

Safety Data Sheet

according to UK REACH Regulation

i.SEAL transparent

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6.4. Reference to other sections

Safe handling: see section 7
Personal protection equipment: see section 8
Disposal: see section 13

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Advice on safe handling

Provide adequate ventilation. Do not breathe gas/fumes/vapour/spray. Avoid contact with skin, eyes and clothes. Use personal protection equipment.

Advice on protection against fire and explosion

Usual measures for fire prevention.

Advice on general occupational hygiene

Avoid contact with skin, eyes and clothes. Do not breathe gas/fumes/vapour/spray. Remove contaminated, saturated clothing immediately. Draw up and observe skin protection programme. Wash hands and face before breaks and after work and take a shower if necessary. When using do not eat, drink, smoke, sniff.

7.2. Conditions for safe storage, including any incompatibilities

Requirements for storage rooms and vessels

Store in a dry place. Keep container tightly closed in a cool, well-ventilated place. Provide for retaining containers, eg. floor pan without outflow.

Hints on joint storage

Do not store together with: Food and feedingstuffs
To follow: TRGS 510

Further information on storage conditions

Keep away from heat. Protect against direct sunlight.
Protect from moisture.

7.3. Specific end use(s)

Barrier (Sealant)

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Exposure limits (EH40)

CAS No	Substance	ppm	mg/m ³	fibres/ml	Category	Origin
67-56-1	Methanol	200	266		TWA (8 h)	WEL
		250	333		STEL (15 min)	WEL
108-88-3	Toluene	50	191		TWA (8 h)	WEL
		100	384		STEL (15 min)	WEL

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DNEL/DMEL values

CAS No	Substance	Exposure route	Effect	Value
2768-02-7	Trimethoxyvinylsilane			
Consumer DNEL, long-term		inhalation	systemic	0,7 mg/m ³
Consumer DNEL, acute		inhalation	systemic	0,7 mg/m ³
Consumer DNEL, long-term		dermal	systemic	0,1 mg/kg bw/day
Consumer DNEL, acute		dermal	systemic	0,1 mg/kg bw/day
Consumer DNEL, long-term		oral	systemic	0,1 mg/kg bw/day
Worker DNEL,		inhalation	systemic	2,6 mg/m ³
Worker DNEL,		dermal	systemic	0,2 mg/kg bw/day
1760-24-3	N-(3-(trimethoxysilyl)propyl)ethylenediamine			
Worker DNEL, long-term		inhalation	systemic	35,5 mg/m ³
Worker DNEL, acute		dermal	systemic	5 mg/kg bw/day
Consumer DNEL, long-term		oral	systemic	2,5 mg/kg bw/day
Consumer DNEL, long-term		inhalation	systemic	8,7 mg/m ³
Consumer DNEL, long-term		dermal	systemic	2,5 mg/kg bw/day

PNEC values

CAS No	Substance	Value
2768-02-7	Trimethoxyvinylsilane	
Environmental compartment		
Freshwater		0,36 mg/l
Freshwater (intermittent releases)		2,4 mg/l
Marine water		0,036 mg/l
Marine water (intermittent releases)		2,4 mg/l
Freshwater sediment		0,29 mg/kg
Micro-organisms in sewage treatment plants (STP)		6,6 mg/l
Soil		0,048 mg/kg
1760-24-3	N-(3-(trimethoxysilyl)propyl)ethylenediamine	
Freshwater		0,062 mg/l
Freshwater (intermittent releases)		0,62 mg/l
Marine water		0,0062 mg/l
Freshwater sediment		0,05 mg/kg
Marine sediment		0,005 mg/kg
Micro-organisms in sewage treatment plants (STP)		25 mg/l
Soil		0,0075 mg/kg

8.2. Exposure controls



Appropriate engineering controls

Provide adequate ventilation as well as local exhaust at critical locations.

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Individual protection measures, such as personal protective equipment

Eye/face protection

Suitable eye protection: Eye glasses with side protection (EN 166)

Hand protection

Wear suitable gloves. (EN ISO 374)

When handling with chemical substances, protective gloves must be worn with the CE-label including the four control digits. The quality of the protective gloves resistant to chemicals must be chosen as a function of the specific working place concentration and quantity of hazardous substances. For special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves.

