

SAFETY DATA SHEET

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

MEGAPLAST PU 90S curative

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

1.1. Product identifier

Product name : MEGAPLAST PU 90S 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@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

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

2.2. Label elements

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

Supplemental information

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

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	M-factors and ATE
Talc (Mg ₃ H ₂ (SiO ₃) ₄)	14807-96-6 238-877-9	15% ≤C<25%		(2)	Constituent	

MEGAPLAST PU 90S curative

piperazine 01-2119480384-35	110-85-0 203-808-3	0.5%≤C<1%	Flam. Sol. 1; H228 Repr. 2; H361fd Resp. Sens. 1; H334 Skin Sens. 1; H317 Skin Corr. 1B; H314 Eye Dam. 1; H318	(1)(2)(6)(10)	Constituent	
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- (1) For H- and EUH-statements in full: see section 16
(2) Substance with a Community workplace exposure limit
(6) Enumerated in Annex VI of Regulation (EC) No. 1272/2008 but the classification has been adapted after evaluation of available test data
(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 (lukewarm) 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:

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

Upon combustion: formation of CO, CO2 and small quantities of nitrous vapours.

5.3. Advice for firefighters

5.3.1 Instructions:

If exposed to fire cool the closed containers by spraying with water.

5.3.2 Special protective equipment for fire-fighters:

Gloves (EN 374). 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.

6.1.1 Protective equipment for non-emergency personnel

See section 8.2

6.1.2 Protective equipment for emergency responders

Gloves (EN 374). Protective clothing (EN 14605 or EN 13034).

Reason for revision: 9

Publication date: 2006-02-01

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Revision number: 0303

BIG number: 35069

2 / 13

MEGAPLAST PU 90S curative

Suitable protective clothing

See section 8.2

6.2. Environmental precautions

Contain released product.

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. Observe strict hygiene. Keep container tightly closed.

7.2. Conditions for safe storage, including any incompatibilities

7.2.1 Safe storage requirements:

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

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/m ³
	Short time value (Indicative occupational exposure limit value)	0.3 mg/m ³

Belgium

Pipérazine et sels (vapeur et aérosol) (en pipérazine)	Time-weighted average exposure limit 8 h	0.1 mg/m ³
	Short time value	0.3 mg/m ³
Talc (sans fibre d'amiant)	Time-weighted average exposure limit 8 h	2 mg/m ³

The Netherlands

Piperazine	Time-weighted average exposure limit 8 h (Public occupational exposure limit value)	0.028 ppm
	Time-weighted average exposure limit 8 h (Public occupational exposure limit value)	0.1 mg/m ³
	Short time value (Public occupational exposure limit value)	0.084 ppm
	Short time value (Public occupational exposure limit value)	0.3 mg/m ³
Talk (respirabel)	Time-weighted average exposure limit 8 h (Public occupational exposure limit value)	0.016 ppm
	Time-weighted average exposure limit 8 h (Public occupational exposure limit value)	0.25 mg/m ³

France

Pipérazine (poussières et vapeurs)	Time-weighted average exposure limit 8 h (VRI: Valeur réglementaire indicative)	0.1 mg/m ³
	Short time value (VRI: Valeur réglementaire indicative)	0.3 mg/m ³

Germany

Piperazin	Time-weighted average exposure limit 8 h (TRGS 900)	0.1 mg/m ³
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Austria

Piperazin und seine Salze	Tagesmittelwert (MAK)	0.1 mg/m ³
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Reason for revision: 9

Publication date: 2006-02-01

Date of revision: 2022-05-12

Revision number: 0303

BIG number: 35069

3 / 13

MEGAPLAST PU 90S curative

Piperazin und seine Salze	Kurzzeitwert 15(Miw) 4x (MAK)	0.3 mg/m ³
Talk (asbestfaserfrei)	Tagesmittelwert (MAK)	2 mg/m ³

