SAFETY DATA SHEET

Based upon Regulation (EC) No 1907/2006, as amended by Regulation (EU) No 2015/830

MEGAPLAST PU 25S curative

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

1.1. Product identifier

Product name : MEGAPLAST PU 25S curative
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

Adhesive: component
Hardener

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@tec7.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
Aquatic Chronic	category 3	H412: Harmful to aquatic life with long lasting effects.

2.2. Label elements

Hazard pictograms

No pictogram is used

Signal word No signal word

H-statements

H412 Harmful to aquatic life with long lasting effects.

P-statements

P273 Avoid release to the environment.

Supplemental information

EUH208 Contains: piperazine; dibutylbis(dodecylthio)stannane. May produce an allergic reaction.

2.3. Other hazards

No other hazards known

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
piperazine 01-2119480384-35	110-85-0 203-808-3	0.5%≤C<1%	Repr. 2; H361fd Resp. Sens. 1; H334 Skin Sens. 1; H317 Skin Corr. 1B; H314 Eye Dam. 1; H318	(1)(2)	Constituent
dibutylbis(dodecylthio)stannane 01-2119841260-50	1185-81-5 214-688-7	0.25% ≤C<0.3%	Muta. 2; H341 Repr. 1B; H360FD Skin Sens. 1; H317 STOT RE 1; H372 Acute Tox. 4; H312 Skin Irrit. 2; H315 Aquatic Acute 1; H400 Aquatic Chronic 1; H410	(1)(2)(10)	Constituent
Talc (Mg3H2(SiO3)4)	14807-96-6 238-877-9	15%≤C<25%		(2)	Constituent

(1) For H-statements in full: see heading 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:
Check the vital functions. Unconscious: maintain adequate airway and respiration. Respiratory arrest: artificial respiration or oxygen. Cardiac arrest: perform resuscitation. Victim conscious with laboured breathing: half-seated. Victim in shock: on his back with legs slightly raised. Vomiting: prevent asphyxia/aspiration pneumonia. Prevent cooling by covering the victim (no warming up). Keep watching the victim. Give psychological aid. Keep the victim calm, avoid physical strain. Depending on the victim's condition: doctor/hospital.

After inhalation:
Remove the victim into fresh air. Respiratory problems: consult a doctor/medical service.

After skin contact:
Wash immediately with lots of water. Do not apply (chemical) neutralizing agents without medical advice. Take victim to a doctor if irritation persists.

After eye contact:
Rinse with water. Remove contact lenses, if present and easy to do. Continue rinsing. Do not apply (chemical) neutralizing agents without medical advice. Take victim to an ophthalmologist if irritation persists.

After ingestion:
Rinse mouth with water. Consult a doctor/medical service if you feel unwell.

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:
No effects known.

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

In case of fire: possible release of toxic/corrosive gases/vapours.

5.3. Advice for firefighters

5.3.1 Instructions:

Take account of environmentally hazardous firefighting water. Use water moderately and if possible collect or contain it.

5.3.2 Special protective equipment for fire-fighters:

Gloves. Protective clothing. Heat/fire exposure: compressed air/oxygen apparatus.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

No naked flames.

6.1.1 Protective equipment for non-emergency personnel

See heading 8.2

6.1.2 Protective equipment for emergency responders

Gloves. Protective clothing.

Suitable protective clothing

See heading 8.2

6.2. Environmental precautions

Contain released product. Dam up the liquid spill.

6.3. Methods and material for containment and cleaning up

Take up liquid spill into inert absorbent material, e.g.: sand or saw dust. Scoop absorbed substance into closing containers. Carefully collect the spill/leftovers. Clean contaminated surfaces with an excess of water. Take collected spill to manufacturer/competent authority. Wash clothing and equipment after handling.

6.4. Reference to other sections

See heading 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. Observe strict hygiene. Do not discharge the waste into the drain. Keep container tightly closed.

7.2. Conditions for safe storage, including any incompatibilities

7.2.1 Safe storage requirements:

Store in a cool area. Store in a dry area. Keep container in a well-ventilated place. Meet the legal requirements.