Suitable material: NBR (Nitrile rubber)

Thickness of the glove material: 0,2 mm

Breakthrough time (maximum wearing time): > 60 min

Skin protection

Use of protective clothing.

Respiratory protection

This product should not be used under conditions of poor ventilation unless a protective mask with an appropriate gas filter (i.e. type A1 according to standard EN 14387) is used.

Thermal hazards

No information available.

Environmental exposure controls

Avoid release to the environment.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state:	Liquid
Colour:	transparent
Odour:	characteristic
Odour threshold:	not determined

Changes in the physical state

Melting point/freezing point:	not determined
Boiling point or initial boiling point and boiling range:	not determined
Flash point:	not applicable

Flammability

Solid/liquid:	not determined
Gas:	not applicable

Explosive properties

The product is not: Explosive.

Lower explosion limits:	not determined
Upper explosion limits:	not determined
Auto-ignition temperature:	not determined

Self-ignition temperature

Solid:	not applicable
Gas:	not applicable

Decomposition temperature:	not determined
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Oxidizing properties

The product is not: oxidising.

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pH-Value:	7
Viscosity / dynamic:	not determined
Viscosity / kinematic:	not determined
Water solubility:	practically insoluble (Hydrolysis)
Solubility in other solvents	
not determined	
Partition coefficient n-octanol/water:	not determined
Vapour pressure:	not determined
Density:	not determined
Relative vapour density:	not determined

9.2. Other information

Other safety characteristics

No information available.

SECTION 10: Stability and reactivity

10.1. Reactivity

No hazardous reaction when handled and stored according to provisions.

10.2. Chemical stability

The product is stable under storage at normal ambient temperatures.

10.3. Possibility of hazardous reactions

Reacts with : Water (Hydrolysis) Formation of: Methanol

10.4. Conditions to avoid

Humidity, heat.
UV-radiation/sunlight

10.5. Incompatible materials

No information available.

10.6. Hazardous decomposition products

(Hydrolysis) Methanol
In case of fire may be liberated: Pyrolysis products, toxic

SECTION 11: Toxicological information

11.1. Information on hazard classes as defined in GB CLP Regulation

Acute toxicity

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

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CAS No	Chemical name				
	Exposure route	Dose	Species	Source	Method
2768-02-7	Trimethoxyvinylsilane				
	oral	LD50 mg/kg 7120	Rat	Manufacturer	OECD 401
	dermal	LD50 mg/kg 3200	Rabbit	Manufacturer	OECD 402
	inhalation (4 h) vapour	LC50 16,8 mg/l	Rat	Manufacturer	OECD 403
	inhalation aerosol	ATE 1,5 mg/l			
1760-24-3	N-(3-(trimethoxysilyl)propyl)ethylenediamine				
	oral	LD50 mg/kg 2995	Rat	Manufacturer	
	dermal	LD50 mg/kg > 2000	Rat	Manufacturer	
63843-89-0	Bis(1,2,2,6,6-pentamethyl-4-piperidyl) [[3,5-bis(1,1-dimethylethyl)-4-hydroxyphenyl]methyl]butylmalonate				
	oral	ATE mg/kg 500			
4299-07-4	2-n-butyl-benzo[d]isothiazol-3-one				
	oral	LD50 mg/kg > 2000	Rat	Manufacturer	
	dermal	LD50 mg/kg > 2000	Rat	Manufacturer	
67-56-1	methanol				
	oral	ATE mg/kg 100			
	dermal	ATE mg/kg 300			
	inhalation vapour	ATE 3 mg/l			
	inhalation aerosol	ATE 0,5 mg/l			

Irritation and corrosivity

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

Sensitising effects

Contains N-(3-(trimethoxysilyl)propyl)ethylenediamine. May produce an allergic reaction.

