Security data sheet



Product:	ET5392
Manufacturer:	PERMABOND ENGINEERING ADHESIVES
Product group:	KLEBSTOFF
Article group:	2-K KLEBSTOFF
Download:	04.05.2024

PERMABOND ET5392B

This data sheet was provided to you by Tewipack Uhl GmbH. The company tewipack Uhl GmbH assumes no responsibility for the topicality and the Accuracy of the information contained. The properties of the products can vary due to various influences such as composition and condition of the Substrate, impurities in or on the substrate, temperature and humidity at the Change storage and environmental conditions during use. Using this product in combination with other material, the customer is responsible for to check through our own tests whether the product is suitable for the planned combination and whether this combination delivers the expected results

Tewipack Uhl GmbH Industriestraße 15 D-75382 Althengstett Telephone: E-Mail: +49(0)7051/9297-0 Website: +49(0)7051/9297-99 www.tewipack.de

Fax

info@tewipack.de

Managing director: Alexander Uhl, Michael Uhl HRB 330424 Amtsgericht Stuttgart 85

Bank details: Sparkasse Pforzheim Calw BLZ 666 500 Konto 17 787

Commerzbank Sindelfingen BLZ 603 400 71 Konto 8 001 166

Vereinigte Volksbank AG Böblingen BLZ 603 900 00 Konto 80 089 003

Postbank Stuttgart BLZ 600 100 70 Konto 146 294 708

Deman	hond
Perma	
Engineerin	g Adhesives

Revision nr.1 Dated 25/07/2023 First compilation Printed on 25/07/2023 Page n. 1 / 10

Permabond ET5392B

Safety	Data	Sheet
--------	------	-------

According to Annex II to REACH - Regulation (EU) 2020/878 and to Annex II to UK REACH

SECTION 1. Identification of the sub	stance/mix	ture and of the com	npany/underta	king
1.1. Product identifier				
Product name	Permabond	ET5392B		
1.2. Relevant identified uses of the substance or	mixture and us	es advised against		
Intended use	Adhesive			
Identified Uses	Industrial	Professiona	ıl	Consumer
Use	\checkmark	\checkmark		-
1.3. Details of the supplier of the safety data shee	t			
Name Full address District and Country e-mail address of the competent person responsible for the Safety Data Sheet Supplier:	Niederkasse 40547 Tel. info.europe Permabond Wessex Wag	Engineering Adhesives eler Lohweg 18 Düsseldorf Germany +44 (0)1962 711 661 @permabond.com Engineering Adhesives Lto y, Colden Common, Hampshire SO21 1WP, UK		
		1962 711 661 urope@permabond.com		
1.4. Emergency telephone number				
For urgent inquiries refer to	+44 (0)1962	711 661 (8.00 am-5.00 pm	Mon-Fri)	
	CHEMTREC CHEMTREC	UK: +(44)-870-8200418 Ireland: +(353)-19014670 Australia: +(61)-290372994 New Zealand: +(64)-980100		
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.

Hazard classification and indication:		
Eye irritation, category 2	H319	Causes serious eye irritation.
Skin irritation, category 2	H315	Causes skin irritation.
Skin sensitization, category 1	H317	May cause an allergic skin reaction.

2.2. Label elements

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

Hazard pictograms:





Permabond ET5392B

Revision nr.1 Dated 25/07/2023 First compilation Printed on 25/07/2023 Page n. 2 / 10

SECTION 2. Hazards identification ... / >>

Signal words:	Warning
Hazard statements: H319 H315 H317	Causes serious eye irritation. Causes skin irritation. May cause an allergic skin reaction.
Precautionary statements: P273 P280 P302+P352 P305+P351+P338	Avoid release to the environment. Wear protective gloves / protective clothing / eye protection / face protection. In case of contact with the skin: wash abundantly with soap and water. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
Contains:	3-AMINOPROPYLDIMETHYLAMINE FATTY ACIDS, C18- UNSATD., DIMERS, POLYMERIC REACTION PRODUCTS WITH TALL-OIL FATTY ACIDS AND TRIETHYLENETETRAMINE

2.3. Other hazards

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

The product does not contain substances with endocrine disrupting properties in concentration $\ge 0.1\%$.

