Safety Data Sheet

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

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

1.1 Product identifier

Code	SDS0085
Product name	MD-3000/30v3
UFI	9J69-K0GX-G00A-X91A

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

Sealant.

1.3 Details of the supplier of the safety data sheet

Company name	Pantera Product GmbH
Address	Simon-Bolivar-Straße 29
Town	28197 Bremen
Country	Deutschland
Phone number	+49 (0)421 520 80 780
E-mail address	info@panteraproduct.de

1.4 Emergency telephone number

For urgent inquiries refer to	+43 (0) 1 406 43 43 (24h) +49 (0) 551-19240 GIZ-Nord

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		
Eye irritation, category 2	H319	Causes serious eye irritation.

2.2 Label elements

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

Hazard pictograms



Signal word
Warning

Hazard statements	
H319	Causes serious eye irritation.

Precautionary statements	
P101	If medical advice is needed, have product container or label at hand.
P102	Keep out of reach of children.
P280	Wear eye protection / face protection.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P337+P313	If eye irritation persists: Get medical advice / attention.

Supplementary hazard statements	
EUH208	Contains N-(3-(trimethoxysilyl)propyl)ethylenediamine. May produce an allergic reaction.

2.3 Other hazards

Contact with moisture liberates Methanol. At high temperatures (>150 °C) formaldehyde can be formed via oxidative cleavage.

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

3.2 Mixtures

The product is a mixture.

3-(trimethoxysilyl)propylamine

Concentration	1 ≤ x < 2 %
CAS number	13822-56-5
EC number	237-511-5
Registration Number	01-2119510159-45-0007
Hazard classification	▪ Skin Irrit. 2; H315 ▪ Eye Dam. 1; H318
Substance with a community workplace exposure limit.	

N-(3-(trimethoxysilyl)propyl)ethylenediamine

Concentration	0.1 ≤ x < 1 %
CAS number	1760-24-3
EC number	217-164-6
Hazard classification	▪ Skin Sens. 1B; H317 ▪ Eye Dam. 1; H318 ▪ STOT SE 3; H335

SVHC: substances are not contained or are below 0.1%.

4 First aid measures

4.1 Description of first aid measures

In case of doubt or in the presence of symptoms contact a doctor and show him this document.
In case of more severe symptoms, ask for immediate medical aid.
EYES: Remove, if present, contact lenses if the situation allows you to do so easily. Wash immediately with plenty of water for at least 15 minutes, opening the eyelids fully. Get medical advice/attention.
SKIN: Take off contaminated clothing. Wash immediately and thoroughly with running water (and soap if possible). Get medical advice. Avoid further contact with contaminated clothing.
INGESTION: Do not induce vomiting unless explicitly authorised by a doctor. Do not give anything by mouth to an unconscious person. Get medical advice/attention.

INHALATION: Remove victim to fresh air, away from the accident scene. Get medical advice/attention.

4.2 Most important symptoms and effects, both acute and delayed

Allergic reactions.

Irritating effect.

4.3 Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

If symptoms occur, whether acute or delayed, consult a doctor.

5 Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media: foam, carbon dioxide, dry powder, water spray jet. Extinguishing media that must not be used: full water jet.

5.2 Special hazards arising from the substance or mixture

Risk of formation of toxic pyrolysis products. Carbon monoxide (CO) Nitrogen oxides (NOx).

HAZARDS CAUSED BY EXPOSURE IN THE EVENT OF FIRE
Do not breathe combustion products.

5.3 Advice for firefighters

Use self-contained breathing apparatus. Fire residues and contaminated firefighting water must be disposed of in accordance within the local regulations.

6 Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Ensure adequate ventilation. High risk of slipping due to leakage/spillage of product. Use personal protective equipment (protective gloves, safety glasses, protective clothing).

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

Take up mechanically. Take up residues with absorbent material (e.g. sand, sawdust, general purpose binder, diatomaceous earth). Dispose of absorbed material in accordance within the regulations.

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

Use only in well-ventilated areas.

Wash hands before breaks and after work. Use barrier skin cream. Take off contaminated clothing and wash before reuse.

7.2 Conditions for safe storage, including any incompatibilities

Keep only in original container. Prevent penetration into the ground. Do not store together with food and animal food/diet. Keep container tightly closed. Keep in a cool place. Store in a dry place. Protect from heat/overheating.

7.3 Specific end use(s)

Information not available.

