SAFETY DATA SHEET

according to Regulation (EC) No 1907/2006 (REACH) as amended

TECHNOBOND (BLACK)

Creation date	15th January 2025	Version	4.1
Revision date	20th March 2026		

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

1.1. Product identifier — TECHNOBOND (BLACK)

Substance / mixture: mixture

Number: 1 34448/1 34452 - This substance/mixture contains nanoforms.

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

Mixture's intended use

Barrier (Sealant). For professional use only.

Mixture uses advised against

The product should not be used in ways other than those referred in Section 1.

1.3. Details of the supplier of the safety data sheet

Supplier

Name or trade name	RETECH, s.r.o.
Address	Vackova 1541/4, Praha 5 - Stodůlky, 155 00 Czech Republic
Identification number (CRN)	25018205
VAT number	CZ25018205
Phone	+420327596428
Email	info@retech.cz
Web address	www.retech.com

Competent person responsible for the safety data sheet

Name	RETECH, s.r.o.
Email	info@retech.cz

1.4. Emergency telephone number

European emergency number: 112

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification of the mixture in accordance with Regulation (EC) No 1272/2008

The mixture is not classified as dangerous according to Regulation (EC) No 1272/2008.

2.2. Label elements

Signal word

none

Supplemental information

EUH210	Safety data sheet available on request.
EUH208	Contains trimethoxyvinylsilane. May produce an allergic reaction.

2.3. Other hazards

During hydrolysis, a small amount of methanol (CAS 67-56-1) is formed, as it is released after curing.

Mixture does not contain any substance meet the criteria for PBT or vPvB in accordance with Annex XIII of Regulation (EC) No. 1907/2006 (REACH) as amended. The mixture does not contain substances with endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605. Does not contain any PMT or vPvM components.

SECTION 3: Composition/information on ingredients

3.2. Mixtures

Chemical characterization

Mixture.

Mixture contains these hazardous substances and substances with the highest permissible concentration in the working environment

Identification numbers	Substance name	Content in % weight	Classification according to Regulation (EC) No 1272/2008	Note
Index: 014-049-00-0 CAS: 2768-02-7 EC: 220-449-8 Registration number: 01-2119513215-52	trimethoxyvinylsilane	1-<3	Flam. Liq. 3, H226 Skin Sens. 1B, H317 Acute Tox. 4, H332 Specific concentration limit: ATE Inhalation (vapor) = 11 mg/l	
CAS: 13822-56-5 EC: 237-511-5 Registration number: 01-2119510159-45	3-(Trimethoxysilyl)propylamine	1-<2.5	Skin Irrit. 2, H315 Eye Dam. 1, H318	
CAS: 870-08-6 EC: 212-791-1 Registration number: 01-2119971268-27	Dioctyltin oxide	0.1-<0.5	STOT SE 2, H371	1

Notes

1 *The use of the substance is restricted by Annex XVII of REACH Regulation*

Full text of all classifications and hazard statements is given in the section 16.

SECTION 4: First aid measures

4.1. Description of first aid measures

If any health problems are manifested or if in doubt, inform a doctor and show him information from this safety data sheet.

If inhaled

Terminate the exposure immediately; move the affected person to fresh air. In the event of issues, find medical advice.

If on skin

Remove contaminated clothes. Wash with plenty of soap and water. In the event of an allergic reaction, seek medical attention.

If in eyes

Rinse eyes immediately with a flow of running water, open the eyelids (also using force if needed); remove contact lenses immediately if worn by the affected person.

If swallowed

Provide medical treatment. Rinse out the mouth with clean water. Never give anything by mouth to an unconscious person. Small amounts of toxic methanol are released during hydrolysis.

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

If inhaled

not available

If on skin

May cause sensitization in susceptible individuals.

If in eyes

not available

If swallowed

not available

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

Symptomatic treatment. During hydrolysis, a small amount of methanol (CAS 67-56-1) is formed, as it is released after curing.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media

Alcohol-resistant foam, carbon dioxide, powder, water spray jet, water mist.

Unsuitable extinguishing media

Water - full jet.

5.2. Special hazards arising from the substance or mixture

In the event of fire, carbon monoxide, carbon dioxide and other toxic gases may arise. Nitrogen oxides (NOx). Silicon oxides.

5.3. Advice for firefighters

Use a self-contained breathing apparatus and full-body protective clothing.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Provide sufficient ventilation. Do not get in eyes, on skin, or on clothing. Use personal protective equipment as per Section 8.