SECTION 3. Composition/information on ingredients

3.2. Mixtures

Contains:

Identification		x = Conc. %	Classification (EC) 1272/2008 (CLP)
FATTY ACIDS	, ,	MERS, POLYMERIC RE	ACTION PRODUCTS WITH TALL-OIL FATTY ACIDS AND
INDEX		60 ≤ x < 100	Eye Irrit. 2 H319, Skin Irrit. 2 H315, Skin Sens. 1 H317
EC	500-191-5		
CAS	68082-29-1		
3-AMINOPROF	PYLDIMETHYLAMIN	IE	
INDEX	612-061-00-6	1≤x< 3	Flam. Liq. 3 H226, Acute Tox. 4 H302, Acute Tox. 4 H312, Skin Corr. 1B H314, Eye Dam. 1 H318, Skin Sens. 1 H317
EC	203-680-9		LD50 Oral: 500 mg/kg, STA Dermal: 1100 mg/kg
CAS	109-55-7		
REACH Reg.	01-2119486842-27	-XXXX	

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

Skin: Wash the skin thoroughly with soap and water. If symptoms arise, request medical assistance Eyes: Make sure you have removed any contact lenses before rinsing your eyes. Wash Readyly and abundantly the eyes with water keeping the eyelids open. Continue to rinse for at least 15 minutes. Consult a doctor if the discomfort continues. Ingestion: rinse the mouth with water thoroughly. Make a abundant quantity of water drink. Do not cause vomiting. Consult a doctor.

Inhalation: move the subject exposed in the open air. Consult a doctor in case of serious symptoms or persistent.

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

Contact with the skin: skin irritation. Mild dermatitis, allergic rash. Contact with eyes: irritating and can cause redness and pain.

ΕN



Permabond ET5392B

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

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

Note for the doctor no specific recommendation. Symptomatic treatment.

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 DUE TO EXPOSURE IN THE EVENT OF FIRE Avoid breathing combustion products, carbon monoxide (CO), carbon dioxide (CO2), and nitric oxides (NOx).

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)



Permabond ET5392B

Adhesive

SECTION 8. Exposure controls/personal protection

8.1. Control parameters

			3-AMINOPROP	YLDIMETHYL	AMINE			
redicted no-effect cor	ncentration	- PNEC						
Normal value in fresh	water					0,073	mg/l	
Normal value in marir	ne water					0,007	mg/l	
Normal value for fresl	h water sedi	ment				0,735	mg/kg/d	
Normal value for mar	ine water se	diment				0,073	mg/kg/d	
Normal value for wate	er, intermitte	nt release				0,34	mg/l	
Normal value for the	terrestrial co	mpartment				0,104	mg/kg/d	
ealth - Derived no-effe	ect level - D	NEL / DMEL						
	Effects or	n consumers			Effects on v	vorkers		
Route of exposure	Acute	Acute	Chronic	Chronic	Acute	Acute	Chronic	Chronic
	local	systemic	local	systemic	local	systemic	local	systemic
Inhalation							1,2 mg/m3	1,2 mg/m3

FATTY ACIDS, C18- UNSATD., DIMERS, POLYMERIC REACTION PRODUCTS WITH TALL-OIL FATTY ACIDS AND TRIETHYLENETETRAMINE

Predicted no-effect co	ncentration	- PNEC						
Normal value in fresh	n water					0,004	mg/l	
Normal value in mari	ne water					0	mg/l	
Normal value for fres	h water sed	iment				434,02	mg/kg/d	
Normal value for mar	ine water se	ediment				43,4	mg/kg/d	
Normal value of STP	microorgan	isms				3,84	mg/l	
Normal value for the	terrestrial co	ompartment				86,78	mg/kg/d	
lealth - Derived no-eff	ect level - D	DNEL / DMEL						
	Effects o	n consumers			Effects on v	vorkers		
Route of exposure	Acute	Acute	Chronic	Chronic	Acute	Acute	Chronic	Chronic
	local	systemic	local	systemic	local	systemic	local	systemic
Oral				0.0972				0.952
				mg/kg bw/d				
Inhalation				0.169				0.952
				mg/m3				mg/m3
Skin				0.0972				0.272
				mg/kg bw/d				mg/kg
								bw/d

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.

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 166).

RESPIRATORY PROTECTION

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



Permabond ET5392B

Revision nr.1 Dated 25/07/2023 First compilation Printed on 25/07/2023 Page n. 5 / 10

SECTION 8. Exposure controls/personal protection/

required.