7.2.2 Keep away from:

Heat sources, oxidizing agents, (strong) acids, (strong) bases, isocyanates.

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.

EU

Piperazine	Time-weighted average exposure limit 8 h (Indicative occupational exposure limit value)	0.1 mg/m³
	Short time value (Indicative occupational exposure limit value)	0.3 mg/m³

Belgium

Etain (composés organiques de) (en Sn)	Time-weighted average exposure limit 8 h	0.1 mg/m³
	Short time value	0.2 mg/m³
Pipérazine et sels (vapeur et aérosol) (en pipérazine)	Time-weighted average exposure limit 8 h	0.1 mg/m³
	Short time value	0.3 mg/m³
Talc (sans fibre d'amiante)	Time-weighted average exposure limit 8 h	2 mg/m³

The Netherlands

Piperazine	Time-weighted average exposure limit 8 h (Public occupational exposure limit value)	0.1 mg/m³
	Short time value (Public occupational exposure limit value)	0.3 mg/m³
Talk (respirabel)	Time-weighted average exposure limit 8 h (Public occupational exposure limit value)	0.25 mg/m³

France

Etain (composés organiques d'), en Sn	Time-weighted average exposure limit 8 h (VL: Valeur non réglementaire indicative)	0.1 mg/m³
	Short time value (VL: Valeur non réglementaire indicative)	0.2 mg/m³
Pipérazine (poussières et vapeurs)	Time-weighted average exposure limit 8 h (VRI: Valeur réglementaire indicative)	0.1 mg/m³
	Short time value (VRI: Valeur réglementaire indicative)	0.3 mg/m³

Germany

Di-n-butylzinnverbindungen	Time-weighted average exposure limit 8 h (TRGS 900)	0.0018 ppm
	Time-weighted average exposure limit 8 h (TRGS 900)	0.009 mg/m³
Piperazin	Time-weighted average exposure limit 8 h (TRGS 900)	0.1 mg/m³

UK

Piperazine	Time-weighted average exposure limit 8 h (Workplace exposure limit (EH40/2005))	0.1 mg/m³
	Short time value (Workplace exposure limit (EH40/2005))	0.3 mg/m³
Talc, respirable dust	Time-weighted average exposure limit 8 h (Workplace exposure limit (EH40/2005))	1 mg/m³
Tin compounds, organic, except Cyhexatin (ISO), (as Sn)	Time-weighted average exposure limit 8 h (Workplace exposure limit (EH40/2005))	0.1 mg/m³
	Short time value (Workplace exposure limit (EH40/2005))	0.2 mg/m³

USA (TLV-ACGIH)

Piperazine	Time-weighted average exposure limit 8 h (TLV - Adopted Value)	0.03 ppm (IFV)
Talc (containing no asbestos fibers)	Time-weighted average exposure limit 8 h (TLV - Adopted Value)	2 mg/m³ (R,E)
Tin organic compounds, as Sn	Time-weighted average exposure limit 8 h (TLV - Adopted Value)	0.1 mg/m³
	Short time value (TLV - Adopted Value)	0.2 mg/m³

(IFV): Inhalable fraction and vapor
R,E: Respirable fraction. The value is for particulate matter containing no asbestos and < 1% crystalline silica

b) National biological limit values

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

8.1.2 Sampling methods

If applicable and available it will be listed below.

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

piperazine

Effect level (DNEL/DMEL)	Type	Value	Remark
DNEL	Long-term systemic effects inhalation	0.1 mg/m³	
	Acute systemic effects inhalation	0.3 mg/m³	
	Long-term local effects inhalation	0.3 mg/m³	
	Acute local effects inhalation	0.3 mg/m³	
	Long-term systemic effects dermal	0.014 mg/kg bw/day	
	Acute systemic effects dermal	0.042 mg/kg bw/day	
	Acute local effects dermal	2 %	

Talc (Mg3H2(SiO3)4)

