

SAFETY DATA SHEET

Based upon Regulation (EC) No 1907/2006, as amended by Regulation (EU) No 2020/878

MSF-1145

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

1.1. Product identifier

Product name : MSF-1145
Registration number REACH : Not applicable (mixture)
Product type REACH : Mixture

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

1.2.1 Relevant identified uses

2-component system

1.2.2 Uses advised against

No uses advised against known

1.3. Details of the supplier of the safety data sheet

Supplier of the safety data sheet

Novatio*
Industrielaan 5B
B-2250 Olen
☎ +32 14 25 76 40
☎ +32 14 22 02 66
info@novatio.be
*NOVATIO is a registered trademark of Novatech International N.V.

Manufacturer of the product

Novatech International N.V.
Industrielaan 5B
B-2250 Olen
☎ +32 14 85 97 37
☎ +32 14 85 97 38
info@novatech.be

1.4. Emergency telephone number

24h/24h (Telephone advice: English, French, German, Dutch) :
+32 14 58 45 45 (BIG)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classified as dangerous according to the criteria of Regulation (EC) No 1272/2008

Class	Category	Hazard statements
Eye Irrit.	category 2	H319: Causes serious eye irritation.

2.2. Label elements



Signal word Warning

H-statements
H319 Causes serious eye irritation.

P-statements
P280 Wear eye protection.
P264 Wash hands thoroughly after handling.
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.

Supplemental information
EUH211 Warning! Hazardous respirable droplets may be formed when sprayed. Do not breathe spray or mist.

2.3. Other hazards

No other hazards known

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SECTION 3: Composition/information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Name REACH Registration No	CAS No EC No	Conc. (C)	Classification according to CLP	Note	Remark	M-factors and ATE
titanium dioxide; [in powder form containing 1 % or more of particles with aerodynamic diameter \leq 10 μ m] 01-2119489379-17	13463-67-7 236-675-5	C<10%	Carc. 2; H351	(1)(2)	Constituent	
3-(trimethoxysilyl)propylamine 01-2119510159-45	13822-56-5 237-511-5	1%<C<1,5%	Eye Dam. 1; H318 Skin Irrit. 2; H315	(1)(10)	Constituent	

(1) For H- and EUH-statements in full: see section 16

(2) Substance with a Community workplace exposure limit

(10) Subject to restrictions of Annex XVII of Regulation (EC) No. 1907/2006

SECTION 4: First aid measures

4.1. Description of first aid measures

General:

Observe (own) safety. If possible, approach victim and check vital functions. In case of injury and/or intoxication, call the European emergency number 112. Treat symptoms starting with most life-threatening injuries and disorders. Keep victim under observation, possibility of delayed symptoms.

After inhalation:

Remove victim into fresh air. In case of respiratory problems, consult a doctor/medical service.

After skin contact:

If possible, wipe up/dry remove chemical. Then rinse/shower immediately with (lukewarm) water. If irritation persists, consult a doctor/medical service.

After eye contact:

Rinse immediately with plenty of water. Remove contact lenses, if present and easy to do. Continue rinsing. If irritation persists, consult a doctor/medical service.

After ingestion:

Rinse mouth with water. If you feel unwell, consult a doctor/medical service. Do not wait for symptoms to occur to consult Poison Center.

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

4.2.1 Acute symptoms

After inhalation:

No effects known.

After skin contact:

No effects known.

After eye contact:

Irritation of the eye tissue.

After ingestion:

No effects known.

4.2.2 Delayed symptoms

No effects known.

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

If applicable and available it will be listed below.

SECTION 5: Firefighting measures

5.1. Extinguishing media

5.1.1 Suitable extinguishing media:

Small fire: Quick-acting ABC powder extinguisher, Quick-acting BC powder extinguisher, Quick-acting class B foam extinguisher, Quick-acting CO2 extinguisher.

Major fire: Class B foam (not alcohol-resistant).

5.1.2 Unsuitable extinguishing media:

Small fire: Water (quick-acting extinguisher, reel); risk of puddle expansion.

Major fire: Water; risk of puddle expansion.