UK

Piperazine	Time-weighted average exposure limit 8 h (Workplace exposure limit (EH40/2005))	0.1 mg/m ³
	Short time value (Workplace exposure limit (EH40/2005))	0.3 mg/m ³
Talc, respirable dust	Time-weighted average exposure limit 8 h (Workplace exposure limit (EH40/2005))	1 mg/m ³

USA (TLV-ACGIH)

Piperazine and salts, as piperazine	Time-weighted average exposure limit 8 h (TLV - Adopted Value)	0.03 ppm (IFV)
Talc: Containing asbestos fibers	Time-weighted average exposure limit 8 h (TLV - Adopted Value)	0.1 fibers/cm ³ (F)
Talc: Containing no asbestos fibers	Time-weighted average exposure limit 8 h (TLV - Adopted Value)	2 mg/m ³ (R,E)

(IFV): Inhalable fraction and vapor

(F): Respirable fibers: length > 5 µm; aspect ratio ≥ 3:1, as determined by the membrane filter method at 400-450X magnification (4-mm objective), using phase-contrast illumination

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

Talc (Mg₃H₂(SiO₃)₄)

Effect level (DNEL/DMEL)	Type	Value	Remark
DNEL	Long-term systemic effects inhalation	2.16 mg/m ³	
	Acute systemic effects inhalation	2.16 mg/m ³	
	Long-term local effects inhalation	3.6 mg/m ³	
	Acute local effects inhalation	3.6 mg/m ³	
	Long-term systemic effects dermal	43.2 mg/kg bw/day	
	Long-term local effects dermal	4.54 mg/cm ²	

piperazine

Effect level (DNEL/DMEL)	Type	Value	Remark
DNEL	Long-term systemic effects inhalation	0.1 mg/m ³	
	Acute systemic effects inhalation	0.3 mg/m ³	
	Long-term local effects inhalation	0.1 mg/m ³	
	Acute local effects inhalation	0.3 mg/m ³	

DNEL/DMEL - General population

Talc (Mg₃H₂(SiO₃)₄)

Effect level (DNEL/DMEL)	Type	Value	Remark
DNEL	Long-term systemic effects inhalation	1.08 mg/m ³	
	Acute systemic effects inhalation	1.08 mg/m ³	
	Long-term local effects inhalation	1.8 mg/m ³	
	Acute local effects inhalation	1.8 mg/m ³	
	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	

piperazine

Effect level (DNEL/DMEL)	Type	Value	Remark
DNEL	Long-term systemic effects oral	1 mg/kg bw/day	

PNEC

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/m ³	

Reason for revision: 9

Publication date: 2006-02-01

Date of revision: 2022-05-12

Revision number: 0303

BIG number: 35069

4 / 13

MEGAPLAST PU 90S curative

piperazine

Compartment	Value	Remark
Fresh water	0.1 mg/l	
Marine water	0.01 mg/l	
Fresh water (intermittent releases)	1 mg/l	
Marine water (intermittent releases)	0.1 mg/l	
STP	54 mg/l	
Fresh water sediment	1.8 mg/kg sediment dw	
Marine water sediment	0.18 mg/kg sediment dw	
Soil	1.45 mg/kg soil dw	
Oral	4.6 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. Measure the concentration in the air regularly. 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	Remark
nitrile rubber	> 480 minutes	> 0.5 mm	Class 6	

c) Eye protection:

Face shield (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
Viscosity	Viscous
Odour	Mild odour
	Amine-like odour
Odour threshold	No data available in the literature
Colour	Black
Particle size	Not applicable (liquid)
Explosion limits	No data available in the literature
Flammability	Not classified as flammable
Log Kow	Not applicable (mixture)
Dynamic viscosity	20000 mPa.s ; 25 °C
Kinematic viscosity	No data available in the literature
Melting point	No data available in the literature
Boiling point	No data available in the literature
Relative vapour density	No data available in the literature
Vapour pressure	No data available in the literature
Solubility	Water ; insoluble
Relative density	1.23 ; 25 °C
Absolute density	1225 kg/m ³ ; 25 °C
Decomposition temperature	No data available in the literature
Auto-ignition temperature	No data available in the literature
Flash point	212 °C
pH	Not applicable (non-soluble in water)

9.2. Other information

No data available

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Date of revision: 2022-05-12

Revision number: 0303

BIG number: 35069

5 / 13

MEGAPLAST PU 90S curative

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.