Effect level (DNEL/DMEL)	Type	Value	Remark
DNEL	Long-term systemic effects inhalation	2.16 mg/m³	
	Acute systemic effects inhalation	2.16 mg/m³	
	Long-term local effects inhalation	3.6 mg/m³	
	Acute local effects inhalation	3.6 mg/m³	
	Long-term systemic effects dermal	3.2 mg/kg bw/day	
	Long-term local effects dermal	4.54 mg/cm²	

DNEL/DMEL - General population

piperazine

Effect level (DNEL/DMEL)	Type	Value	Remark
DNEL	Long-term systemic effects oral	1.5 mg/kg bw/day	

Talc (Mg3H2(SiO3)4)

Effect level (DNEL/DMEL)	Type	Value	Remark
DNEL	Long-term systemic effects inhalation	1.08 mg/m³	
	Acute systemic effects inhalation	1.08 mg/m³	
	Long-term local effects inhalation	1.8 mg/m³	
	Acute local effects inhalation	1.8 mg/m³	
	Long-term systemic effects dermal	21.6 mg/kg bw/day	
	Long-term local effects dermal	2.27 mg/kg bw/day	
	Long-term systemic effects oral	160 mg/kg bw/day	
	Acute systemic effects oral	160 mg/kg bw/day	

PNEC

piperazine

Compartments	Value	Remark
Fresh water	1.25 mg/l	
Marine water	0.125 mg/l	
Aqua (intermittent releases)	1.25 mg/l	
STP	54 mg/l	
Fresh water sediment	4.5 mg/kg sediment dw	
Marine water sediment	0.45 mg/kg sediment dw	
Soil	11.5 mg/kg soil dw	
Oral	4.6 mg/kg food	

Talc (Mg3H2(SiO3)4)

Compartments	Value	Remark
Fresh water	597.97 mg/l	
Fresh water (intermittent releases)	597.97 mg/l	
Marine water	141.26 mg/l	
Marine water (intermittent releases)	141.26 mg/l	
Fresh water sediment	31.33 mg/kg sediment dw	
Marine water sediment	3.13 mg/kg sediment dw	
Air	10 mg/m³	

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. 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 strict hygiene. Do not eat, drink or smoke during work.

a) Respiratory protection:

Full face mask with filter type A at conc. in air > exposure limit.

b) Hand protection:

Protective gloves against chemicals (EN 374), Change gloves frequently.

Materials	Measured breakthrough time	Thickness	Protection index
nitrile rubber	> 480 minutes	> 0.5 mm	Class 6

c) Eye protection:

Face shield.

d) Skin protection:

Protective clothing.

8.2.3 Environmental exposure controls:

See headings 6.2, 6.3 and 13

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical form	Liquid
Odour	No data available on odour
Odour threshold	No data available
Colour	Black
	Beige
Particle size	Not applicable (liquid)
Explosion limits	No data available
Flammability	Not classified as flammable
Log Kow	Not applicable (mixture)
Dynamic viscosity	No data available

Kinematic viscosity	No data available
Melting point	No data available
Boiling point	No data available
Evaporation rate	No data available
Relative vapour density	No data available
Vapour pressure	3 hPa ; 25 °C ; Calculated
Solubility	No data available
Relative density	1.25
Decomposition temperature	No data available
Auto-ignition temperature	No data available
Flash point	212 °C
Explosive properties	No chemical group associated with explosive properties
Oxidising properties	No chemical group associated with oxidising properties
pH	No data available

9.2. Other information

Absolute density	1246 kg/m³

SECTION 10: Stability and reactivity

10.1. Reactivity

Temperature above flashpoint: higher fire/explosion 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.

10.5. Incompatible materials

Oxidizing agents, (strong) acids, (strong) bases, isocyanates.