5.2. Special hazards arising from the substance or mixture

Upon combustion: CO and CO2 are formed.

5.3. Advice for firefighters

5.3.1 Instructions:

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No specific fire-fighting instructions required.

5.3.2 Special protective equipment for fire-fighters:

Gloves (EN 374). Safety glasses (EN 166). Protective clothing (EN 14605 or EN 13034). Heat/fire exposure: self-contained breathing apparatus (EN 136 + EN 137).

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

No naked flames. Exposure to fire/heat: keep upwind. Exposure to fire/heat: have neighbourhood close doors and windows.

6.1.1 Protective equipment for non-emergency personnel

See section 8.2

6.1.2 Protective equipment for emergency responders

Gloves (EN 374). Safety glasses (EN 166). Protective clothing (EN 14605 or EN 13034).

Suitable protective clothing

See section 8.2

6.2. Environmental precautions

Contain released product. Plug the leak, cut off the supply.

6.3. Methods and material for containment and cleaning up

Take up liquid spill into inert absorbent material. Scoop absorbed substance into closing containers. Clean contaminated surfaces with an excess of water. Wash clothing and equipment after handling.

6.4. Reference to other sections

See section 13.

SECTION 7: Handling and storage

The information in this section is a general description. If applicable and available, exposure scenarios are attached in annex. Always use the relevant exposure scenarios that correspond to your identified use.

7.1. Precautions for safe handling

Keep away from naked flames/heat. In finely divided state: use spark-/explosionproof appliances. Finely divided: keep away from ignition sources/sparks. Observe normal hygiene standards. Keep container tightly closed.

7.2. Conditions for safe storage, including any incompatibilities

7.2.1 Safe storage requirements:

Meet the legal requirements.

7.2.2 Keep away from:

Heat sources.

7.2.3 Suitable packaging material:

No data available

7.2.4 Non suitable packaging material:

No data available

7.3. Specific end use(s)

If applicable and available, exposure scenarios are attached in annex. See information supplied by the manufacturer.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

8.1.1 Occupational exposure

a) Occupational exposure limit values

If limit values are applicable and available these will be listed below.

Belgium

Titane (dioxyde de)	Time-weighted average exposure limit 8 h	10 mg/m ³
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France

Titane (dioxyde de), en Ti	Time-weighted average exposure limit 8 h (VL: Valeur non réglementaire indicative)	10 mg/m ³
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Germany

Austria

Titandioxid (Alveolarstaub)	Tagesmittelwert (MAK)	5 mg/m ³ (1)
	Kurzzeitwert 60(Miw) 2x (MAK)	10 mg/m ³ (1)

(1) Alveolengängige Fraktion

UK

Titanium dioxide respirable	Time-weighted average exposure limit 8 h (Workplace exposure limit (EH40/2005))	4 mg/m ³
Titanium dioxide total inhalable	Time-weighted average exposure limit 8 h (Workplace exposure limit (EH40/2005))	10 mg/m ³

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USA (TLV-ACGIH)

Titanium dioxide - finescale particles	Time-weighted average exposure limit 8 h (TLV - Intended Changes)	2.5 mg/m ³ (1)
Titanium dioxide - nanoscale particles	Time-weighted average exposure limit 8 h (TLV - Adopted Value)	0.2 mg/m ³ (1)

(1) (R): Respirable fraction

b) National biological limit values

If limit values are applicable and available these will be listed below.

8.1.2 Sampling methods

Product name	Test	Number
TiO ₂	NIOSH	7302
TiO ₂	NIOSH	7304

8.1.3 Applicable limit values when using the substance or mixture as intended

If limit values are applicable and available these will be listed below.