6.2. Environmental precautions

Prevent contamination of the soil. Do not allow to enter drains.

6.3. Methods and material for containment and cleaning up

Do not disperse any spilled material using a high-pressure water jet. Place the product mechanically in an appropriate manner. Dispose of the collected material according to the instructions in the section 13. Clean contaminated buildings and areas thoroughly, and strictly follow environmental regulations.

6.4. Reference to other sections

See the Section 7, 8 and 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Ensure good ventilation/exhaustion at the workplace. Do not eat, drink or smoke when using this product. Wash your hands thoroughly with water and soap after work and before breaks for a meal and rest. Observe valid legal regulations on safety and health protection.

7.2. Conditions for safe storage, including any incompatibilities

Protect from moisture. Do not store together with food, drink and animal feed.

Storage class	11 - Combustible solids that cannot be assigned to any of the above storage classes
Storage temperature	min 10 °C, max 35 °C

7.3. Specific end use(s)

See the Section 1.2. See the technical data sheet.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

The mixture contains no substances for which occupational exposure limits are set.

During hydrolysis, a small amount of methanol (CAS 67-56-1) is formed, as it is released after curing. This product contains carbon black in a non-respirable form. Inhalation of carbon black is unlikely after exposure to this product.

DNEL

3-(Trimethoxysilyl)propylamine			
Workers / consumers	Route of exposure	Value	Effect
Workers	Inhalation	58 mg/m³	Chronic effects systemic
Workers	Dermal	8.3 mg/kg bw/day	Chronic effects systemic
Workers	Inhalation	58 mg/m³	Acute effects systemic
Workers	Dermal	8.3 mg/kg bw/day	Acute effects systemic

Dioctyltin oxide			
Workers / consumers	Route of exposure	Value	Effect
Workers	Dermal	0.05 mg/kg bw/day	Chronic effects systemic
Workers	Inhalation	0.004 mg/m³	Chronic effects systemic
Consumers	Oral	0.0005 mg/kg bw/day	Chronic effects systemic
Consumers	Dermal	0.025 mg/kg bw/day	Chronic effects systemic
Consumers	Inhalation	0.0009 mg/m³	Chronic effects systemic

trimethoxyvinylsilane			
Workers / consumers	Route of exposure	Value	Effect
Workers	Inhalation	27.6 mg/m³	Chronic effects systemic
Workers	Dermal	3.9 mg/kg bw/day	Chronic effects systemic
Consumers	Inhalation	18.9 mg/m³	Chronic effects systemic
Consumers	Dermal	7.8 mg/kg bw/day	Chronic effects systemic
Consumers	Oral	0.3 mg/kg bw/day	Chronic effects systemic

PNEC

3-(Trimethoxysilyl)propylamine	
Route of exposure	Value
Freshwater environment	0.33 mg/l
Marine water	0.033 mg/l
Soil (agricultural)	0.04 mg/l
Microorganisms in sewage treatment	13 mg/l

Dioctyltin oxide	
Route of exposure	Value
Freshwater environment	0.02798 mg/kg of dry substance of sediment
Sea sediments	0.002798 mg/kg of dry substance of sediment
Microorganisms in sewage treatment	100 mg/l

trimethoxyvinylsilane	
Route of exposure	Value
Freshwater environment	0.34 mg/l
Marine water	0.034 mg/l
Microorganisms in sewage treatment	110 mg/l

8.2. Exposure controls

Follow the usual measures intended for health protection at work and especially for good ventilation.

Eye/face protection

Protective glasses with side shields. EN ISO 16321-1 - Eye and face protection for occupational use.

Skin protection

Hand protection: Protective gloves resistant to the product. When choosing appropriate thickness, material and permeability of the gloves, observe recommendations of their particular manufacturer. Observe other recommendations of the manufacturer. EN ISO 374-1.

Glove material	Thickness	Breakthrough time	Class
Nitrile (NBR)	≥ 0.7 mm	>480 min	6
Neoprene (CR)	≥ 0.7 mm	>480 min	6
Butyl rubber (IIR)	≥ 0.7 mm	>480 min	6