10.6. Hazardous decomposition products

No data available.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

11.1.1 Test results

Acute toxicity

MEGAPLAST PU 25S curative

No (test)data on the mixture available

Judgement is based on the relevant ingredients

piperazine

Route of exposure	Parameter	Method	Value	Exposure time	Species	Value determination	Remark
Oral	LD50	Equivalent to OECD 401	2600 mg/kg bw		Rat (male / female)	Experimental value	
Dermal	LD50	Equivalent to OECD 402	8300 mg/kg bw	24 h	Rabbit (male / female)	Experimental value	
Inhalation (vapours)	LC0	BASF test	2 mg/l air	4 h	Rat (male / female)	Calculated value	

dibutylbis(dodecylthio)stannane

Route of exposure	Parameter	Method	Value	Exposure time	Species	Value determination	Remark
Dermal	LD50	OECD 402	1000 mg/kg bw - 2000 mg/kg bw		Rabbit (female)	Experimental value	

Talc (Mg3H2(SiO3)4)

Route of exposure	Parameter	Method	Value	Exposure time	Species	Value determination	Remark
Oral	LD50	OECD 423	> 5000 mg/kg bw		Rat (male)	Experimental value	
Dermal	LD50	OECD 402	> 2000 mg/kg bw	24 h	Rat (male / female)	Experimental value	
Inhalation (aerosol)	LC50	OECD 403	> 2.1 mg/l	4 h	Rat (male / female)	Experimental value	

Conclusion

Not classified for acute toxicity

Corrosion/irritation

MEGAPLAST PU 25S curative

No (test)data on the mixture available

Judgement is based on the relevant ingredients

piperazine

Route of exposure	Result	Method	Exposure time	Time point	Species	Value determination	Remark
Eye						Data waiving	
Skin	Highly corrosive	OECD 404	4 h	24; 48; 72 hours	Rabbit	Experimental value	

dibutylbis(dodecylthio)stannane

Route of exposure	Result	Method	Exposure time	Time point	Species	Value determination	Remark
Skin	Irritating	OECD 404	24 h		Rabbit	Experimental value	

Talc (Mg3H2(SiO3)4)

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	
Not applicable (in vitro test)	Not irritating	EU Method B.46			Reconstructed human epidermis	Experimental value	

Conclusion

Not classified as irritating to the skin

Not classified as irritating to the eyes

Not classified as irritating to the respiratory system

Respiratory or skin sensitisation

MEGAPLAST PU 25S curative

No (test)data on the mixture available

Judgement is based on the relevant ingredients

piperazine

Route of exposure	Result	Method	Exposure time	Observation time point	Species	Value determination	Remark
Skin	Sensitizing	Guinea pig maximisation test			Guinea pig (male / female)	Experimental value	
Inhalation (dust)	Sensitizing	Human observation			Human (male / female)	Experimental value	

dibutylbis(dodecylthio)stannane

Route of exposure	Result	Method	Exposure time	Observation time point	Species	Value determination	Remark
Skin	Sensitizing	OECD 406			Guinea pig	Read-across	

Talc (Mg3H2(SiO3)4)

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

Conclusion

Not classified as sensitizing for skin

Not classified as sensitizing for inhalation

Specific target organ toxicity

MEGAPLAST PU 25S curative

No (test)data on the mixture available

Judgement is based on the relevant ingredients

piperazine

Route of exposure	Parameter	Method	Value	Organ	Effect	Exposure time	Species	Value determination
Oral (diet)	NOAEL	Subchronic toxicity test	627 mg/kg bw/day		No effect	13 weeks (daily)	Rat (male / female)	Experimental value
Dermal								Data waiving
Inhalation (dust)								Data waiving

dibutylbis(dodecylthio)stannane

Route of exposure	Parameter	Method	Value	Organ	Effect	Exposure time	Species	Value determination
Oral			STOT RE cat.1					Literature study

Talc (Mg3H2(SiO3)4)

Route of exposure	Parameter	Method	Value	Organ	Effect	Exposure time	Species	Value determination
Oral (diet)	NOAEL	Equivalent to OECD 452	100 mg/kg bw/day		No effect	101 day(s)	Rat (male / female)	Experimental value
Dermal								Data waiving
Inhalation (aerosol)	NOAEC	Equivalent to OECD 452	10.8 mg/m³ air		No effect	52 weeks (7h / day, 5 days / week)	Rat (male / female)	Experimental value