8.1.4 Threshold values

DNEL/DMEL - Workers

titanium dioxide; [in powder form containing 1 % or more of particles with aerodynamic diameter ≤ 10 µm]

Effect level (DNEL/DMEL)	Type	Value	Remark
DNEL	Long-term local effects inhalation	1.25 mg/m ³	

3-(trimethoxysilyl)propylamine

Effect level (DNEL/DMEL)	Type	Value	Remark
DNEL	Long-term systemic effects inhalation	7.1 mg/m ³	
	Long-term systemic effects dermal	1 mg/kg bw/day	

DNEL/DMEL - General population

titanium dioxide; [in powder form containing 1 % or more of particles with aerodynamic diameter ≤ 10 µm]

Effect level (DNEL/DMEL)	Type	Value	Remark
DNEL	Long-term local effects inhalation	210 µg/m ³	

3-(trimethoxysilyl)propylamine

Effect level (DNEL/DMEL)	Type	Value	Remark
DNEL	Long-term systemic effects inhalation	1.7 mg/m ³	
	Long-term systemic effects dermal	0.5 mg/kg bw/day	

PNEC

3-(trimethoxysilyl)propylamine

Compartments	Value	Remark
Fresh water	0.5 mg/l	
Fresh water (intermittent releases)	2.05 mg/l	
Marine water	0.05 mg/l	
STP	0.81 mg/l	
Fresh water sediment	1.8 mg/kg sediment dw	
Marine water sediment	0.18 mg/kg sediment dw	
Soil	0.069 mg/kg soil dw	
Oral	11.1 mg/kg food	

8.1.5 Control banding

If applicable and available it will be listed below.

8.2. Exposure controls

The information in this section is a general description. If applicable and available, exposure scenarios are attached in annex. Always use the relevant exposure scenarios that correspond to your identified use.

8.2.1 Appropriate engineering controls

Keep away from naked flames/heat. In finely divided state: use spark-/explosionproof appliances. Finely divided: keep away from ignition sources/sparks. Carry operations in the open/under local exhaust/ventilation or with respiratory protection.

8.2.2 Individual protection measures, such as personal protective equipment

Observe normal hygiene standards. Do not eat, drink or smoke during work.

a) Respiratory protection:

Respiratory protection not required in normal conditions.

b) Hand protection:

Protective gloves against chemicals (EN 374).

c) Eye protection:

Safety glasses (EN 166).

d) Skin protection:

Protective clothing (EN 14605 or EN 13034).

8.2.3 Environmental exposure controls:

See sections 6.2, 6.3 and 13

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical form	Liquid
Colour	Variable in colour, depending on the composition
Odour	Characteristic odour
Odour threshold	No data available in the literature

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Melting point	No data available in the literature
Boiling point	No data available in the literature
Flammability	Not classified as flammable
Explosion limits	No data available in the literature
Flash point	No data available in the literature
Auto-ignition temperature	No data available in the literature
Decomposition temperature	No data available in the literature
pH	Not applicable (non-soluble in water)
Kinematic viscosity	No data available in the literature
Solubility	Water ; insoluble
Log Kow	Not applicable (mixture)
Vapour pressure	No data available in the literature
Absolute density	1400 kg/m ³ ; 20 °C
Relative density	1.4 ; 20 °C
Relative vapour density	No data available in the literature
Particle size	Not applicable (liquid)

9.2. Other information

No data available

SECTION 10: Stability and reactivity

10.1. Reactivity

Heating increases the fire hazard.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

No data available.

10.4. Conditions to avoid

Precautionary measures

Keep away from naked flames/heat. In finely divided state: use spark-/explosionproof appliances. Finely divided: keep away from ignition sources/sparks.

10.5. Incompatible materials

No data available.

10.6. Hazardous decomposition products

Upon combustion: CO and CO₂ are formed.

SECTION 11: Toxicological information

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

11.1.1 Test results

Acute toxicity

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No (test)data on the mixture available

Judgement is based on the relevant ingredients

titanium dioxide; [in powder form containing 1 % or more of particles with aerodynamic diameter ≤ 10 µm]

Route of exposure	Parameter	Method	Value	Exposure time	Species	Value determination	Remark
Oral	LD50	OECD 401	> 2000 mg/kg bw		Rat (male / female)	Experimental value	
Dermal						Data waiving	
Inhalation (dust)	LC50	OECD 403	> 5.09 mg/l	4 h	Rat (male)	Experimental value	