Respiratory protection
In case of inadequate ventilation wear respiratory protection. Respirator. EN 140. Filter A/P2.
Thermal hazard
Not available.
Environmental exposure controls
Avoid release to the environment. Observe usual measures for protection of the environment, see Section 6.2.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	solid
Colour	black
Odour	characteristic
Melting point/freezing point	data not available
Boiling point or initial boiling point and boiling range	data not available
Flammability	data not available
Lower and upper explosion limit	data not available
Flash point	data not available
Auto-ignition temperature	data not available
Decomposition temperature	data not available
pH	data not available
Kinematic viscosity	data not available
Viscosity	6000-14000 Pa.s at 20 °C
Solubility in water	insoluble
Solubility in fats	data not available
Partition coefficient n-octanol/water (log value)	data not available
Vapour pressure	data not available
Density and/or relative density	
Density	1.48 g/cm³ at 20 °C
Relative vapour density	data not available
Particle characteristics	data not available
Form	paste

data not available

9.2. Other information

Evaporation rate	data not available
Content of organic solvents (VOC)	0 g/l

Product is not selfigniting.

SECTION 10: Stability and reactivity

10.1. Reactivity
The product cures with moisture.

10.2. Chemical stability
The product is stable under normal conditions.

10.3. Possibility of hazardous reactions
Unknown.

10.4. Conditions to avoid
Protect from moisture. Prolonged exposure to air or moisture. Protect against frost. Keep away from hot surfaces and open flames. Remove all ignition sources.

10.5. Incompatible materials
not available

10.6. Hazardous decomposition products
Not developed under normal uses. During hydrolysis, a small amount of methanol (CAS 67-56-1) is formed, as it is released after curing.

SECTION 11: Toxicological information

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

No toxicological data is available for the mixture.

Acute toxicity

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

TECHNOBOND (BLACK)						
Route of exposure	Parameter	Method	Value	Exposure time	Species	Sex
Dermal	ATE		>5000 mg/kg			
Inhalation (gases)	ATE		>20000 ppm			
Inhalation (dust/mist)	ATE		>5 mg/l			
Inhalation (vapor)	ATE		577.4 mg/l			
Oral	ATE		>5000 mg/kg			

3-(Trimethoxysilyl)propylamine						
Route of exposure	Parameter	Method	Value	Exposure time	Species	Sex
Oral	LD_{50}	OECD 401	>2000 mg/kg		Rat (Rattus norvegicus)	
Dermal	LD_{50}	OECD 402	>2000 mg/kg		Rabbit	

Dioctyltin oxide						
Route of exposure	Parameter	Method	Value	Exposure time	Species	Sex
Oral	LD_{50}		2500 mg/kg		Rat (Rattus norvegicus)	
Dermal	LD_{50}	OECD 402	>2000 mg/kg		Rabbit	

trimethoxyvinylsilane						
Route of exposure	Parameter	Method	Value	Exposure time	Species	Sex
Oral	LD_{50}	OECD 401	7120-7236 mg/kg		Rat	
Dermal	LD_{50}		3540 mg/kg		Rabbit	
Inhalation	LC_{50}	OECD 403	16.8 mg/l	4 hours	Rat	
Inhalation (vapor)	ATE		11 mg/l			

Skin corrosion/irritation

Data for the mixture are not available. Based on the available data, the criteria for classification of the mixture are not met.

trimethoxyvinylsilane			
Route of exposure	Result	Exposure time	Species
Dermal	Not irritating	24 hours	Rabbit

Serious eye damage/irritation

Based on conclusive negative data, no classification has been proposed. Based on similarity to a different tested comparable product: No eye irritation occurred upon contact (H319 is invalid).

TECHNOBOND (BLACK)					
Route of exposure	Result	Method	Exposure time	Species	Source
Eye	Not irritating	OECD 437	10 minutes	Mammals (Bovine)	Bovine Corneal Opacity and Permeability (BCOP) test (=><3)

3-(Trimethoxysilyl)propylamine					
Route of exposure	Result	Method	Exposure time	Species	Source
Eye	Irritating	OECD 405	72 hours	Rabbit	

trimethoxyvinylsilane					
Route of exposure	Result	Method	Exposure time	Species	Source
Eye	Not irritating	OECD 405	24 hours	Rabbit	

Respiratory or skin sensitisation

OECD Test No. 406: Skin sensitization. No reactions indicating sensitization were observed. Based on conclusive negative data, no classification has been proposed. May cause sensitization in susceptible individuals.

