



Rocathaan Hotspray PA 136- TX

(100% Pure Polyurea)

Hotspray coating used as a crack-bridging membrane for parking roof systems (Traffic XL).

Can be used directly on metal (without primer)

The properties of Polyurea give the product a particularly durable character.

Depending on the application, the expected service life is up to half a century with a warranty of up to 3 decades.

Applications:

The construction industry is highly versatile. We therefore find extremely diverse applications in this market segment. Polyurea products often have a waterproofing and protective function.

Polyurea underneath tiles or as a system for parking roofs

Polyurea underneath asphalt on bridges and viaducts

Polyurea in wastewater treatment plants

Polyurea on the interior of tanks.

Polyurea as seamless roof waterproofing

Polyurea in drinking water applications

Polyurea in sewage treatment

Polyurea in silo linings

Tank seal and lining

Sealing basements and tunnels based on Polyurea

Sealing (water) basins with geotextile and Polyurea on a sand bed

Certificates:

CE Certification EN 1504-2 - Intron SGS

Fire Report DIN 4102-1 - Exova Brandhaus

CE conform NEN EN 1504-2

Fire B2 DIN 4102-1

Fire EN 13501-5 Broof (T1 & T2)

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Description and application

Highly reactive and solvent-free hotspray coating based on high-quality, aromatic polyurea technology which **contains a special additive that greatly improves the adhesion strength**. Due to its quick-curing, any shape can be coated seamlessly. Once cured, a fairly hard top layer is formed with a good balance between impact resistance and elasticity.

Certificates available:

- **CE Certification EN 1504-2 – Intron SGS**
- **Fire Report DIN 4102-1 – Exova Brandhaus**

Used as a crack-bridging membrane for parking roof systems (Traffic XL). Can be used directly on metal (without primer) immediately after blasting as a DTM (direct to metal) polyurea.

Article number and packaging

19402-20	39,25 kg set (already on colour)
19402-200	447,5 kg set (colourless product)
	4,5 kg Prokol Hotspray Color Pasta

Properties

- Impact resistant
- Light elastic
- Structure finish possible

Elongation	± 330% (DIN 53504)
Tensile strength	± 23 MPa (DIN 53504)
Shore hardness	A96 ± 5 (DIN 53505, ASTM D2240)
MU Value	1000
Fire class	B2

Properties liquid product

Colour	Available in RAL colours, see colour overview. <i>Other colours are available on project basis and on request.</i>
Density	1,11 kg/l mixed product
Volume solids	100%
Flash point	>80 °C
Shelf life	At least 12 months after the date of production, if stored cool in unopened packaging and protected against frost.

Application information

Is processed with multi-component (hotspray) high pressure equipment using a suitable spray gun. This equipment must be adjusted for the product to be sprayed and capable of supplying sufficient pressure. The spray temperature and layer thickness strongly influence the reaction time, curing and treatment.

Reaction time	5 - 8 seconds
Tack free	30 - 45 seconds
Spraying temperature	65 - 85 °C
Spraying pressure	<i>Depending on the type of pistol and mixing chamber.</i> <ul style="list-style-type: none">- Fusion CS gun 130 - 140 bar- Fusion AP gun 150 - 180 bar
Usage	1,11 kg/m ² /mm <i>From 1 mm. The applied layer thickness determines the final properties and must be adjusted to the purpose. Values are given at 2 mm. Read the relevant application sheets.</i>
Mixing ratio	1:1 in volume
Surface temperature	+5 °C and +30 °C
Open time*	With the same product: Almost directly and max. within 24 hours Solvent free: min. 24 and max. 36 hours Solvent-containing: min. 3 and max. 36 hours. <i>Open times can decrease as the temperature rises. When exceeding the open time, the existing layer must be sanded and provided with a suitable primer.</i>
Chemical resistant*	After 7 x 24 hours
Mechanical resistant*	After 2 x 24 hours
Dilution	Not permitted
Cleaning agent	Roca Cleaner N6500-P (equipment)
Rinsing agent	Roca Cleaner TC-N

* At 20 °C and 65% RH surface.
** At 1 kg and 20 °C product.