8 Exposure controls/personal protection

8.1 Control parameters

Ingredients with occupational exposure limits to be monitored (**EU**): Substance / EC LIMIT VALUES: **Methanol** CAS: 67-56-1, EINECS/ELINCS: 200-659-6, EU-INDEX: 603-001-00-X Eight hours: 200 ppm, 260 mg/m³

Regulatory references	
European Union-OEL	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.

3-(trimethoxysilyl)propylamine

	TWA		STEL		CEILING		Remarks	
	mg/m³	ppm	mg/m³	ppm	mg/m³	ppm		
European Union-OEL	260	200					Inhalation	Methanol

Predicted no-effect concentration - PNEC	
Normal value in fresh water	0.5 mg/l
Normal value for fresh water sediment	1.8 mg/kg
Normal value in marine water	0.05 mg/l
Normal value for marine water sediment	0.18 mg/kg
Normal value for the terrestrial compartment	69 mg/kg
Normal value for the atmosphere	11.1 mg/kg
Normal value for water, intermittent release	4.1 mg/l

Health - Derived no-effect level - DNEL / DMEL	Local effect	Systemic effect
Consumers, short-term, dermal		No hazard identified
Consumers, short-term, oral		No hazard identified
Consumers, long-term, dermal	Medium hazard	0.5 mg/kg bw/d
Consumers, long-term, inhalation	Medium hazard	1.7 mg/m³
Workers, short-term, dermal	Medium hazard	No hazard identified
Workers, short-term, inhalation	Medium hazard	No hazard identified
Workers, long-term, dermal	Medium hazard	
Workers, long-term, inhalation	Medium hazard	7.1 mg/m³

N-(3-(trimethoxysilyl)propyl)ethylenediamine

	TWA		STEL		CEILING		Remarks	
	mg/m³	ppm	mg/m³	ppm	mg/m³	ppm		
European Union-OEL	260	200					Inhalation	Methanol (is formed when the substance hydrolyses)

Predicted no-effect concentration - PNEC	
Normal value of STP microorganisms	20 mg/l
Normal value in fresh water	0.062 mg/l
Normal value for fresh water sediment	0.05 mg/kg
Normal value in marine water	0.0062 mg/l
Normal value for marine water sediment	0.005 mg/kg
Normal value for the terrestrial compartment	0.0075 mg/kg
Normal value for the food chain (secondary poisoning)	No hazard identified
Normal value for water, intermittent release	0.62 mg/l
Normal value for fresh water, intermittent release	5 µg/l

Health - Derived no-effect level - DNEL / DMEL	Local effect	Systemic effect
Consumers, short-term, dermal		No hazard identified
Consumers, short-term, inhalation		
Consumers, short-term, oral		No hazard identified
Consumers, long-term, dermal	Medium hazard	2.5 mg/kg/d
Consumers, long-term, inhalation	100 µg/m³	8.7 mg/m³
Consumers, long-term, oral		2.5 mg/kg
Workers, short-term, dermal	Medium hazard	No hazard identified
Workers, short-term, inhalation	5.36 mg/m³	No hazard identified
Workers, long-term, dermal	Medium hazard	5 mg/kg/d
Workers, long-term, inhalation	600 µg/m³	35.5 mg/m³

8.2 Exposure controls

Avoid contact with eyes and skin. Do not inhale vapours. Personal protective equipment should be selected specifically for the working place, depending on concentration and quantity handled. The resistance of this equipment to chemicals should be ascertained with the respective supplier.

Ensure adequate ventilation on workstation. Measurement methods for taking workplace measurements must meet the performance requirements of DIN EN 482. For example, recommendations are given in the IFA's list of hazardous substances.

0.7 mm Butyl rubber, >480 min (EN 374-1/-2/-3). The details concerned are recommendations. Please contact the glove supplier for further information.

Protect your hands with gloves of the following type

Material	Thickness	Breakthrough time
Butyl rubber (IIR) 0.7 mm Butyl rubber, >480 min (EN 374-1/-2/-3). The details concerned are recommendations. Please contact the glove supplier for further information.	**0.7 mm** –	**> 8 h** –

Protective clothing (EN 340)

Safety glasses. (EN 166:2001)

In the event of occupational exposure limits being exceeded or of inadequate ventilation: wear appropriate respiratory protection. Short term: filter apparatus, combination filter A-P2. (DIN EN 14387)

Protect the environment by applying appropriate control measures to prevent or limit emissions.