TECHNOBOND (BLACK)					
Route of exposure	Result	Method	Exposure time	Species	Sex
Dermal	No effect	OECD 406		Guinea-pig	

3-(Trimethoxysilyl)propylamine					
Route of exposure	Result	Method	Exposure time	Species	Sex
Dermal	Not sensitizing	OECD 406		Guinea-pig	

trimethoxyvinylsilane					
Route of exposure	Result	Method	Exposure time	Species	Sex
Dermal	Sensitizing	OECD 406		Guinea-pig	

Germ cell mutagenicity

Data for the mixture are not available. Based on the available data, the criteria for classification of the mixture are not met.

trimethoxyvinylsilane					
Result	Method	Exposure time	Specific target organ	Species	Sex
No effect	OECD 471			Bacteria	

Carcinogenicity

No data are available for either the mixture or the components. Based on the available data, the criteria for classification of the mixture are not met.

Reproductive toxicity

Data for the mixture are not available. Based on the available data, the criteria for classification of the mixture are not met.

3-(Trimethoxysilyl)propylamine						
Effect	Parameter	Method	Value	Result	Species	Sex
		OECD 408		Negative	Rat (Rattus norvegicus)	

trimethoxyvinylsilane						
Effect	Parameter	Method	Value	Result	Species	Sex
		OECD 422		Negative	Rat	

Toxicity for specific target organ - single exposure

Data for the mixture are not available. Based on the available data, the criteria for classification of the mixture are not met.

Dioctyltin oxide								
Route of exposure	Parameter	Method	Value	Exposure time	Specific target organ	Result	Species	Sex
Oral		OECD 422	5 mg/kg	28 days	Lymphatic system	Causes damage	Rat (Rattus norvegicus)	

Toxicity for specific target organ - repeated exposure

Data for the mixture are not available. Based on the available data, the criteria for classification of the mixture are not met.

Dioctyltin oxide							
Route of exposure	Parameter	Method	Value	Exposure time	Result	Species	Sex
			0.3-0.5 mg/kg bw/day	28 days		Rat	

trimethoxyvinylsilane							
Route of exposure	Parameter	Method	Value	Exposure time	Result	Species	Sex
Inhalation (vapor)	NOAEL	OECD 413	0.058	90 days		Rat	

Aspiration hazard

No data are available for either the mixture or the components. Based on the available data, the criteria for classification of the mixture are not met.

11.2. Information on other hazards

Endocrine disrupting properties

Based on the available data, the criteria for classification of the mixture are not met. Does not contain any components that may cause endocrine disruption for humans.

Other information

not available

SECTION 12: Ecological information

12.1. Toxicity

Data for the mixture are not available. Based on the available data, the criteria for classification of the mixture are not met.

Acute toxicity

3-(Trimethoxysilyl)propylamine					
Parameter	Method	Value	Exposure time	Species	Environment
EC_{50}	EU C.3	>1000 mg/l	72 hours	Algae (Desmodesmus subspicatus)	
LC_{50}	OECD 203	>934 mg/l	96 hours	Fish (Danio rerio)	
EC_{50}	OECD 202	331 mg/l	48 hours	Daphnia (Daphnia magna)	

Dioctyltin oxide					
Parameter	Method	Value	Exposure time	Species	Environment
EC_{50}		>1000 mg/l	3 hours	Bacteria	Activated sludge
LC_{50}		>0.09 mg/l	96 hours	Fish (Brachydanio rerio)	
EC_{50}		>0.21 mg/l	48 hours	Daphnia (Daphnia magna)	

trimethoxyvinylsilane					
Parameter	Method	Value	Exposure time	Species	Environment
EC_{50}	EU C.3	>957 mg/l	72 hours	Algae (Desmodesmus subspicatus)	
LC_{50}		191 mg/l	96 hours	Fish (Oncorhynchus mykiss)	
EC_{50}		168.7 mg/l	48 hours	Daphnia (Daphnia magna)	

12.2. Persistence and degradability

Data for the mixture are not available.

Biodegradability

3-(Trimethoxysilyl)propylamine						
Parameter	Method	Value	Exposure time	Environment	Value determination	Result
	OECD 301A	67 %	28 days			Hardly biodegradable

Dioctyltin oxide						
Parameter	Method	Value	Exposure time	Environment	Value determination	Result
	OECD 301F	2 %	755 hours			Hardly biodegradable

trimethoxyvinylsilane						
Parameter	Method	Value	Exposure time	Environment	Value determination	Result
BOD	OECD 301F	51 %	28 days		Experimentally	Hardly biodegradable

12.3. Bioaccumulative potential

Data for the mixture are not available.

Dioctyltin oxide	
Parameter	Value
Kow	6

trimethoxyvinylsilane	
Parameter	Value
Log Kow	1.1

12.4. Mobility in soil

No data are available for either the mixture or the components.