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Rocathaan Hotspray PA 136-TX

Mixing instructions

The temperature of the materials in the drums need to be at least 15 °C with a maximum of 35 °C.

If the materials are too cold, use the heaters of the spraying equipment to heat them up.

Be aware! Start by mixing the A (base) component intensively for 20 minutes before starting heating and circulating the materials through the pump. Use a Twistork-helix mixer to obtain a homogeneous mixture.

The mixing time depends on the size of packaging. A 200 liter drum, used for the first time or after a longer storage period, should be mixed intensively for 45 minutes. Following this, short and thorough mechanical mixing at every turn is sufficient.

Non-homogenous mixed products lead to deviating features in the end-result subsequently.

Notes during application

Do not inhale spray mist. Ensure respiratory equipment designed for the conditions is worn while spraying.

2-component products may only be applied when the relative humidity is less than 85%. Condensation on the surface reduces the adhesion. The minimum environment and surface temperature is +5 °C and the temperature of the surface to be treated and the uncured product must be 3 °C above the dew point. See the dew point table.

Surface and circumstances

In general

The surface needs to be dry and have a closed structure without pores. With most surfaces, a primer will be necessary. In that case, read the technical product sheet of the product in question.

Moisture content surface

- cement-bound : < 4% CM (parts by weights)
- plaster-bound : < 0,5% CM (parts by weights)

Aromatic products are not fully colour/UV-proof and will slightly discolorise when exposed to UV light. If this is not desired, adding a aliphatic topcoating as finish layer based on the elasticity of this product is advised.

- * At 20 °C and 65% RH surface.
- ** At 1 kg and 20 °C product.



There are various types of surfaces. Some of which have their own individual pre-treatment requirements. If in doubt, getting in contact with your supplier is advised.

For detailed information regarding pre-treatment of the surfaces, please see the "surface pre-treatment" information sheet.

Metal surfaces

Metal surfaces need to be blasted Sa 2,5, 75 -80 microns. If the degree of cleanliness and the roughness profile are correct, it is possible to apply this product directly and without primer. Formation of surface rust must be avoided at all times.

Mineral surfaces

The surface must be healthy, with a minimum compression strength of 25 MPa and a minimum adhesion strength of 1,5 MPa. The surface must be clean and free of grease. All loose components must be removed. Concrete and anhydrite needs to be at least 28 days old.

Any cement skin must be removed. Monolithic floors must be sanded and any dust must be removed. Surfaces with dirt pickup, or loose sand-cement screeds (e.g. bomb ice) can be removed, for example by blasting and making the surface dust-free.

Clean contaminated and greasy surfaces (oil and grease), preferably with a steam cleaner, using a suitable cleaning agent. Rinse well with clean tap water. If this does not result in a clean, load-bearing surface, blasting should be performed.

Important

Projects and applications can vary greatly. Always contact your supplier if you have doubts about a certain application, choice of material or surface treatment.

All the technical information given in this technical information sheet is based on laboratory tests. Information can change, depending on the conditions.

Legal notification

The information and, in particular, the recommendations concerning the application and final use of Prokol products is issued in good faith based on Prokol's current knowledge and experience of products that are correctly stored, handled and applied under normal conditions.

In practice, the differences in materials, surfaces and local conditions are such that no guarantee can be given concerning the marketability or suitability for a certain objective, nor can any liability arise from any legal relationship based on this information, nor from any written recommendations or other advice that is given. The property rights of third parties must be respected.



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Prokol guarantees that its products are free from manufacturing faults. Multi-component products are a finished product once the components have been mixed and processed. When mixed and processed correctly, the product will achieve the specifications given. Prokol can only guarantee the product when surfaces are processed and pre-treated correctly.