9 Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical state	pasty	

Colour	various	
Odour	odourless	
Odour threshold	Not relevant	
Melting point / freezing point	Not available	
Initial boiling point	Not available	
Flammability	Not applicable	
Lower explosive limit	Not applicable	
Upper explosive limit	Not applicable	
Flash point	Not available	
Auto-ignition temperature	Not available	
Decomposition temperature	Not available	
pH	Not applicable	
Kinematic viscosity (40 °C)	Not available	
Solubility	virtually insoluble in water	
Partition coefficient: n-octanol/water	Not available	
Vapour pressure	Not available	
Density and/or relative density	Not available	
Relative vapour density	Not available	

Particle characteristics

Information not available.

9.2 Other information

9.2.1 Information with regard to physical hazards

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

Reacts with: strong oxidising agents

10.4 Conditions to avoid

See Section 7.

10.5 Incompatible materials

Oxidising agents

10.6 Hazardous decomposition products

Contact with moisture liberates Methanol. At high temperatures (>150 °C) formaldehyde can be formed via oxidative cleavage.

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

Toxicological data of complete product are not available.

11.1.1 Metabolism, toxicokinetics, mechanism of action and other information

Information not available.

11.1.2 Information on likely routes of exposure

Information not available.

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

Information not available.

11.1.4 Interactive effects

Information not available.

11.1.5 ACUTE TOXICITY

Based on available data, the classification criteria are not met.

3-(trimethoxysilyl)propylamine

LD50 (Oral):	3,010 mg/kg	Species/guidelines: Rat
LD50 (Dermal):	11,460 mg/kg	Species/guidelines: Rabbit

N-(3-(trimethoxysilyl)propyl)ethylenediamine

LD50 (Oral):	2,295 mg/kg	Species/guidelines: Rat
LD50 (Dermal):	> 2,000 mg/kg	Species/guidelines: Rat

11.1.6 SKIN CORROSION/IRRITATION

Does not meet the classification criteria for this hazard class

3-(trimethoxysilyl)propylamine

irritating (Species: Rabbit, Method: OECD 404, Source: test report)

11.1.7 SERIOUS EYE DAMAGE / IRRITATION

Causes serious eye irritation.

3-(trimethoxysilyl)propylamine

After contact to the eyes irreversible effects must be expected. Mixtures which contained amino functional silane or siloxane compounds with the hazard potential "serious eye damage/irritation, category 1 - H318" at concentrations from 1% to 5%, beside (silicone) polymer and filler, did neither in vitro nor in vivo show an eye irritation potential relevant for classification. Product data: Serious damages to eyes (Species: Rabbit, Method: OECD 405, Source: test report).

N-(3-(trimethoxysilyl)propyl)ethylenediamine

After contact to the eyes irreversible effects must be expected. Mixtures which contained amino functional silane or siloxane compounds with the hazard potential "serious eye damage/irritation, category 1 - H318" at concentrations from 1% to 5%, beside (silicone) polymer and filler, did neither in vitro nor in vivo show an eye irritation potential relevant for classification. Product data: Serious damages to eyes (Species: Rabbit, Method: OECD 405, Source: test report).

11.1.8 RESPIRATORY OR SKIN SENSITISATION

Does not meet the classification criteria for this hazard class

Skin sensitization

3-(trimethoxysilyl)propylamine

Skin contact: Does not cause skin sensitisation. (Species: Guinea pig, Test system: Maximisation Test, Method: OECD 406, Source: test report)

N-(3-(trimethoxysilyl)propyl)ethylenediamine

Skin sensitization is possible after skin contact. Paste-like mixtures containing amino-functional silane compounds with the hazard potential "Skin sensitization, Category 1 - H317" in concentrations of 1 to 4%, in addition to silicone polymer and filler, showed no classifiable potential for skin sensitization in vivo. Product data: Routes of exposure: Skin contact. Result: Sensitizing (Species: Guinea pig, Test system: Maximization test, Method: OECD 406, Source: Test report). Routes of exposure: Skin contact. Result: Sensitizing (Species: Mouse, Test system: Local lymph node biopsy (LLNA), Method: OECD 429, Source: Test report)

11.1.9 GERM CELL MUTAGENICITY

Does not meet the classification criteria for this hazard class

3-(trimethoxysilyl)propylamine

negative (Metabolic activation: with and without metabolic activation, Test system: mutation assay (in vitro) / bacterial cells, Method: OECD 471, Source: test report) negative (Metabolic activation: with and without metabolic activation, Test system: mutation assay (in vitro) / mammalian cells, Test substance: read-across substance, Method: OECD 476, Source: test report) negative (Metabolic activation: with and without metabolic activation, Test system: chromosome aberration assay (in vitro) / mammalian cells, Method: OECD 473, Source: test report)