3-(trimethoxysilyl)propylamine

Route of exposure	Parameter	Method	Value	Exposure time	Species	Value determination	Remark
Oral	LD50	Equivalent to OECD 401	3030 mg/kg bw		Rat (male)	Experimental value	
Dermal	LD50	Equivalent to OECD 402	11458 mg/kg bw	24 h	Rabbit (male)	Experimental value	

Conclusion

Not classified for acute toxicity

Corrosion/irritation

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No (test)data on the mixture available

Classification is based on the relevant ingredients

titanium dioxide; [in powder form containing 1 % or more of particles with aerodynamic diameter ≤ 10 µm]

Route of exposure	Result	Method	Exposure time	Time point	Species	Value determination	Remark
Eye	Not irritating	OECD 405		1; 24; 48; 72 hours	Rabbit	Experimental value	
Skin	Not irritating	Equivalent to OECD 404	4 h	48 hours	Rabbit	Experimental value	

3-(trimethoxysilyl)propylamine

Route of exposure	Result	Method	Exposure time	Time point	Species	Value determination	Remark
Eye	Serious eye damage	Equivalent to OECD 405		24; 48; 72 hours	Rabbit	Experimental value	Single treatment without rinsing
Skin	Irritating	OECD 404	4 h	24; 48; 72 hours	Rabbit	Experimental value	

Conclusion

Causes serious eye irritation.

Not classified as irritating to the respiratory system

Not classified as irritating to the skin

Respiratory or skin sensitisation

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No (test)data on the mixture available

Judgement is based on the relevant ingredients

titanium dioxide; [in powder form containing 1 % or more of particles with aerodynamic diameter ≤ 10 µm]

Route of exposure	Result	Method	Exposure time	Observation time point	Species	Value determination	Remark
Skin	Not sensitizing	Equivalent to OECD 429			Mouse (female)	Experimental value	
Inhalation (dust)	Not sensitizing				Mouse (female)	Experimental value	

3-(trimethoxysilyl)propylamine

Route of exposure	Result	Method	Exposure time	Observation time point	Species	Value determination	Remark
Skin	Not sensitizing	OECD 406			Guinea pig (male / female)	Experimental value	

Conclusion

Not classified as sensitizing for inhalation

Not classified as sensitizing for skin

Specific target organ toxicity

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No (test)data on the mixture available

Judgement is based on the relevant ingredients

titanium dioxide; [in powder form containing 1 % or more of particles with aerodynamic diameter ≤ 10 µm]

Route of exposure	Parameter	Method	Value	Organ	Effect	Exposure time	Species	Value determination
Oral (stomach tube)	NOAEL	OECD 408	> 1000 mg/kg bw/day		No effect	90 day(s)	Rat (male / female)	Experimental value
Dermal								Data waiving
Inhalation (aerosol)	NOAEC	Subchronic toxicity test	2.1 mg/m ³ air		No effect	13 weeks (6h / day, 5 days / week)	Rat (female)	Experimental value

3-(trimethoxysilyl)propylamine

Route of exposure	Parameter	Method	Value	Organ	Effect	Exposure time	Species	Value determination
Oral (stomach tube)	NOAEL	OECD 408	100 mg/kg bw/day		No effect	90 day(s)	Rat (male / female)	Experimental value
Oral (stomach tube)	LOAEL local effects	OECD 408	0 mg/kg bw/day - 100 mg/kg bw/day		Histopathology	90 day(s)	Rat (male / female)	Experimental value

Conclusion

Not classified for subchronic toxicity

Mutagenicity (in vitro)

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No (test)data on the mixture available

Judgement is based on the relevant ingredients

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titanium dioxide; [in powder form containing 1 % or more of particles with aerodynamic diameter ≤ 10 µm]

Result	Method	Test substrate	Effect	Value determination	Remark
Negative with metabolic activation, negative without metabolic activation	OECD 473	Chinese hamster ovary (CHO)		Experimental value	
Negative with metabolic activation, negative without metabolic activation	OECD 471	Bacteria (S.typhimurium)		Experimental value	

3-(trimethoxysilyl)propylamine

Result	Method	Test substrate	Effect	Value determination	Remark
Negative with metabolic activation, negative without metabolic activation	OECD 476	Chinese hamster ovary (CHO)	No effect	Read-across	
Negative with metabolic activation, negative without metabolic activation	OECD 471	Bacteria (S. typhimurium and E. coli)	No effect	Experimental value	