Conclusion

Not classified for subchronic toxicity

Mutagenicity (in vitro)

MEGAPLAST PU 25S curative

No (test)data on the mixture available

piperazine

Result	Method	Test substrate	Effect	Value determination	Remark
Negative without metabolic activation, positive with metabolic activation	Equivalent to OECD 476	Mouse (lymphoma L5178Y cells)		Experimental value	

dibutylbis(dodecylthio)stannane

Result	Method	Test substrate	Effect	Value determination	Remark
Negative	OECD 471	Bacteria (S.typhimurium)		Experimental value	

Talc (Mg3H2(SiO3)4)

Result	Method	Test substrate	Effect	Value determination	Remark
Negative with metabolic activation, negative without metabolic activation	Equivalent to OECD 471	Bacteria (S.typhimurium)		Experimental value	

Mutagenicity (in vivo)

MEGAPLAST PU 25S curative

No (test)data on the mixture available

Judgement is based on the relevant ingredients

piperazine

Result	Method	Exposure time	Test substrate	Organ	Value determination
Negative	Micronucleus test		Mouse (male / female)		Experimental value

dibutylbis(dodecylthio)stannane

Result	Method	Exposure time	Test substrate	Organ	Value determination
Positive					Literature

Talc (Mg3H2(SiO3)4)

Result	Method	Exposure time	Test substrate	Organ	Value determination
Negative (Oral (stomach tube))	Equivalent to OECD 478	5 days (1x / day)	Rat (male)		Experimental value

Conclusion

Not classified for mutagenic or genotoxic toxicity

Carcinogenicity

MEGAPLAST PU 25S curative

No (test)data on the mixture available

Judgement is based on the relevant ingredients

Talc (Mg3H2(SiO3)4)

Route of exposure	Parameter	Method	Value	Exposure time	Species	Effect	Organ	Value determination
Inhalation (aerosol)	NOAEC	Carcinogenic toxicity study	8.1 mg/m³ air	30 day(s)	Hamster (male / female)	No carcinogenic effect		Experimental value
Oral (diet)	NOAEL	OECD 453	100 mg/kg bw/day	101 day(s)	Rat (male / female)	No carcinogenic effect		Experimental value

Conclusion

Not classified for carcinogenicity

Reproductive toxicity

MEGAPLAST PU 25S curative

No (test)data on the mixture available

Judgement is based on the relevant ingredients

piperazine

	Parameter	Method	Value	Exposure time	Species	Effect	Organ	Value determination
Developmental toxicity (Oral (stomach tube))	NOAEL	Developmental toxicity study	2100 mg/kg bw/day	10 day(s)	Rat	No effect		Experimental value
Maternal toxicity (Oral (stomach tube))	NOAEL	Developmental toxicity study	420 mg/kg bw/day	10 day(s)	Rat (female)	No effect		Experimental value
Effects on fertility (Oral)	NOAEL (P)	OECD 416	125 mg/kg bw/day		Rat (male / female)	No effect		Experimental value

dibutylbis(dodecylthio)stannane

	Parameter	Method	Value	Exposure time	Species	Effect	Organ	Value determination
Developmental toxicity			category 1B					Literature study
Effects on fertility			category 1B					Literature study

Talc (Mg3H2(SiO3)4)

	Parameter	Method	Value	Exposure time	Species	Effect	Organ	Value determination
Developmental toxicity (Oral (stomach tube))	NOAEL	Developmental toxicity study	1600 mg/kg bw/day	10 days (1x / day)	Rat	No effect		Experimental value
Maternal toxicity (Oral (stomach tube))	NOAEL	Developmental toxicity study	≥ 1600 mg/kg bw/day	10 days (1x / day)	Rat	No effect		Experimental value
Effects on fertility (Oral (stomach tube))	NOAEL	Equivalent to OECD 416	> 900 mg/kg bw/day	13 days (1x / day)	Rabbit (female)	No effect		Experimental value

Conclusion

Not classified for reprotoxic or developmental toxicity

Toxicity other effects

MEGAPLAST PU 25S curative

No (test)data on the mixture available

Chronic effects from short and long-term exposure

MEGAPLAST PU 25S curative

Skin rash/inflammation. Respiratory difficulties.

