



# MATERIAL SAFETY DATA SHEET

## TRIROOF HYBRID POLYMER HPX

<b>Product Name:</b>	<b>TriRoof Hybrid Polymer HPX</b> <b>1274945 Rev.3</b>
<b>Revision Date:</b>	12-Mar-2025 <b>According to Regulation (EC) No. 1907/2006</b>

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

#### 1.1. Product Identifier

<b>Product Name:</b>	TriRoof Hybrid Polymer HPX
<b>Type of Product:</b>	Coating
<b>Pure Substance/Mixture:</b>	Mixture

#### 1.2. Product relevant identified uses of the substance or mixture and uses advised against

Consumer (SU21), Professional (SU22) Waterproofing

## 1.3. Details of the supplier of the safety data sheet

### Tricel Composites (GB) Limited

Unit A, Foxway,  
Off Atkinson Street,  
Leeds, West Yorkshire,  
LS10 1PS.

Tel: +44 (0)113 270 3133

### Tricel Composites (NI) Limited

Unit 4, Milltown Ind. Estate, Greenan  
Road. Warrenpoint, Newry  
Co. Down,  
BT34 3FN.

Tel: +44 (0)284 175 3738

## 1.4. Emergency Telephone Number

**Emergency medical information:** 8am-10pm (seven days) contact National Poisons Information Centre, Beaumont Hospital, Dublin 9 DOV2NO, Ireland.

Telephone Number: +353 (0)1 809 2166

Leeds:	Newry:
Tel: +44 (0)113 270 3133	Tel: +44 (0)284 175 3738

### 1.4.1. Poison Information Centre Telephone Number

**European** emergency phone number: 112

**UK:** National Poisons Emergency Number : 0344 892 0111

**Ireland:** National Poisons Information Centre (NPIC) Telephone Healthcare Professionals : +353 (01) 809 2566. (24 hour service) Telephone Members of Public: +353 (01) 809 2166. (8.00 a.m. to 10.00 p.m. 7 days a week)

## 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 sensitization, category 1B	H317 May cause an allergic skin reaction.

## 2.2. Label elements

### Hazard Pictograms:



**Signal Word:** Warning

**Contains:** Trimethoxyvinylsilane, N-(3-(trimethoxysilyl)propyl) ethylenediamine

### 2.2.1. Hazard Statements (CLP)

H319	Causes serious eye irritation.
H317	May cause an allergic skin reaction.

### 2.2.2. Precautionary Statements (CLP)

P102	Keep out of reach of children.
P261	Avoid breathing dust / fume / gas / mist / vapours / spray.
P280	Wear protective gloves / eye protection / face protection.
P302+P352	IF ON SKIN: Wash with plenty of water
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P333+P313	If skin irritation or rash occurs: Get medical advice / attention.
P337+P313	If eye irritation persists: Get medical advice / attention.
P501	Dispose of an approved waste disposal plant, contents and container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation

## 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%.

## 3. Composition/Information on Ingredients

### 3.1. Substances

Not applicable

### 3.2. Mixtures

Name	Product identifier	%	Classification (EC) 1272/2008 (CLP)
Titanium dioxide	(CAS-No.) 13463-67-7 (EC-No.) 236-675-5 (REACHNo) 01-2119489379-17-xxxx	< 2.5	Not classified
trimethoxyvinylsilane; trimethoxy(vinyl)silane	(CAS-No.) 2768-02-7 (EC-No.) 220-449-8 (REACHNo) 01-2119513215-52-xxxx	< 1.5	Skin Sens. 1B, H317

N-(3-(trimethoxysilyl)propyl)ethylenediamine	(CAS-No.) 1760-24-3 (EC-No.) 217-164-6 (REACH No) 01-2119970215-39-xxxx	< 2	Acute Tox. 4 H332, STOT RE 2 H373, Eye Dam. 1 H318, Skin Sens. 1B H317 STA Inhalation mists/powders: 1.5 mg/l, STA Inhalation vapours: 11 mg/l
Dibutyltin dilaurate; dibutyl[bis(dodecanoyloxy)]stannane	(CAS-No.) 77-58-7 (EC-No.) 201-039-8 (REACH No) 01-2119496068-27-xxxx	<0.05	Muta. 2 H341, Repr. 1B H360, STOT SE 1 H370, STOT RE 1 H372, Eye Irrit. 2 H319, Skin Sens. 1 H317, Aquatic Chronic 1 H410 M=1

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

## 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 15 minutes, opening the eyelids fully. If problem persists, seek medical advice.
SKIN:	Remove contaminated clothing. Rinse skin with a shower immediately. Wash contaminated clothing before using it again.
INHALATION:	Remove to open air. If the subject stops breathing, administer artificial respiration. Get medical advice/attention immediately.
INGESTION:	Get medical advice/attention immediately. Do not induce vomiting. Do not administer anything not explicitly authorised by 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.

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

Information not available

## 5. Firefighting Measures

### 5.1. Extinguishing media

**Suitable extinguishing media:** The extinguishing equipment should be of the conventional kind: carbon dioxide, foam, powder and water spray.

**Unsuitable extinguishing media:** None in particular.

### 5.2. Special Hazards arising from 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).

## **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.

# **7. Handling and Storage**

## **7.1. Precautions for safe handling**

Before handling the product, consult all the other sections of this material safety data sheet. Avoid leakage of the product into the environment. Do not eat, drink or smoke during use. Remove any contaminated clothes and personal protective equipment before entering places in which people eat.

## **7.2. Conditions for safe storage, including any incompatibilities**

Store only in the original container. Store the containers sealed, in a well ventilated place, away from direct sunlight. Keep containers away from any incompatible materials, see section 10 for details.