Mutagenicity (in vivo)

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No (test)data on the mixture available

Judgement is based on the relevant ingredients

titanium dioxide; [in powder form containing 1 % or more of particles with aerodynamic diameter ≤ 10 µm]

Result	Method	Exposure time	Test substrate	Organ	Value determination
Negative (Oral (stomach tube))	OECD 474		Mouse (male / female)		Experimental value

Conclusion

Not classified for mutagenic or genotoxic toxicity

Carcinogenicity

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No (test)data on the mixture available

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.

titanium dioxide; [in powder form containing 1 % or more of particles with aerodynamic diameter ≤ 10 µm]

Route of exposure	Parameter	Method	Value	Exposure time	Species	Effect	Organ	Value determination
Inhalation (aerosol)		Equivalent to OECD 453		105 weeks (6h / day, 5 days / week)	Rat (male)	Lung tissue affection/degeneration	Lungs	Experimental value
Inhalation (aerosol)	NOAEC	Equivalent to OECD 453	5 mg/m ³ air	104 weeks (6h / day, 5 days / week)	Rat (male / female)	No carcinogenic effect	Lungs	Experimental value
Oral (diet)	NOEL	Carcinogenic toxicity study	2500 mg/kg bw/day	103 weeks (7 days / week)	Rat (male / female)	No carcinogenic effect		Experimental value

Conclusion

Not classified for carcinogenicity

Reproductive toxicity

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No (test)data on the mixture available

Judgement is based on the relevant ingredients

titanium dioxide; [in powder form containing 1 % or more of particles with aerodynamic diameter ≤ 10 µm]

	Parameter	Method	Value	Exposure time	Species	Effect	Organ	Value determination
Developmental toxicity (Oral (stomach tube))	NOAEL	OECD 414	1000 mg/kg bw/day	2 weeks (7 days / week)	Rat	No effect		Experimental value
Maternal toxicity (Oral (stomach tube))	NOAEL	OECD 414	1000 mg/kg bw/day	2 weeks (7 days / week)	Rat	No effect		Experimental value
Effects on fertility (Oral (diet))	NOAEL	OECD 443	≥ 1000 mg/kg bw/day	14 day(s)	Rat (male / female)	No effect		Experimental value

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3-(trimethoxysilyl)propylamine

	Parameter	Method	Value	Exposure time	Species	Effect	Organ	Value determination
Developmental toxicity (Oral (stomach tube))	NOAEL	OECD 414	≥ 1000 mg/kg bw/day	14 days (gestation, daily)	Rat	No effect	Foetus	Experimental value
Maternal toxicity (Oral (stomach tube))	NOAEL	OECD 414	300 mg/kg bw/day	14 days (gestation, daily)	Rat	No effect		Experimental value
Effects on fertility		OECD 443						Experimental study planned

Conclusion

Not classified for reprotoxic or developmental toxicity

Aspiration hazard

Judgement is based on the relevant ingredients
Not classified for aspiration toxicity

Toxicity other effects

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No (test)data on the mixture available

Chronic effects from short and long-term exposure

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No effects known.

11.2. Information on other hazards

No evidence of endocrine disrupting properties

SECTION 12: Ecological information

12.1. Toxicity

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No (test)data on the mixture available

Judgement of the mixture is based on the relevant ingredients

titanium dioxide; [in powder form containing 1 % or more of particles with aerodynamic diameter ≤ 10 µm]