SECTION 12: Ecological information

12.1. Toxicity

MEGAPLAST PU 25S curative

No (test)data on the mixture available

Classification is based on the relevant ingredients

piperazine

	Parameter	Method	Value	Duration	Species	Test design	Fresh/salt water	Value determination
Acute toxicity fishes	LC50	EU Method C.1	> 1800 mg/l	96 h	Poecilia reticulata	Semi-static system	Fresh water	Experimental value; GLP
Acute toxicity crustacea	EC50	EU Method C.2	21 mg/l	48 h	Daphnia magna	Static system	Fresh water	Experimental value; GLP
Toxicity algae and other aquatic plants	NOEC	OECD 201	> 1000 mg/l	72 h	Pseudokirchneriella subcapitata	Static system	Fresh water	Experimental value; Growth rate
Long-term toxicity fish								Data waiving
Long-term toxicity aquatic crustacea	NOEC	OECD 211	50 mg/l	21 day(s)	Daphnia magna	Semi-static system	Fresh water	Experimental value; GLP
Toxicity aquatic micro-organisms	EC0	OECD 209	1000 mg/l	< 1 h	Activated sludge			Experimental value
	NOEC	Other	540 mg/l	30 minutes	Activated sludge			Experimental value; Respiration

dibutylbis(dodecylthio)stannane

	Parameter	Method	Value	Duration	Species	Test design	Fresh/salt water	Value determination
Acute toxicity crustacea	EC50	OECD 202	0.11 mg/l	48 h	Daphnia magna	Static system	Fresh water	Experimental value; GLP
Toxicity algae and other aquatic plants	EC50	OECD 201	≥ 1.6 mg/l	72 h	Desmodesmus subspicatus		Fresh water	Read-across; Growth rate

Talc (Mg3H2(SiO3)4)

	Parameter	Method	Value	Duration	Species	Test design	Fresh/salt water	Value determination
Acute toxicity fishes	LC50	ECOSAR v1.00	89581 mg/l	96 h	Pisces		Fresh water	QSAR
Acute toxicity crustacea	LC50	ECOSAR v1.00	36812 mg/l	48 h	Daphnia sp.		Fresh water	QSAR
Toxicity algae and other aquatic plants	EC50	ECOSAR v1.00	7203 mg/l	96 h	Algae		Fresh water	QSAR
	NOEC	ECOSAR v1.00	918 mg/l	30 day(s)	Algae		Fresh water	QSAR
Long-term toxicity fish	NOEC	ECOSAR v1.00	5980 mg/l	30 day(s)	Pisces		Fresh water	QSAR
Long-term toxicity aquatic crustacea	NOEC	ECOSAR v1.00	1460 mg/l	30 day(s)	Daphnia sp.		Fresh water	QSAR

Conclusion

Harmful to aquatic life with long lasting effects.

12.2. Persistence and degradability

piperazine

Biodegradation water

Method	Value	Duration	Value determination
OECD 301F: Manometric Respirometry Test	65 %; Oxygen consumption	28 day(s)	Experimental value

Phototransformation air (DT50 air)

Method	Value	Conc. OH-radicals	Value determination
AOPWIN	2.282 h	500000 /cm³	Calculated value

dibutylbis(dodecylthio)stannane

Biodegradation water

Method	Value	Duration	Value determination
OECD 301F: Manometric Respirometry Test	0 %; GLP	28 day(s)	Read-across

Talc (Mg3H2(SiO3)4)

Phototransformation air (DT50 air)

Method	Value	Conc. OH-radicals	Value determination
AOPWIN v1.92	18.602 h	1.5E6 /cm³	QSAR

Conclusion

Contains non readily biodegradable component(s)