10.5. Incompatible materials

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

10.6. Hazardous decomposition products

Upon combustion: formation of CO, CO₂ and small quantities of nitrous vapours.

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

MEGAPLAST PU 90S 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	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	(maximum achievable concentration)

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)	Experimental value	

Conclusion

Not classified for acute toxicity

Corrosion/irritation

MEGAPLAST PU 90S curative

No (test) data on the mixture available

Judgement is based on the relevant ingredients

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	Single treatment without rinsing
Not applicable (in vitro test)	Not irritating	EU Method B.46			Reconstructed human epidermis	Experimental value	

piperazine

Route of exposure	Result	Method	Exposure time	Time point	Species	Value determination	Remark
Eye						Data waiving	
Not applicable (in vitro test)	Corrosive	OECD 431	3 minutes		Reconstructed human epidermis	Experimental value	

Conclusion

Not classified as irritating to the skin

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Publication date: 2006-02-01

Date of revision: 2022-05-12

Revision number: 0303

BIG number: 35069

6 / 13

MEGAPLAST PU 90S curative

Not classified as irritating to the eyes
Not classified as irritating to the respiratory system

Respiratory or skin sensitisation

MEGAPLAST PU 90S curative

No (test)data on the mixture available
Judgement is based on the relevant ingredients
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	

piperezine

Route of exposure	Result	Method	Exposure time	Observation time point	Species	Value determination	Remark
Dermal (on the ears)	Sensitizing	Equivalent to OECD 429			Mouse (female)	Experimental value	
Inhalation (dust)	Sensitizing	Human observation			Human (male / female)	Experimental value	

Conclusion

Not classified as sensitizing for skin
Not classified as sensitizing for inhalation

Specific target organ toxicity

MEGAPLAST PU 90S 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	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/m ³ air		No effect	52 weeks (7h / day, 5 days / week)	Rat (male / female)	Experimental value

piperezine

Route of exposure	Parameter	Method	Value	Organ	Effect	Exposure time	Species	Value determination
Oral (diet)	NOAEL	OECD 408	627 mg/kg bw/day		No effect	90 day(s)	Rat (male / female)	Experimental value

Conclusion

Not classified for subchronic toxicity

Mutagenicity (in vitro)

MEGAPLAST PU 90S curative

No (test)data on the mixture available
Judgement is based on the relevant ingredients
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	

piperezine

Result	Method	Test substrate	Effect	Value determination	Remark
Negative with metabolic activation, negative without metabolic activation	Equivalent to OECD 476	Mouse (lymphoma L5178Y cells)		Experimental value	
Negative with metabolic activation, negative without metabolic activation	Equivalent to OECD 471	Bacteria (S.typhimurium)		Experimental value	

Mutagenicity (in vivo)

MEGAPLAST PU 90S curative

No (test)data on the mixture available
Judgement is based on the relevant ingredients

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Publication date: 2006-02-01

Date of revision: 2022-05-12

Revision number: 0303

BIG number: 35069

7 / 13

MEGAPLAST PU 90S curative

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

piperazine

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

Conclusion

Not classified for mutagenic or genotoxic toxicity

Carcinogenicity

MEGAPLAST PU 90S 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	OECD 453	18 mg/m ³ air	113 weeks (6h / day, 5 days / week) - 122 weeks (6h / day, 5 days / week)	Rat (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 90S curative