All orders are accepted under the current sales and delivery conditions. Users must always refer to the most recent product safety information sheet and product information sheet for the product concerned.

Copies of the most recent editions are provided upon request and are available at www.prokol.com.

The publication of this product information sheet makes all previous product information sheets for this product invalid.

* At 20 °C and 65% RH surface.
** At 1 kg and 20 °C product.



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SAFETY DATA SHEET of: Rocathaan Hotspray PA 136-TX base

Revision date: Wednesday, March 27, 2019

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

1.1 Product identifier:

Rocathaan Hotspray PA 136-TX base

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

/

Concentration in use: /

1.3 Details of the supplier of the safety data sheet:

PROKOL

Duizeldonksestraat 44

NL5705CA HELMOND (NEDERLAND)

Phone: 0031492547665 — Fax: 0031492547592

E-mail: jw.koolen@prokol.nl — Website: <http://www.prokol.nl/>

1.4 Emergency telephone number:

+31302748888

2 SECTION 2: Hazards identification:

2.1 Classification of the substance or mixture:

Classification of the substance or mixture in accordance with regulation (EU) 1272/2008:

EUH208 H302 Acute tox. 4 H314 Skin Corr. 1B H373 STOT RE 2 H411 Aquatic Chronic 2

2.2 Label elements:

Pictograms:



Signal word:

Danger

Hazard statements:

EUH208: Contains (3-aminopropyltriethoxysilane). May produce an allergic reaction.
H302 Acute tox. 4: Harmful if swallowed.
H314 Skin Corr. 1B: Causes severe skin burns and eye damage.
H373 STOT RE 2: May cause damage to organs through prolonged or repeated exposure.
H411 Aquatic Chronic 2: Toxic to aquatic life with long lasting effects.

Precautionary statements:

P264: Wash hands thoroughly after handling.
P280: Wear protective gloves, protective clothing, eye protection, face protection.
P301+P330+P331: IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P304+P340: IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P312: Call a POISON CENTER or doctor if you feel unwell.
P501: Dispose of contents/container in accordance with local/regional/national/international regulations.

Contains:

3-aminopropyltriethoxysilane polyoxypropylenediamine 2,4-diamino-3,5-diethyltoluene

2.3 Other hazards:

none

3 SECTION 3: Composition/information on ingredients:

polyoxypropylenediamine	≤ 30 %	CAS number: 9046-10-0 EINECS: REACH Registration number: 01-2119557899-12 CLP Classification: H302 Acute tox. 4 H314 Skin Corr. 1B H412 Aquatic Chronic 3
2,4-diamino-3,5-diethyltoluene	≤ 20 %	CAS number: 68479-98-1 EINECS: 270-877-4 REACH Registration number: 01-2119486805-25 CLP Classification: H302 Acute tox. 4 H312 Acute tox. 4 H319 Eye Irrit. 2 H373 STOT RE 2 H400 Aquatic Acute 1 H410 Aquatic Chronic 1
Glycerylpolyoxypropylenetriamine	≤ 4 %	CAS number: 64852-22-8 EINECS: REACH Registration number: CLP Classification: H315 Skin Irrit. 2 H318 Eye Dam. 1 H412 Aquatic Chronic 3

3-aminopropyltriethoxysilane	≤ 0.4 %	CAS number:	919-30-2
		EINECS:	213-048-4
		REACH Registration number:	01-2119480479-24
		CLP Classification:	H302 Acute tox. 4 H314 Skin Corr. 1B H317 Skin Sens. 1B

For the full text of the H phrases mentioned in this section, see section 16.

4 SECTION 4: First aid measures:

4.1 Description of first aid measures:

Always ask medical advice as soon as possible should serious or continuous disturbances occur.

Skin contact: remove contaminated clothing, rinse skin with plenty of water and immediately transport to hospital.

Eye contact: first prolonged rinsing with water (contact lenses to be removed if this is easily done) then take to physician.

Ingestion: rinse mouth, do not induce vomiting, take to hospital immediately.

