carriage of Dangerous Goods by Road (ADR) and by Rail (RID), of the International Maritime Dangerous Goods Code (IMDG), and of the International Air Transport Association (IATA) regulations.

14.1. UN number or ID number

not applicable

14.2. UN proper shipping name

not applicable

14.3. Transport hazard class(es)

not applicable

14.4. Packing group

not applicable

14.5. Environmental hazards

not applicable

14.6. Special precautions for user

not applicable

14.7. Maritime transport in bulk according to IMO instruments

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/EU: None

Restrictions relating to the product or contained substances pursuant to Annex XVII to EC Regulation 1907/2006
Product
Point 3

Regulation (EU) 2019/1148 - on the marketing and use of explosives precursors
not applicable

Substances in Candidate List (Art. 59 REACH)
On the basis of available data, the product does not contain any SVHC in percentage ≥ than 0,1%.

Substances subject to authorisation (Annex XIV REACH)
None

Substances subject to exportation reporting pursuant to Regulation (EU) 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.

SECTION 15. Regulatory information ... / >>

15.2. Chemical safety assessment

A chemical safety assessment has not been performed for the preparation/for the substances indicated in section 3.

SECTION 16. Other information

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

Acute Tox. 4	Acute toxicity, category 4
STOT SE 3	Specific target organ toxicity - single exposure, category 3
Skin Sens. 1	Skin sensitization, category 1
Skin Sens. 1B	Skin sensitization, category 1B
Aquatic Chronic 3	Hazardous to the aquatic environment, chronic toxicity, category 3
H332	Harmful if inhaled.
H335	May cause respiratory irritation.
H317	May cause an allergic skin reaction.
H412	Harmful to aquatic life with long lasting effects.
EUH204	Contains isocyanates. May produce an allergic reaction.

Use descriptor system:

AC	11	Wood articles
AC	11a	Wood articles: Large surface area articles
ERC	2	Formulation into mixture
LCS	F	Formulation or repacking
LCS	IS	Use at industrial sites
PC	9a	Coatings and paints, thinners, paint removers
PROC	5	Mixing or blending in batch processes
PROC	8a	Transfer of substance or mixture (charging and discharging) at non- dedicated facilities

LEGEND:
- ADR: European Agreement concerning the carriage of Dangerous goods by Road
- ATE: Acute Toxicity Estimate
- CAS: Chemical Abstract Service Number
- CE50: Effective concentration (required to induce a 50% effect)
- CE: Identifier in ESIS (European archive of existing substances)
- CLP: Regulation (EC) 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: Identifier in Annex VI of CLP
- LC50: Lethal Concentration 50%
- LD50: Lethal dose 50%
- OEL: Occupational Exposure Level
- PBT: Persistent, bioaccumulative and toxic
- PEC: Predicted environmental Concentration
- PEL: Predicted exposure level
- PMT: Persistent, mobile and toxic
- PNEC: Predicted no effect concentration
- REACH: Regulation (EC) 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: Time-weighted average exposure limit
- TWA STEL: Short-term exposure limit
- VOC: Volatile organic Compounds
- vPvB: Very persistent and very bioaccumulative
- vPvM: Very persistent and very mobile
- 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) 2020/878 (II Annex of REACH Regulation)
4. Regulation (EC) 790/2009 (I Atp. CLP) of the European Parliament
5. Regulation (EU) 286/2011 (II Atp. CLP) of the European Parliament

SECTION 16. Other information ... / >>

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)
14. Regulation (EU) 2018/669 (XI Atp. CLP)
15. Regulation (EU) 2019/521 (XII Atp. CLP)
16. Delegated Regulation (UE) 2018/1480 (XIII Atp. CLP)
17. Regulation (EU) 2019/1148
18. Delegated Regulation (UE) 2020/217 (XIV Atp. CLP)
19. Delegated Regulation (UE) 2020/1182 (XV Atp. CLP)
20. Delegated Regulation (UE) 2021/643 (XVI Atp. CLP)
21. Delegated Regulation (UE) 2021/849 (XVII Atp. CLP)
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- 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.

CALCULATION METHODS FOR CLASSIFICATION
Chemical and physical hazards: Product classification derives from criteria established by the CLP Regulation, Annex I, Part 2. The data for evaluation of chemical-physical properties are reported in section 9.
Health hazards: Product classification is based on calculation methods as per Annex I of CLP, Part 3, unless determined otherwise in Section 11.
Environmental hazards: Product classification is based on calculation methods as per Annex I of CLP, Part 4, unless determined otherwise in Section 12.

Changes to previous review:
The following sections were modified:
01 / 04 / 06 / 07 / 10 / 16.