No (test)data on the mixture available

Judgement is based on the relevant ingredients

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

piperazine

	Parameter	Method	Value	Exposure time	Species	Effect	Organ	Value determination
Developmental toxicity (Oral (stomach tube))	NOAEL	OECD 414	420 mg/kg bw/day	10 day(s)	Rat	No effect	Foetus	Experimental value
Maternal toxicity (Oral (stomach tube))	NOAEL	OECD 414	420 mg/kg bw/day	10 day(s)	Rat	No effect		Experimental value
Effects on fertility (Oral (diet))	NOAEL (P)	OECD 416	222 mg/kg bw/day		Rat (female)	No effect		Experimental value
	NOAEL (P)	OECD 416	204 mg/kg bw/day		Rat (male)	No effect		Experimental value

Conclusion

Not classified for reprotoxic or developmental toxicity

Toxicity other effects

MEGAPLAST PU 90S curative

No (test)data on the mixture available

Chronic effects from short and long-term exposure

MEGAPLAST PU 90S curative

Skin rash/inflammation. Respiratory difficulties.

11.2. Information on other hazards

No evidence of endocrine disrupting properties

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BIG number: 35069

8 / 13

MEGAPLAST PU 90S curative

SECTION 12: Ecological information

12.1. Toxicity

MEGAPLAST PU 90S curative

No (test)data on the mixture available

Judgement of the mixture is based on the relevant ingredients

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

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; Lethal
Acute toxicity crustacea	EC50	EU Method C.2	21 mg/l	48 h	Daphnia magna	Static system	Fresh water	Experimental value; Locomotor effect
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; Reproduction
Toxicity aquatic micro-organisms	EC0	OECD 209	1000 mg/l	< 1 h	Activated sludge			Experimental value

Conclusion

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

12.2. Persistence and degradability

Talc (Mg₃H₂(SiO₃)₄)

Phototransformation air (DT50 air)

Method	Value	Conc. OH-radicals	Value determination
AOPWIN v1.92	18.602 h	1.5E6 /cm ³	QSAR

piperazine

Biodegradation water

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

Phototransformation air (DT50 air)

Method	Value	Conc. OH-radicals	Value determination
AOPWIN	2.282 h	5E5 /cm ³	QSAR

Conclusion

Water

Contains readily biodegradable component(s)

12.3. Bioaccumulative potential

MEGAPLAST PU 90S curative

Log Kow

Method	Remark	Value	Temperature	Value determination
	Not applicable (mixture)			

MEGAPLAST PU 90S curative

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

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

Conclusion

Does not contain bioaccumulative component(s)

12.4. Mobility in soil

Talc (Mg₃H₂(SiO₃)₄)

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

piperazine

(log) Koc

Parameter	Method	Value	Value determination
log Koc		2.71	Calculated value

Conclusion

Contains component(s) with potential for mobility in 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

MEGAPLAST PU 90S curative

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)

Talc (Mg₃H₂(SiO₃)₄)

Water ecotoxicity pH

pH shift

piperazine

Groundwater

Groundwater pollutant

Water ecotoxicity pH

pH shift

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).

08 04 10 (wastes from MFSU of adhesives and sealants (including waterproofing products): waste adhesives and sealants other than those mentioned in 08 04 09). 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. Do not discharge into drains or the environment. Dispose of at authorized waste collection point.

13.1.3 Packaging/Container

No data available

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10 / 13

MEGAPLAST PU 90S curative

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. Maritime transport in bulk according to IMO instruments		
	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