Carcinogenic/mutagenic/toxic effects for reproduction

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

STOT-single exposure

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

STOT-repeated exposure

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

Aspiration hazard

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

Information on likely routes of exposure

Inhalation, oral, dermal.

11.2. Information on other hazards

Other information

No information available.

SECTION 12: Ecological information

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12.1. Toxicity

Toxic to aquatic life with long lasting effects.

CAS No	Chemical name					
	Aquatic toxicity	Dose	[h] [d]	Species	Source	Method
2768-02-7	Trimethoxyvinylsilane					
	Acute fish toxicity	LC50	191 mg/l	96 h	Oncorhynchus mykiss (Rainbow trout)	Manufacturer
	Acute algae toxicity	ErC50	210 mg/l	72 h	Selenastrum capricornutum	Manufacturer
	Acute crustacea toxicity	EC50	169 mg/l	48 h	Daphnia magna (Big water flea)	Manufacturer OECD 202
	Crustacea toxicity	NOEC	28 mg/l	21 d	Daphnia magna (Big water flea)	Manufacturer OECD 211
1760-24-3	N-(3-(trimethoxysilyl)propyl)ethylenediamine					
	Acute fish toxicity	LC50	597 mg/l	96 h	Brachydanio rerio (zebra-fish)	Manufacturer
	Acute algae toxicity	ErC50	8,8 mg/l	72 h	Algae	Manufacturer OECD 201
	Acute crustacea toxicity	EC50	81 mg/l	48 h	Daphnia magna (Big water flea)	Manufacturer
	Algae toxicity	NOEC	3,1 mg/l	3 d	Algae	Manufacturer OECD 201
	Crustacea toxicity	NOEC	> 1 mg/l	21 d	Daphnia magna (Big water flea)	Manufacturer
4299-07-4	2-n-butyl-benzo[d]isothiazol-3-one					
	Acute crustacea toxicity	EC50 mg/l	0,093	48 h	Daphnia magna (Big water flea)	Manufacturer OECD 202

12.2. Persistence and degradability

The product has not been tested.

Reacts with : Water (Hydrolysis) Formation of: Methanol

CAS No	Chemical name			
	Method	Value	d	Source
	Evaluation			
2768-02-7	Trimethoxyvinylsilane			
	Biochemical oxygen demand (OECD 301F)	51 %	28	Manufacturer
	Not readily biodegradable (according to OECD criteria)			
1760-24-3	N-(3-(trimethoxysilyl)propyl)ethylenediamine			
	OECD 301A	39 %	28	Manufacturer
	Not readily biodegradable (according to OECD criteria)			

12.3. Bioaccumulative potential

The product has not been tested.

Partition coefficient n-octanol/water

CAS No	Chemical name	Log Pow
4299-07-4	2-n-butyl-benzo[d]isothiazol-3-one	2,86

12.4. Mobility in soil

The product has not been tested.

12.5. Results of PBT and vPvB assessment

The substances in the mixture do not meet the PBT/vPvB criteria according to REACH, annex XIII.

12.6. Endocrine disrupting properties

No information available.

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12.7. Other adverse effects

No information available.

Further information

Do not allow to enter into surface water or drains. Do not allow to enter into soil/subsoil.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Disposal recommendations

Do not allow to enter into surface water or drains. Do not allow to enter into soil/subsoil. Dispose of waste according to applicable legislation.

Contaminated packaging

Dispose of waste according to applicable legislation. Handle contaminated packages in the same way as the substance itself.

SECTION 14: Transport information

Land transport (ADR/RID)

14.1. UN number:	No dangerous good in sense of this transport regulation.
14.2. UN proper shipping name:	No dangerous good in sense of this transport regulation.
14.3. Transport hazard class(es):	No dangerous good in sense of this transport regulation.
14.4. Packing group:	No dangerous good in sense of this transport regulation.

Inland waterways transport (ADN)

14.1. UN number:	No dangerous good in sense of this transport regulation.
14.2. UN proper shipping name:	No dangerous good in sense of this transport regulation.
14.3. Transport hazard class(es):	No dangerous good in sense of this transport regulation.
14.4. Packing group:	No dangerous good in sense of this transport regulation.