12.5. Results of PBT and vPvB assessment

Based on the available data, the criteria for classification of the mixture are not met. Does not contain any PBT or vPvB components.

12.6. Endocrine disrupting properties

Based on the available data, the criteria for classification of the mixture are not met. Does not contain any components that may cause endocrine disruption in the environment.

12.7. Other adverse effects

Water Hazard Class: WGK 1 (Self-assessment).

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Proceed in accordance with valid regulations on waste disposal. Any unused product and contaminated packaging should be put in labelled containers for waste collection and submitted for disposal to a person authorised for waste removal (a specialized company) that is entitled for such activity. Handle contaminated packaging the same way as the product itself. Waste codes should be assigned by the user based on the application for which the product was used.

Waste management legislation

Directive 2008/98/EC of the European Parliament and of the Council of 19 November 2008 on waste, as amended. Decision 2000/532/EC establishing a list of wastes, as amended.

Waste type code

08 04 10 waste adhesives and sealants other than those mentioned in 08 04 09

Packaging waste type code

15 01 02 plastic packaging

15 01 04 metallic packaging

SECTION 14: Transport information

14.1. UN number or ID number

not subject to transport regulations

14.2. UN proper shipping name

not relevant

14.3. Transport hazard class(es)

not relevant

14.4. Packing group

not relevant

14.5. Environmental hazards

not relevant

14.6. Special precautions for user

Reference in the Sections 4 to 8.

14.7. Maritime transport in bulk according to IMO instruments

not relevant

SECTION 15: Regulatory information

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

Regulation (EC) No. 1907/2006 of the European Parliament and of the Council of 18th December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), establishing the European Chemicals Agency, amending Directive 1999/45/EC and repealing Council Regulation (EEC) No. 793/93 and Commission Regulation (EC) No. 1488/94 as well as Council Directive 76/769/EEC and Commission Directives 91/155/EEC, 93/67/EEC, 93/105/EC and 2000/21/EC, as amended. REGULATION (EC) No. 1272/2008 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL as amended. Commission Regulation (EU) 2020/878 of 18 June 2020 amending Annex II to Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH).

Restrictions pursuant to Annex XVII of Regulation (EC) No. 1907/2006 (REACH), as amended

Dioctyltin oxide

Restriction	Conditions of restriction
20	1. Shall not be placed on the market, or used, as substances or in mixtures where the substance or mixture is acting as biocide in free association paint. 2. Shall not be placed on the market, or used, as substances or in mixtures where the substance or mixture acts as biocide to prevent the fouling by micro-organisms, plants or animals of: (a) all craft irrespective of their length intended for use in marine, coastal, estuarine and inland waterways and lakes; (b) cages, floats, nets and any other appliances or equipment used for fish or shellfish farming; (c) any totally or partly submerged appliance or equipment. 3. Shall not be placed on the market, or used, as substances or in mixtures where the substance or mixture is intended for use in the treatment of industrial waters. 4. Tri-substituted organostannic compounds: (a) Tri-substituted organostannic compounds such as tributyltin (TBT) compounds and triphenyltin (TPT) compounds shall not be used after 1 July 2010 in articles where the concentration in the article, or part thereof, is greater than the equivalent of 0,1 % by weight of tin. (b) Articles not complying with point (a) shall not be placed on the market after 1 July 2010, except for articles that were already in use in the Community before that date. 5. Dibutyltin (DBT) compounds: (a) Dibutyltin (DBT) compounds shall not be used after 1 January 2012 in mixtures and articles for supply to the general public where the concentration in the mixture or the article, or part thereof, is greater than the equivalent of 0,1 % by weight of tin. (b) Articles and mixtures not complying with point (a) shall not be placed on the market after 1 January 2012, except for articles that were already in use in the Community before that date. (c) By way of derogation, points (a) and (b) shall not apply until 1 January 2015 to the following articles and mixtures for supply to the general public: — one-component and two-component room temperature vulcanisation sealants (RTV-1 and RTV-2 sealants) and adhesives, — paints and coatings containing DBT compounds as catalysts when applied on articles, — soft polyvinyl chloride (PVC) profiles whether by themselves or coextruded with hard PVC, — fabrics coated with PVC containing DBT compounds as stabilisers when intended for outdoor applications, — outdoor rainwater pipes, gutters and fittings, as well as covering material for roofing and façades, (d) By way of derogation, points (a) and (b) shall not apply to materials and articles regulated under Regulation (EC) No 1935/2004. 6. Dioctyltin (DOT) compound: (a) Dioctyltin (DOT) compounds shall not be used after 1 January 2012 in the following articles for supply to, or use by, the general public, where the concentration in the article, or part thereof, is greater than the equivalent of 0,1 % by weight of tin: — textile articles intended to come into contact with the skin, — gloves, — footwear or part of footwear intended to come into contact with the skin, — wall and floor coverings, — childcare articles, — female hygiene products, — nappies, — two-component room temperature vulcanisation moulding kits (RTV-2 moulding kits). (b) Articles not complying with point (a) shall not be placed on the market after 1 January 2012, except for articles that were already in use in the Community before that date.