12.3. Bioaccumulative potential

MEGAPLAST PU 25S curative

Log Kow

Method	Remark	Value	Temperature	Value determination
	Not applicable (mixture)			

piperazine

BCF fishes

Parameter	Method	Value	Duration	Species	Value determination
BCF		< 3.9; Chronic		Cyprinus carpio	Literature study

Log Kow

Method	Remark	Value	Temperature	Value determination
OECD 107		-1.24	25 °C	Experimental value

dibutylbis(dodecylthio)stannane

Log Kow

Method	Remark	Value	Temperature	Value determination
OECD 107		3.11	22 °C	Experimental value

Talc (Mg3H2(SiO3)4)

BCF other aquatic organisms

Parameter	Method	Value	Duration	Species	Value determination
BCF	BCFBAF v3.01	3.162 l/kg			QSAR

Log Kow

Method	Remark	Value	Temperature	Value determination
KOWWIN		-9.4	25 °C	QSAR

Conclusion

No straightforward conclusion can be drawn based upon the available numerical values

12.4. Mobility in soil

piperazine

(log) Koc

Parameter	Method	Value	Value determination
Koc	OECD 106	507 - 2233	Experimental value
log Koc		2.71 - 3.35	Calculated value

Talc (Mg3H2(SiO3)4)

(log) Koc

Parameter	Method	Value	Value determination
log Koc	SRC PCKOCWIN v2.0	1.50	QSAR

Volatility (Henry's Law constant H)

Value	Method	Temperature	Remark	Value determination
5.539E-29 atm m³/mol	SRC HENRYWIN v3.20	25 °C		QSAR

Percent distribution

Method	Fraction air	Fraction biota	Fraction sediment	Fraction soil	Fraction water	Value determination
Mackay level III	0 %	0 %	39.3 %	56 %	4.72 %	QSAR

Conclusion

No (test)data on mobility of the components available

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. Other adverse effects

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Fluorinated greenhouse gases (Regulation (EU) No 517/2014)

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)

piperazine

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

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).
08 04 09* (wastes from MFSU of adhesives and sealants (including waterproofing products): waste adhesives and sealants containing organic solvents or other hazardous substances). Depending on branch of industry and production process, also other waste codes may be applicable.

13.1.2 Disposal methods

Remove waste in accordance with local and/or national regulations. Hazardous waste shall not be mixed together with other waste. Different types of hazardous waste shall not be mixed together if this may entail a risk of pollution or create problems for the further management of the waste. Hazardous waste shall be managed responsibly. All entities that store, transport or handle hazardous waste shall take the necessary measures to prevent risks of pollution or damage to people or animals. Do not discharge into drains or the environment. Dispose of at authorized waste collection point.

13.1.3 Packaging/Container

European Union

Waste material code packaging (Directive 2008/98/EC).
15 01 10* (packaging containing residues of or contaminated by dangerous substances).

SECTION 14: Transport information

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

14.1. UN number

Transport	Not subject

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

14.6. Special precautions for user

Special provisions	
Limited quantities	

14.7. Transport in bulk according to Annex II of Marpol and the IBC Code

Annex II of MARPOL 73/78	Not applicable, based on available data

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
	No data available

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
· dibutylbis(dodecylthio)stannane	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. 6. No later than 1 June 2014, the Commission shall request the European Chemicals Agency to prepare a dossier, in accordance with Article 69 of the present Regulation with a view to ban, if appropriate, grill lighter fluids and fuel for decorative lamps, labelled H304, intended for supply to the general public. 7. Natural or legal persons placing on the market for the first time lamp oils and grill lighter fluids, labelled with H304, shall by 1 December 2011, and annually thereafter, provide data on alternatives to lamp oils and grill lighter fluids labelled H304 to the competent authority in the Member State concerned. Member States shall make those data available to the Commission.'
· dibutylbis(dodecylthio)stannane	Organostannic compounds	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.