Marine transport (IMDG)

14.1. UN number:	No dangerous good in sense of this transport regulation.
14.2. UN proper shipping name:	No dangerous good in sense of this transport regulation.
14.3. Transport hazard class(es):	No dangerous good in sense of this transport regulation.
14.4. Packing group:	No dangerous good in sense of this transport regulation.

Air transport (ICAO-TI/IATA-DGR)

14.1. UN number:	No dangerous good in sense of this transport regulation.
14.2. UN proper shipping name:	No dangerous good in sense of this transport regulation.
14.3. Transport hazard class(es):	No dangerous good in sense of this transport regulation.
14.4. Packing group:	No dangerous good in sense of this transport regulation.

14.5. Environmental hazards

ENVIRONMENTALLY HAZARDOUS: No

14.6. Special precautions for user

No information available.

14.7. Maritime transport in bulk according to IMO instruments

not applicable

SECTION 15: Regulatory information

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

EU regulatory information

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Restrictions on use (REACH, annex XVII):

Entry 3, Entry 40, Entry 48, Entry 69

2010/75/EU (VOC): < 6 %

National regulatory information

Ordinance on Industrial Safety and Health

- Germany - BetrSichV: No flammable liquids in accordance with BetrSichV

Water hazard class (D): Water hazard class 1 (Self-assessment): slightly hazardous for water.

15.2. Chemical safety assessment

Chemical safety assessments for substances in this mixture were not carried out.

SECTION 16: Other information

Abbreviations and acronyms

- CLP: Classification, labelling and Packaging
 - REACH: Registration, Evaluation and Authorization of Chemicals
 - GHS: Globally Harmonised System of Classification, Labelling and Packaging of Chemicals
 - UN: United Nations
 - CAS: Chemical Abstracts Service
 - DNEL: Derived No Effect Level
 - DMEL: Derived Minimal Effect Level
 - PNEC: Predicted No Effect Concentration
 - ATE: Acute toxicity estimate
 - LC50: Lethal concentration, 50%
 - LD50: Lethal dose, 50%
 - LL50: Lethal loading, 50%
 - EL50: Effect loading, 50%
 - EC50: Effective Concentration 50%
 - ErC50: Effective Concentration 50%, growth rate
 - NOEC: No Observed Effect Concentration
 - BCF: Bio-concentration factor
 - PBT: persistent, bioaccumulative, toxic
 - vPvB: very persistent, very bioaccumulative
 - ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
 - RID: Regulations concerning the international carriage of dangerous goods by rail
 - ADN: European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways (Accord européen relatif au transport international des marchandises dangereuses par voies de navigation intérieures)
 - IMDG: International Maritime Code for Dangerous Goods
 - EmS: Emergency Schedules
 - MFAG: Medical First Aid Guide
 - IATA: International Air Transport Association
 - ICAO: International Civil Aviation Organization
 - MARPOL: International Convention for the Prevention of Marine Pollution from Ships
 - IBC: Intermediate Bulk Container
 - VOC: Volatile Organic Compounds
 - SVHC: Substance of Very High Concern
- For abbreviations and acronyms, see table at <http://abbrev.esdscom.eu>

Classification for mixtures and used evaluation method according to GB CLP Regulation

Classification	Classification procedure
Aquatic Chronic 3; H412	Calculation method

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H226	Flammable liquid and vapour.
H302	Harmful if swallowed.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H332	Harmful if inhaled.
H335	May cause respiratory irritation.
H372	Causes damage to organs through prolonged or repeated exposure.
H410	Very toxic to aquatic life with long lasting effects.
EUH208	Contains N-(3-(trimethoxysilyl)propyl)ethylenediamine. May produce an allergic reaction.

Further Information

The information is based on the present level of our knowledge. It does not, however, give assurance of product properties and establishes no contract legal rights. The receiver of our product is singularly responsible for adhering to existing laws and regulations.

(The data for the hazardous ingredients were taken respectively from the last version of the sub-contractor's safety data sheet.)