	Parameter	Method	Value	Duration	Species	Test design	Fresh/salt water	Value determination
Acute toxicity fishes	LC50		> 1000 mg/l		Pisces		Fresh water	Literature study
Acute toxicity crustacea	EC50		> 1000 mg/l		Invertebrata		Fresh water	Literature study
Toxicity algae and other aquatic plants	EC50	OECD 201	> 100 mg/l	72 h	Pseudokirchneriella subcapitata	Static system	Fresh water	Experimental value; Growth rate
	NOEC	OECD 201	≥ 100 mg/l	72 h	Pseudokirchneriella subcapitata	Static system	Fresh water	Experimental value; Growth rate
Long-term toxicity fish	NOEC	Equivalent to OECD 212	≥ 1000 mg/l	8 day(s)	Danio rerio	Semi-static system	Fresh water	Experimental value; Nominal concentration
Long-term toxicity aquatic crustacea	NOEC	OECD 211	≥ 5 mg/l	21 day(s)	Daphnia magna	Semi-static system	Fresh water	Weight of evidence; Reproduction
Toxicity aquatic micro-organisms	NOEC	OECD 209	≥ 1000 mg/l	3 h	Activated sludge	Static system	Fresh water	Experimental value; Respiration

No classification for aquatic toxicity since the toxicity limits are above the water solubility

3-(trimethoxysilyl)propylamine

	Parameter	Method	Value	Duration	Species	Test design	Fresh/salt water	Value determination
Acute toxicity fishes	LC50	OECD 203	> 934 mg/l	96 h	Danio rerio	Semi-static system	Fresh water	Experimental value; GLP
Acute toxicity crustacea	EC50	OECD 202	331 mg/l	48 h	Daphnia magna	Static system	Fresh water	Experimental value; GLP
Toxicity algae and other aquatic plants	EC50	EU Method C.3	> 1000 mg/l	72 h	Desmodesmus subspicatus	Static system	Fresh water	Read-across; GLP
Toxicity aquatic micro-organisms	EC10		13 mg/l	5.75 h	Pseudomonas putida	Static system	Fresh water	Experimental value; GLP

Conclusion

Not classified as dangerous for the environment according to the criteria of Regulation (EC) No 1272/2008

12.2. Persistence and degradability

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3-(trimethoxysilyl)propylamine

Phototransformation air (DT50 air)

Method	Value	Conc. OH-radicals	Value determination
AOPWIN v1.92	3.5 h	1.5E6 /cm ³	Calculated value

Half-life water (t1/2 water)

Method	Value	Primary degradation/mineralisation	Value determination
	2.6 h; pH = 7	Primary degradation	QSAR

Conclusion

Water

Contains non readily biodegradable component(s)

12.3. Bioaccumulative potential

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Log Kow

Method	Remark	Value	Temperature	Value determination
	Not applicable (mixture)			

titanium dioxide; [in powder form containing 1 % or more of particles with aerodynamic diameter ≤ 10 µm]

Log Kow

Method	Remark	Value	Temperature	Value determination
	Not applicable (inorganic)			

3-(trimethoxysilyl)propylamine

Log Kow

Method	Remark	Value	Temperature	Value determination
KOWWIN		0.2	20 °C	QSAR

Conclusion

Does not contain bioaccumulative component(s)

12.4. Mobility in soil

3-(trimethoxysilyl)propylamine

(log) Koc

Parameter	Method	Value	Value determination
log Koc		-0.6	QSAR

Conclusion

Contains component(s) with potential for mobility in the soil

Contains component(s) that adsorb(s) into the soil

12.5. Results of PBT and vPvB assessment

Does not contain component(s) that meet(s) the criteria of PBT and/or vPvB as listed in Annex XIII of Regulation (EC) No 1907/2006.

12.6. Endocrine disrupting properties

No evidence of endocrine disrupting properties

12.7. Other adverse effects

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Greenhouse gases

None of the known components is included in the list of fluorinated greenhouse gases (Regulation (EU) No 517/2014)

Ozone-depleting potential (ODP)

Not classified as dangerous for the ozone layer (Regulation (EC) No 1005/2009)

Groundwater

Groundwater pollutant

3-(trimethoxysilyl)propylamine

Groundwater

Groundwater pollutant

SECTION 13: Disposal considerations

The information in this section is a general description. If applicable and available, exposure scenarios are attached in annex. Always use the relevant exposure scenarios that correspond to your identified use.

13.1. Waste treatment methods

13.1.1 Provisions relating to waste

European Union

Can be considered as non hazardous waste according to Directive 2008/98/EC, as amended by Regulation (EU) No 1357/2014 and Regulation (EU) No 2017/997.