15.2. Chemical safety assessment

A chemical safety assessment has not been carried out.

More information

Dioctyltin oxide: Restrictions on the export and import of hazardous chemicals to/from Europe according to Regulation (EU) No. 649/2012 of the European Parliament and of the Council - Annex number I.1.

SECTION 16: Other information

A list of standard risk phrases used in the safety data sheet

EUH208	Contains trimethoxyvinylsilane. May produce an allergic reaction.
EUH210	Safety data sheet available on request.
H226	Flammable liquid and vapour.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H332	Harmful if inhaled.
H371	May cause damage to organs.

Other important information about human health protection

The product must not be - unless specifically approved by the manufacturer/importer - used for purposes other than as per the Section 1. The user is responsible for adherence to all related health protection regulations.

Key to abbreviations and acronyms used in the safety data sheet

Acute Tox.	Acute toxicity
ADR	Agreement concerning the international carriage of dangerous goods by road
ATE	Acute toxicity estimate
BCF	Bioconcentration Factor
BOD	Biochemical oxygen demand
CAS	Chemical Abstracts Service
CLP	Regulation (EC) No 1272/2008 on classification, labelling and packaging of substance and mixtures
EC	Identification code for each substance listed in EINECS
EC_{50}	Concentration of a substance when it is affected 50 % of the population
EINECS	European Inventory of Existing Commercial Chemical Substances
EmS	Emergency Response Procedures for Ships Carrying Dangerous Goods
EU	European Union
EuPCS	European Product Categorisation System
Eye Dam.	Serious eye damage
Flam. Liq.	Flammable liquid
IATA	International Air Transport Association
IBC	International Code For The Construction And Equipment of Ships Carrying Dangerous Chemicals
ICAO	International Civil Aviation Organization
IMDG	International Maritime Dangerous Goods
IMO	International Maritime Organization
INCI	International Nomenclature of Cosmetic Ingredients
ISO	International Organization for Standardization
IUPAC	International Union of Pure and Applied Chemistry
LC_{50}	Lethal concentration of a substance in which it can be expected death of 50% of the population
LD_{50}	Lethal dose of a substance in which it can be expected death of 50% of the population
log Kow	Octanol-water partition coefficient
NOAEL	No observed adverse effect level
OEL	Occupational Exposure Limits
PBT	Persistent, bioaccumulative and toxic
PMT	Persistent, mobile and toxic
ppm	Parts per million
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals
RID	Regulation concerning the International Carriage of Dangerous Goods by Rail
Skin Irrit.	Skin irritation
Skin Sens.	Skin sensitization
STOT SE	Specific target organ toxicity - single exposure
UN number	Four-figure identification number of the substance or article taken from the UN Model Regulations

UVCB	Substances of unknown or variable composition, complex reaction products or biological materials
VOC	Volatile organic compounds
vPvB	Very persistent and very bioaccumulative
vPvM	Very persistent and very mobile

Training guidelines

Inform the personnel about the recommended ways of use, mandatory protective equipment, first aid and prohibited ways of handling the product.

Recommended restrictions of use

not available

Information about data sources used to compile the Safety Data Sheet

REGULATION (EC) No. 1907/2006 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL (REACH) as amended. REGULATION (EC) No. 1272/2008 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL as amended. Data from the manufacturer of the substance / mixture, if available - information from registration dossiers.

The changes (which information has been added, deleted or modified)

The version 4.1 replaces the SDS version from Wednesday, 15 January 2025. Changes were made in sections 1, 2, 8, 11, 12, 15 and 16.

More information

Classification procedure - calculation method.

Classification procedure - on basis of test data:
Skin corrosion/irritation
Serious eye damage/irritation
dermal sensitisation

Statement

The safety data sheet provides information aimed at ensuring safety and health protection at work and environmental protection. The provided information corresponds to the current status of knowledge and experience and complies with valid legal regulations. The information should not be understood as guaranteeing the suitability and usability of the product for a particular application.