## 7.3. Specific end use(s)

Information not available

## 8. Exposure Controls/Personal Protection

### 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 č. 41/2020 Sb. Nařízení vlády, kterým se mění nařízení vlády č. 361/2007 Sb., kterým se stanoví podmínky ochrany zdraví při práci, ve znění pozdějších předpisů
DEU	Deutschland	Technischen Regeln für Gefahrstoffe (TRGS 900) - Liste der Arbeitsplatzgrenzwerte und Kurzzeitwerte. MAK- und BAT-Werte-Liste 2020, Ständige Senatskommission zur Prüfung gesundheitsschädlicher Arbeitsstoffe, Mitteilung 56
DNK	Danmark	Bekendtgørelse om grænseværdier for stoffer og materialer - BEK nr 1458 af 13/12/2019
ESP	España	Límites de exposición profesional para agentes químicos en España 2021
FRA	France	Valeurs limites d'exposition professionnelle aux agents chimiques en France. ED 984 – INRS
FIN	Suomi	HTP-VÄRDEN 2020. Koncentrationer som befunnits skadliga. SOCIAL - OCH HÄLSOVÄRDSMINISTERIETS PUBLIKATIONER 2020:25
GRC	Ελλάδα	Π.Δ. 26/2020 (ΦΕΚ 50/Α` 6.3.2020) Εναρμόνιση της ελληνικής νομοθεσίας προς τις διατάξεις των οδηγιών 1977/2398/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 μεταλλαξιογόνους 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
HRV	Hrvatska	Pravilnik o izmjenama i dopunama Pravilnika o zaštiti radnika od izloženosti opasnim kemikalijama na radu, graničnim vrijednostima izloženosti i biološkim graničnim vrijednostima (NN 1/2021)
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 karcinogénym a mutagénym faktorom pri práci v znení neskorších predpisov
TUR	Türkiye	Kimyasal Maddelerle Çalışmalarda Sağlık ve Güvenlik Önlemleri Hakkında Yönetmelik 12.08.2013 / 28733



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GBR United EH40/2005 Workplace exposure limits (Fourth Edition 2020) Kingdom

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-ACGIHACGIH 2022

TITANIUM DIOXIDE							
Threshold Limit Value							
Type	Country	TWA/8h		STEL/15min		Remarks / Observations	
		mg/m3	ppm	mg/m3	ppm		
TLV	BGR	10				RESP	
TLV	DNK	6					Som Ti
VLA	ESP	10					
VLEP	FRA	10					
TLV	GRC		10				
GVI/KGVI	HRV	10				INHAL	
GVI/KGVI	HRV	4				RESP	
TLV	NOR	5					
NDS/NDSC h	POL	10				INHAL	
TLV	ROU	10		15			
NGV/KGV	SWE	5					Totaldam m
NPEL	SVK	5					
WEL	GBR	10				INHAL	
WEL	GBR	4				RESP	
TLV-ACGIH		2.5				RESP	

Legend: (C) = CEILING; INHAL = Inhalable Fraction; RESP = Respirable Fraction; THORA = Thoracic Fraction.

## 8.1. 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 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.

## 9. Physical and Chemical Properties

### 9.1. Information on basic physical and chemical properties

Properties	Value
Physical Appearance	liquid & paste
Colour	dark grey & light grey
Odour	characteristic
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	>60°C
Auto-ignition temperature	not available
Decomposition temperature	not available
pH	not available
Kinematic viscosity	not available

Dynamic viscosity	> 5000 cps
Solubility	not available
Partition coefficient: n-octanol/water	not available
Vapour pressure	not available
Density and/or relative density	1.40–1.50 g/cm <sup>3</sup>
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

## 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

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

## 10.4. Conditions to avoid

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

## 10.5. Incompatible materials

Information not available

## 10.6. Hazardous decomposition Products

Information not available

# 11. Toxicological Information

## 11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008 Acute toxicity

### 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 - mists / powders) of the mixture: > 5 mg/l

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

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

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

## **Titanium dioxide**

LD50 (Oral): > 10000 mg/kg Rat

## **N-(3-(trimethoxysilyl)propyl)ethylenediamine**

**STA (Inhalation mists/powders):** 1.5 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)

**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)

## **SKIN CORROSION / IRRITATION**

Does not meet the classification criteria for this hazard class

## **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

## **Titanium dioxide**

The classification as a carcinogen by inhalation applies only to mixtures in powder form containing 1% or more of titanium dioxide which is in the form of or incorporated in particles with aerodynamic diameter 10 µm.

## **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.

## **12. Ecological Information**

### **12.1. Toxicity**

Information not available



## 12.2. Persistence and degradability

Titanium dioxide

Solubility in water < 0.001 mg/l

Degradability: information not available

## 12.3. Bioaccumulative potential

Information not available

## 12.4. Mobility in soil

Information not available

## 12.5. Results of PBT and vPvB

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

# 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.

## **14. Transport Information**

### **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

## **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 None

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

#### **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.

### **15.2. Chemical Safety Assessment**

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

## **16. Other Information**

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

Carc. 2      Carcinogenicity, category 2  
 Acute Tox. 4      Acute toxicity, category 4  
 STOT RE 2      Specific target organ toxicity - repeated exposure, category 2  
 Eye Dam. 1      Serious eye damage, category 1  
 Eye Irrit. 2      Eye irritation, category 2  
 Skin Sens. 1B      Skin sensitization, category 1B

H351      Suspected of causing cancer.  
 H332      Harmful if inhaled.  
 H373      May cause damage to organs through prolonged or repeated exposure.  
 H318      Causes serious eye damage.  
 H319      Causes serious eye 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

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 10|11
  - 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

## 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.

## Disclaimer

*The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.*

**End of Safety Data Sheet**