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
piperazine	Substances falling within one or more of the following points: (a) substances classified as any of the following in Part 3 of Annex VI to Regulation (EC) No 1272/2008: — carcinogen category 1A, 1B or 2, or germ cell mutagen category 1A, 1B or 2, but excluding any such substances classified due to effects only following exposure by inhalation — reproductive toxicant category 1A, 1B or 2 but excluding any such substances classified due to effects only following exposure by inhalation — skin sensitiser category 1, 1A or 1B — skin corrosive category 1, 1A, 1B or 1C or skin irritant category 2 — serious eye damage category 1 or eye irritant category 2 (b) substances listed in Annex II to Regulation (EC) No 1223/2009 of the European Parliament and of the Council (c) substances listed in Annex IV to Regulation (EC) No 1223/2009 for which a condition is specified in at least one of the columns g, h and i of the table in that Annex (d) substances listed in Appendix 13 to this Annex. The ancillary requirements in paragraphs 7 and 8 of column 2 of this entry apply to all mixtures for use for tattooing purposes, whether or not they contain a substance falling within points (a) to (d) of this column of this entry.	Mixtures for tattooing purposes are subject to the restrictions of Regulation (EU) 2020/2081

National legislation Belgium

MEGAPLAST PU 90S curative

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Revision number: 0303

BIG number: 35069

11 / 13

MEGAPLAST PU 90S curative

National legislation The Netherlands

MEGAPLAST PU 90S curative

Waterbezwaarlijkheid	B (5); Algemene Beoordelingsmethodiek (ABM)
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piperazine

SZW - Lijst van voor de voortplanting giftige stoffen (ontwikkeling)	Piperazine; Opgenomen in SZW-lijst van voor de voortplanting giftige stoffen (ontwikkeling); 2
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SZW - Lijst van voor de voortplanting giftige stoffen (vruchtbaarheid)	Piperazine; Opgenomen in SZW-lijst van voor de voortplanting giftige stoffen (vruchtbaarheid); 2
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National legislation France

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No data available

piperazine

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

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WGK	1; Verordnung über Anlagen zum Umgang mit wassergefährdenden Stoffen (AwSV) - 18. April 2017
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Talc (Mg₃H₂(SiO₃)₄)

TA-Luft	5.2.1
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piperazine

TA-Luft	5.2.5/I
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National legislation Austria

MEGAPLAST PU 90S curative

No data available

piperazine

Fortpflanzungsgefährdend [fruchtschädigend (entwicklungsschädigend)]	Piperazin und seine Salze; d
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Fortpflanzungsgefährdend [Beeinträchtigung der Fortpflanzungsfähigkeit (Fruchtbarkeit)]	Piperazin und seine Salze; f
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Gefahr der Sensibilisierung der Haut	Piperazin und seine Salze; Sh
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Gefahr der Sensibilisierung der Atemwege	Piperazin und seine Salze; Sa
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National legislation United Kingdom

MEGAPLAST PU 90S curative

No data available

piperazine

Skin Sensitisation	Piperazine; Sen
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Respiratory sensitisation	Piperazine; Sen
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Other relevant data

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No data available

Talc (Mg₃H₂(SiO₃)₄)

IARC - classification	3; Talc
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TLV - Carcinogen	Talc: Containing no asbestos fibers; A4
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	Talc: Containing asbestos fibers; A1
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piperazine

TLV - Skin Sensitisation	Piperazine and salts, as piperazine; SEN; Sensitization
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TLV - Respiratory Sensitisation	Piperazine and salts, as piperazine; SEN; Sensitization
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TLV - Carcinogen	Piperazine and salts, as piperazine; A4
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15.2. Chemical safety assessment

No chemical safety assessment has been conducted for the mixture.

SECTION 16: Other information

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

H228 Flammable solid.

H314 Causes severe skin burns and eye damage.

H317 May cause an allergic skin reaction.

H318 Causes serious eye damage.

H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.

H361fd Suspected of damaging fertility. Suspected of damaging the unborn child.

EUH210 Safety data sheet available on request.

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12 / 13

MEGAPLAST PU 90S curative

EUH208 Contains a sensitising substance. May produce an allergic reaction.

(*)	INTERNAL CLASSIFICATION BY BIG
ADI	Acceptable daily intake
AOEL	Acceptable operator exposure level
ATE	Acute Toxicity Estimate
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

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.

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13 / 13