National legislation Belgium

MEGAPLAST PU 25S curative

No data available

dibutylbis(dodecylthio)stannane

Résorption peau	Etain (composés organiques de) (en Sn); D; La mention “D” signifie que la résorption de l’agent, via la peau, les muqueuses ou les yeux, constitue une partie importante de l’exposition totale. Cette résorption peut se faire tant par contact direct que par présence de l’agent dans l’air.

National legislation The Netherlands

MEGAPLAST PU 25S curative

Waterbezwaarlijkheid	Z (1); Algemene Beoordelingsmethodiek (ABM)

piperazine

SZW - Lijst van voor de voortplanting giftige stoffen (ontwikkeling)	Piperazine; 2; Suspected of damaging the unborn child.
SZW - Lijst van voor de voortplanting giftige stoffen (vruchtbaarheid)	Piperazine; 2; Suspected of damaging fertility.

National legislation France

MEGAPLAST PU 25S curative

No data available

piperazine

Catégorie toxique pour la reproduction	Pipérazine (poussières et vapeurs); R2

National legislation Germany

MEGAPLAST PU 25S curative

WGK	2; Verordnung über Anlagen zum Umgang mit wassergefährdenden Stoffen (AwSV) - 18. April 2017

piperazine

TA-Luft	5.2.5/I

dibutylbis(dodecylthio)stannane

TRGS900 - Risiko der Fruchtschädigung	Di-n-butylzinnverbindungen; Z; Risiko der Fruchtschädigung kann auch bei Einhaltung des AGW und des BGW nicht ausgeschlossen werden.
Hautresorptive Stoffe	Di-n-butylzinnverbindungen; H; Hautresorptiv

Talc (Mg3H2(SiO3)4)

TA-Luft	5.2.1

National legislation United Kingdom

MEGAPLAST PU 25S curative

No data available

piperazine

Skin Sensitisation	Piperazine; Sen
Respiratory sensitisation	Piperazine; Sen

dibutylbis(dodecylthio)stannane

Skin absorption	Tin compounds, organic, except Cyhexatin (ISO), (as Sn); Sk

Other relevant data

MEGAPLAST PU 25S curative

No data available

piperazine

Skin Sensitisation	Piperazine; SEN; Sensitization
Respiratory Sensitisation	Piperazine; SEN; Sensitization
TLV - Carcinogen	Piperazine; A4

dibutylbis(dodecylthio)stannane

Skin absorption	Tin organic compounds, as Sn; Skin; Danger of cutaneous absorption
TLV - Carcinogen	Tin organic compounds, as Sn; A4

Talc (Mg3H2(SiO3)4)

IARC - classification	3; Talc
TLV - Carcinogen	Talc (containing no asbestos fibers); A4

15.2. Chemical safety assessment

No chemical safety assessment has been conducted for the mixture.

SECTION 16: Other information

Full text of any H-statements referred to under heading 3:

H312 Harmful in contact with skin.
H314 Causes severe skin burns and eye damage.
H315 Causes skin irritation.
H317 May cause an allergic skin reaction.
H318 Causes serious eye damage.
H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H341 Suspected of causing genetic defects.
H360FD May damage fertility. May damage the unborn child.
H361fd Suspected of damaging fertility. Suspected of damaging the unborn child.
H372 Causes damage to organs (thymus) through prolonged or repeated exposure.
H400 Very toxic to aquatic life.
H410 Very toxic to aquatic life with long lasting effects.
H412 Harmful to aquatic life with long lasting effects.

(*)	INTERNAL CLASSIFICATION BY BIG
ADI	Acceptable daily intake
AOEL	Acceptable operator exposure level
CLP (EU-GHS)	Classification, labelling and packaging (Globally Harmonised System in Europe)
DMEL	Derived Minimal Effect Level
DNEL	Derived No Effect Level
EC50	Effect Concentration 50 %
ErC50	EC50 in terms of reduction of growth rate
LC50	Lethal Concentration 50 %
LD50	Lethal Dose 50 %
NOAEL	No Observed Adverse Effect Level
NOEC	No Observed Effect Concentration
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

M-factor

dibutylbis(dodecylthio)stannane	1	Acute	BIG

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 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.