Waste material code (Directive 2008/98/EC, Decision 2000/0532/EC).

15 02 03 (absorbents, filter materials, wiping cloths and protective clothing: absorbents, filter materials, wiping cloths and protective clothing other than those mentioned in 15 02 02). Depending on branch of industry and production process, also other waste codes may be applicable.

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13.1.2 Disposal methods

Remove waste in accordance with local and/or national regulations. Should not be landfilled with household waste. Do not discharge into drains or the environment. Dispose of at authorized waste collection point.

13.1.3 Packaging/Container

No data available

SECTION 14: Transport information

Road (ADR), Rail (RID), Inland waterways (ADN), Sea (IMDG/IMSBC), Air (ICAO-TI/IATA-DGR)

14.1. UN number/ID number

Transport	Not subject
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14.2. UN proper shipping name

14.3. Transport hazard class(es)

Hazard identification number	
Class	
Classification code	

14.4. Packing group

Packing group	
Labels	

14.5. Environmental hazards

Environmentally hazardous substance mark	no
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14.6. Special precautions for user

Special provisions	
Limited quantities	

14.7. Maritime transport in bulk according to IMO instruments

Annex II of MARPOL 73/78	Not applicable, based on available data
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SECTION 15: Regulatory information

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

European legislation:

VOC content Directive 2010/75/EU

VOC content	Remark
0.03 % - 0.04 %	

Directive 2012/18/EU (Seveso III)

Not subject to registration according to Directive 2012/18/EU (Seveso III)

REACH Annex XVII - Restriction

Contains component(s) subject to restrictions of Annex XVII of Regulation (EC) No 1907/2006: restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles.

	Designation of the substance, of the group of substances or of the mixture	Conditions of restriction
· 3-(trimethoxysilyl)propylamine	Liquid substances or mixtures fulfilling the criteria for any of the following hazard classes or categories set out in Annex I to Regulation (EC) No 1272/2008: (a) hazard classes 2.1 to 2.4, 2.6 and 2.7, 2.8 types A and B, 2.9, 2.10, 2.12, 2.13 categories 1 and 2, 2.14 categories 1 and 2, 2.15 types A to F; (b) hazard classes 3.1 to 3.6, 3.7 adverse effects on sexual function and fertility or on development, 3.8 effects other than narcotic effects, 3.9 and 3.10; (c) hazard class 4.1; (d) hazard class 5.1.	1. Shall not be used in: — ornamental articles intended to produce light or colour effects by means of different phases, for example in ornamental lamps and ashtrays, — tricks and jokes, — games for one or more participants, or any article intended to be used as such, even with ornamental aspects, 2. Articles not complying with paragraph 1 shall not be placed on the market. 3. Shall not be placed on the market if they contain a colouring agent, unless required for fiscal reasons, or perfume, or both, if they: — can be used as fuel in decorative oil lamps for supply to the general public, and, — present an aspiration hazard and are labelled with H304, 4. Decorative oil lamps for supply to the general public shall not be placed on the market unless they conform to the European Standard on Decorative oil lamps (EN 14059) adopted by the European Committee for Standardisation (CEN). 5. Without prejudice to the implementation of other Community provisions relating to the classification, packaging and labelling of dangerous substances and mixtures, suppliers shall ensure, before the placing on the market, that the following requirements are met: a) lamp oils, labelled with H304, intended for supply to the general public are visibly, legibly and indelibly marked as follows: "Keep lamps filled with this liquid out of the reach of children"; and, by 1 December 2010, "Just a sip of lamp oil — or even sucking the wick of lamps — may lead to life-threatening lung damage"; b) grill lighter fluids, labelled with H304, intended for supply to the general public are legibly and indelibly marked by 1 December 2010 as follows: "Just a sip of grill lighter may lead to life-threatening lung damage"; c) lamp oils and grill lighters, labelled with H304, intended for supply to the general public are packaged in black opaque containers not exceeding 1 litre by 1 December 2010.