N-(3-(trimethoxysilyl)propyl)ethylenediamine

Assessment: Based on the available data, no relevant genotoxic potential is assumed. Negative: (Metabolic activation: with and without metabolic activation, test system: mutation test (in vitro) / bacterial cells, method: OECD 471, source: test report). Negative: (Metabolic activation: with and without metabolic activation, test system: mutation test (in vitro) / mammalian cells, method: OECD 476, source: test report). Negative: (Metabolic activation: with and without metabolic activation, test system: sister chromatid exchange test (in vitro) / mammalian cells, source: test report). Negative: (Test system: micronucleus test (in vivo), species: mouse, strain: Swiss Webster, sex: male and female, route of administration: intraperitoneal, cell type: erythrocytes, method: OECD 474, source: test report)

11.1.10 CARCINOGENICITY

Does not meet the classification criteria for this hazard class

11.1.11 REPRODUCTIVE TOXICITY

Does not meet the classification criteria for this hazard class

3-(trimethoxysilyl)propylamine

Based on the available data the criteria for classification as toxic to reproduction are not fulfilled. Product details: Reproductive Toxicity/Development/Teratogenicity NOAEL (developmental): >= 1000 mg/kg NOAEL (maternal): 300 mg/kg (Test system: Developmental Toxicity Study, Species: Rat, Strain: wistar, Application Route: Oral, Route of administration: gavage, Frequency of Treatment: 7 d/w, Method: OECD 414, Source: test report)

N-(3-(trimethoxysilyl)propyl)ethylenediamine

Assessment: Based on the available data, the criteria for classification as a reproductive toxicant are not met.
Product Data: Reproductive Toxicity/Fertility: NOAEL: ≥ 500 mg/kg.

(Test system: screening test, Species: Rat, Strain: Sprague-Dawley, Sex: Male and female, Route of administration: Oral, Administration method: Gastric tube, Frequency of treatment: 7 days/week, Method: OECD 422, Source: Test report)

Reproductive Toxicity / Development / Teratogenicity: NOAEL (developmental): ≥ 500 mg/kg. NOAEL (maternal): ≥ 500 mg/kg.

(Test system: screening test, Species: Rat, Strain: Sprague-Dawley, Route of administration: Oral, Administration method: Gastric tube, Frequency of treatment: 7 days/week, Method: OECD 422, Source: Test report)

11.1.12 STOT - SINGLE EXPOSURE

Does not meet the classification criteria for this hazard class

11.1.13 STOT - REPEATED EXPOSURE

Does not meet the classification criteria for this hazard class

3-(trimethoxysilyl)propylamine

Result/Effect NOAEL: 100 mg/kg LOAEL: 300 mg/kg (Test system: Subchronic study, Species: Rat, Sex: male and female, Application Route: Oral, Route of administration: gavage, Test period: 90 d, Frequency of Treatment: 7 d/w, Method: OECD 408, Source: test report)

N-(3-(trimethoxysilyl)propyl)ethylenediamine

Assessment: Based on the available data, the criteria for classification as toxic after repeated exposure are not met.
Product Data: Result/Effect: NOAEL: ≥ 500 mg/kg. (Symptoms/Effect: No findings., Test system: Subacute study, Species: Rat, Sex: Male and female, Route of administration: Oral, Administration method: Gastric tube, Test duration: 28 days, Method: OECD 422, Source: Test report)

11.1.14 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.

3-(trimethoxysilyl)propylamine and N-(3-(trimethoxysilyl)propyl)ethylenediamine

Hydrolysis product / impurity: Methanol (CAS 67-56-1) is readily and rapidly absorbed at all exposure routes and is toxic by all routes. Methanol may cause irritation of the mucosa, as well as nausea, vomiting, headaches, vertigo and visual disorders, including blindness (irreversible damage to the optic nerve), acidosis, spasms, narcosis and coma. There may be a delay in the onset of these effects after exposure.

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-(trimethoxysilyl)propylamine

EC10 for Algae / Aquatic Plants	321 mg/l	Exposure duration: 10 days
EC50 - for Crustacea	331 mg/l	Exposure duration: 48 hours Species/guidelines: Daphnia magna
LC50 - for Fish	> 934 mg/l	Exposure duration: 96 hours Species/guidelines: Danio rerio
EC50 - for Algae / Aquatic Plants	> 603 mg/l	Exposure duration: 72 hours
Chronic NOEC for Crustacea	≥ 1 mg/l	Species/guidelines: Daphnia magna
Chronic NOEC for Algae / Aquatic Plants	> 1.3 mg/l	