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

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

ENVIRONMENTAL EXPOSURE CONTROLS

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

SECTION 9. Physical and chemical properties

9.1. Information on basic physical and chemical properties

Properties		Value	Information		
Appearance		viscous liquid			
Colour		ivory			
Odour		mild			
Melting point / freezing point		not available			
Initial boiling point		not available			
Flammability		not available			
Lower explosive limit		not available			
Upper explosive limit		not available			
Flash point	>	100 °C			
Auto-ignition temperature		not available			
Decomposition temperature		not available			
рН		not available	Reason for missi	ng data:sub	stance/mixture is
			non-soluble	(in	water)
Kinematic viscosity		not available			
Dynamic viscosity		~ 325000 mPa.s Thixo	Temperature: 23	°C	
Solubility		not available			
Partition coefficient: n-octanol/water		not available			
Vapour pressure		not available			
Density and/or relative density		1,3			
Relative vapour density		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

Information not available

SECTION 10. Stability and reactivity

10.1. Reactivity

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

10.2. Chemical stability

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

10.3. Possibility of hazardous reactions

The vapours may also form explosive mixtures with the air.

10.4. Conditions to avoid

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

ΕN



Revision nr.1 Dated 25/07/2023 First compilation Printed on 25/07/2023 Page n. 6 / 10

Permabond ET5392B

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

10.5. Incompatible materials

Information not available

10.6. Hazardous decomposition products

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

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) of the mixture: ATE (Oral) of the mixture: ATE (Dermal) of the mixture: Not classified (no significant component) >2000 mg/kg >2000 mg/kg

3-AMINOPROPYLDIMETHYLAMINE	
STA (Dermal):	1100 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):	500 mg/kg

 FATTY ACIDS, C18- UNSATD., DIMERS, POLYMERIC REACTION PRODUCTS WITH TALL-OIL FATTY ACIDS AND

 TRIETHYLENETETRAMINE

 LD50 (Dermal):
 > 2000 mg/kg

 LD50 (Oral):
 > 2000 mg/kg

SKIN CORROSION / IRRITATION

Causes skin irritation

SERIOUS EYE DAMAGE / IRRITATION

Causes serious eye irritation

RESPIRATORY OR SKIN SENSITISATION

Sensitising for the skin

GERM CELL MUTAGENICITY

Does not meet the classification criteria for this hazard class

CARCINOGENICITY

Does not meet the classification criteria for this hazard class

EN



Permabond ET5392B

Revision nr.1 Dated 25/07/2023 First compilation Printed on 25/07/2023 Page n. 7 / 10

SECTION 11. Toxicological information .../>>

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

3-AMINOPROPYLDIMETHYLAMINE	
LC50 - for Fish	122 mg/l/96h
EC50 - for Crustacea	59,5 mg/l/48h
EC50 - for Algae / Aquatic Plants	53,5 mg/l/72h

12.2. Persistence and degradability

3-AMINOPROPYLDIMETHYLAMINE 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 \geq 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. 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.



Permabond ET5392B

Revision nr.1 Dated 25/07/2023 First compilation Printed on 25/07/2023 Page n. 8 / 10

SECTION 13. Disposal considerations .../>>

CONTAMINATED PACKAGING

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

Waste class 08 04 09* stickers and sealed sealing, containing organic solvents or other dangerous substances.

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:

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

None

 Product
 3 - 40

 Point
 3 - 40

 Contained substance
 75

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 \geq than 0,1%.

Substances subject to authorisation (Annex XIV REACH)
None

Substances subject to exportation reporting pursuant to Regulation (EU) 649/2012:

None

Revision nr.1 Dated 25/07/2023 First compilation Printed on 25/07/2023 Page n. 9 / 10

Permabond ET5392B

SECTION 15. Regulatory information ... / >>

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.

German regulation on the classification of substances hazardous to water (AwSV, vom 18. April 2017) WGK 2: Hazard to waters

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:

Flam. Liq. 3 Acute Tox. 4	Flammable liquid, category 3 Acute toxicity, category 4
Skin Corr. 1B	Skin corrosion, category 1B
Eye Irrit. 2	Eye irritation, category 2
Skin Irrit. 2	Skin irritation, category 2
Skin Sens. 1	Skin sensitization, category 1
H226	Flammable liquid and vapour.
H302	Harmful if swallowed.
H312	Harmful in contact with skin.
H314	Causes severe skin burns and eye damage.
H319	Causes serious eye irritation.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.

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 as REACH Regulation
- PEC: Predicted environmental Concentration
- PEL: Predicted exposure level
- 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 as for REACH Regulation
- WGK: Water hazard classes (German).

GENERAL BIBLIOGRAPHY



Permabond ET5392B

Revision nr.1 Dated 25/07/2023 First compilation Printed on 25/07/2023 Page n. 10 / 10

SECTION 16. Other information ... / >>

- 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)
- 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.

r to had appointed stan with designate hanning of how to des shoring

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.