National legislation Belgium

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No data available

National legislation The Netherlands

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Waterbezwaarlijkheid	B (4); Algemene Beoordelingsmethodiek (ABM)
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National legislation France

MSF-1145

No data available

titanium dioxide; [in powder form containing 1 % or more of particles with aerodynamic diameter $\leq 10 \mu\text{m}$]

Catégorie cancérogène	Titane (dioxide de), en Ti; C2
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National legislation Germany

MSF-1145

WGK	1; Verordnung über Anlagen zum Umgang mit wassergefährdenden Stoffen (AwSV) - 18. April 2017
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titanium dioxide; [in powder form containing 1 % or more of particles with aerodynamic diameter $\leq 10 \mu\text{m}$]

TA-Luft	5.2.2/III
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3-(trimethoxysilyl)propylamine

TA-Luft	5.2.5
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National legislation Austria

MSF-1145

No data available

National legislation United Kingdom

MSF-1145

No data available

Other relevant data

MSF-1145

No data available

titanium dioxide; [in powder form containing 1 % or more of particles with aerodynamic diameter $\leq 10 \mu\text{m}$]

TLV - Carcinogen	Titanium dioxide - finescale particles; A3
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IARC - classification	2B; Titanium dioxide
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TLV - Carcinogen	Titanium dioxide - nanoscale particles; A3
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15.2. Chemical safety assessment

No chemical safety assessment is required for a mixture.

SECTION 16: Other information

Full text of any H- and EUH-statements referred to under section 3:

H315 Causes skin irritation.

H318 Causes serious eye damage.

H319 Causes serious eye irritation.

H351 Suspected of causing cancer if inhaled.

EUH211 Warning! Hazardous respirable droplets may be formed when sprayed. Do not breathe spray or mist.

(*)	INTERNAL CLASSIFICATION BY BIG
ADI	Acceptable daily intake
AOEL	Acceptable operator exposure level
ATE	Acute Toxicity Estimate
BCF	Bioconcentration Factor
BEI	Biological Exposure Indices
CLP (EU-GHS)	Classification, labelling and packaging (Globally Harmonised System in Europe)
DMEL	Derived Minimal Effect Level
DNEL	Derived No Effect Level
EC10	Effect Concentration 10 %
EC50	Effect Concentration 50 %
ErC50	EC50 in terms of reduction of growth rate
GLP	Good Laboratory Practice
LC0	Lethal Concentration 0 %
LC50	Lethal Concentration 50 %
LD50	Lethal Dose 50 %
LOAEC/LOAEL	Lowest Observed Adverse Effect Concentration/Lowest Observed Adverse Effect Level
NOAEC/NOAEL	No Observed Adverse Effect Concentration/No Observed Adverse Effect Level
NOEC/NOEL	No Observed Effect Concentration/No Observed Effect Level
OECD	Organisation for Economic Co-operation and Development
PBT	Persistent, Bioaccumulative & Toxic
PNEC	Predicted No Effect Concentration
STP	Sludge Treatment Process
vPvB	very Persistent & very Bioaccumulative

The information in this safety data sheet is based on data and samples provided to BIG. The sheet was written to the best of our ability and according to the state of knowledge at that time. The safety data sheet only constitutes a guideline for the safe handling, use, consumption, storage, transport and disposal of the substances/preparations/mixtures mentioned under point 1. New safety data sheets are written from time to time. Only the most recent versions may be used. Unless indicated otherwise word for word on the safety data sheet, the information does not apply to substances/preparations/mixtures in purer form, mixed with other substances or in processes. The safety data sheet offers

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no quality specification for the substances/preparations/mixtures in question. Compliance with the instructions in this safety data sheet does not release the user from the obligation to take all measures dictated by common sense, regulations and recommendations or which are necessary and/or useful based on the real applicable circumstances. BIG does not guarantee the accuracy or exhaustiveness of the information provided and cannot be held liable for any changes by third parties. This safety data sheet is only to be used within the European Union, Switzerland, Iceland, Norway and Liechtenstein. Any use outside of this area is at your own risk. Use of this safety data sheet is subject to the licence and liability limiting conditions as stated in your BIG licence agreement or when this is failing the general conditions of BIG. All intellectual property rights to this sheet are the property of BIG and its distribution and reproduction are limited. Consult the mentioned agreement/conditions for details.

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