N-(3-(trimethoxysilyl)propyl)ethylenediamine

EC50 - for Crustacea	81 mg/l	Exposure duration: 48 hours Species/guidelines: Daphnia magna
LC50 - for Fish	597 mg/l	Exposure duration: 96 hours Species/guidelines: Danio rerio
EC50 - for Algae / Aquatic Plants	> 5.5 mg/l	Exposure duration: 72 hours
Chronic NOEC for Crustacea	> 1 mg/l	Species/guidelines: Daphnia magna
Chronic NOEC for Algae / Aquatic Plants	3.1 mg/l	Species/guidelines: Pseudokirchneriella subcapitata

12.2 Persistence and degradability

not determined

12.3 Bioaccumulative potential

not determined

12.4 Mobility in soil

not applicable

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

Ecological data of complete product are not available. Do not discharge product unmonitored into the environment.

13 Disposal considerations

Waste material must be disposed of in accordance with the Directive on waste 2008/98/EC as well as other national and local regulations. It is not possible to determine a waste code for this product in accordance with the European Waste Catalogue (EWC) since it is only possible to classify it according to how it is used by the customer. The waste code is to be determined within the EU in liaison with the waste-disposal operator.

13.1 Waste treatment methods

Product: For recycling, consult manufacturer. Disposal in an incineration plant in accordance with the regulations of the local authorities. Waste no. (recommended) 070217

Contaminated packaging: Uncontaminated packaging may be taken for recycling. Packaging that cannot be cleaned should be disposed of as for product. Waste no. (recommended) 150102

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

NO DANGEROUS GOODS

14.3 Transport hazard class(es)

not applicable

14.4 Packing group

not applicable

14.5 Environmental hazards

no

14.6 Special precautions for user

Relevant information under SECTION 6 to 8.

14.7 Maritime transport in bulk according to IMO instruments

not applicable

15 Regulatory information

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

EEC-REGULATIONS 2008/98/EG (2000/532/EC); 2010/75/EU; 2004/42/EG; (EG) 648/2004; (EC) 1907/2006 (REACH); (EU) 1272/2008; 75/324/EWG ((EC) 2016/2037); (EU) 2020/878; (EU) 2016/131; (EU) 2024/573; (EU) 2019/1148; (EU) 2019/1021, (EU) 2023/707;

- Comment on component parts Substances of Very High Concern - SVHC: substances are not contained or are below 0.1%.

TRANSPORT-REGULATIONS ADR (2025); IMDG-Code (2025, 42. Amdt.); IATA-DGR (2025, 66th Edition)

NATIONAL REGULATIONS (EU):
- Observe employment restrictions for people: Observe employment restrictions for young people.
- VOC (2010/75/CE): 0 %

Seveso Category - Directive 2012/18/EU:
None

Restrictions relating to the product or contained substances pursuant to Annex XVII to EC Regulation 1907/2006		
	Restrictions	Registration Number EU
Product restrictions	3	
Contained substance		
	40, 75	

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

Substances in Candidate List (Art. 59 REACH)	Registration Number EU
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)	Authorisation Number	Sunset date	Registration Number EU
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

Regulation (EU) 2019/1021 - on persistent organic pollutants
None

15.2 Chemical safety assessment

not applicable

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:	
Eye Dam. 1	Serious eye damage, category 1
H302	Harmful if swallowed.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H335	May cause respiratory irritation.

Legend

- ADR: European Agreement concerning the carriage of Dangerous goods by Road
- ATE: Acute Toxicity Estimate
- CAS: Chemical Abstract Service Number
- CLP: Regulation (EC) 1272/2008
- DNEL: Derived No Effect Level
- EC50: Effective concentration (required to induce a 50% effect)
- EC: Identifier in ESIS (European archive of existing substances)
- 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

Legend

- 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 (EU) 2020/217 (XIV ATP CLP)
19. Delegated Regulation (EU) 2020/1182 (XV ATP CLP)
20. Delegated Regulation (EU) 2021/643 (XVI ATP CLP)
21. Delegated Regulation (EU) 2021/849 (XVII ATP CLP)
22. Delegated Regulation (EU) 2022/692 (XVIII ATP CLP)
23. Delegated Regulation (EU) 2023/707
24. Delegated Regulation (EU) 2023/1434 (XIX ATP CLP)
25. Delegated Regulation (EU) 2023/1435 (XX ATP CLP)
26. Delegated Regulation (EU) 2024/197 (XXI ATP CLP)
27. Delegated Regulation (EU) 2024/2564 (XXII ATP CLP)
28. Regulation (EU) 2024/2865

- 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.