Inhalation: let sit upright, fresh air, rest and take to hospital.

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

Skin contact: caustic, redness, pain, serious burns

Eye contact: caustic, redness, blurred vision, pain

Ingestion: caustic, lack of breath, vomiting, blisters on lips and tongue, burning pain in mouth and throat, gullet and stomach

Inhalation: headache, dizziness, nausea, drowsiness, unconsciousness

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

none

5 SECTION 5: Fire-fighting measures:

5.1 Extinguishing media:

CO2, foam, powder, sprayed water

5.2 Special hazards arising from the substance or mixture:

none

5.3 Advice for firefighters:

Extinguishing agents to be avoided: none

6 SECTION 6: Accidental release measures:

6.1 Personal precautions, protective equipment and emergency procedures:

Do not walk into or touch spilled substances and avoid inhalation of fumes, smoke, dusts and vapours by staying up wind. Remove any contaminated clothing and used contaminated protective equipment and dispose of it safely.

6.2 Environmental precautions:

do not allow to flow into sewers or open water.

6.3 Methods and material for containment and cleaning up:

Contain released substance, store into suitable containers. If possible remove by using absorbent material.

6.4 Reference to other sections:

for further information check sections 8 & 13.

7 SECTION 7: Handling and storage:

7.1 Precautions for safe handling:

handle with care to avoid spillage.

7.2 Conditions for safe storage, including any incompatibilities:

keep in a sealed container in a closed, frost-free, ventilated room.

7.3 Specific end use(s):

/





8 SECTION 8: Exposure controls/personal protection:

8.1 Control parameters:

Listing of the hazardous ingredients in section 3, of which the TLV value is known

/

8.2 Exposure controls:

Inhalation protection:	use with sufficient exhaust ventilation. If necessary, use an air-purifying face mask in case of respiratory hazards. Use the ABEK type as protection against these troublesome levels.	
Skin protection:	handling with nitril-gloves (EN 374). Breakthrough time: >480' Material thickness: 0,35 mm. Thoroughly check gloves before use. Take of the gloves properly without touching the outside with your bare hands. The manufacturer of the protective gloves has to be consulted about the suitability for a specific work station. Wash and dry your hands.	
Eye protection:	keep an eye-rinse bottle within reach. Tight-fitting safety goggles. Wear a face shield and protective suit in case of exceptional processing problems.	
Other protection:	impermeable clothing. The type of protective equipment depends on the concentration and amount of hazardous substances at the work station in question.	

9 SECTION 9: Physical and chemical properties:

9.1 Information on basic physical and chemical properties:

Melting point/melting range: /

Boiling point/Boiling range:	260 °C — 441 °C
pH:	/
pH 1% diluted in water:	/
Vapour pressure/20°C,:	/
Vapour density:	not applicable
Relative density, 20°C:	1.0970 kg/l
Appearance/20°C:	liquid
Flash point:	185 °C
Flammability (solid, gas):	not applicable
Auto-ignition temperature:	/
Upper flammability or explosive limit, (Vol %):	/
Lower flammability or explosive limit, (Vol %):	/
Explosive properties:	not applicable
Oxidising properties:	not applicable
Decomposition temperature:	/
Solubility in water:	not soluble
Partition coefficient: n-octanol/water:	not applicable
Odour:	characteristic
Odour threshold:	not applicable
Dynamic viscosity, 20°C:	2 100 mPa.s
Kinematic viscosity, 40°C:	1 914 mm ² /s
Evaporation rate (n-BuAc = 1):	0.010

9.2 Other information:

Volatile organic component (VOC):	0.01 %
Volatile organic component (VOC):	0.000 g/l
Sustained combustion test :	/

10 SECTION 10: Stability and reactivity:

10.1 Reactivity:

stable under normal conditions.

10.2 Chemical stability:

extremely high or low temperatures.

10.3 Possibility of hazardous reactions:

none

10.4 Conditions to avoid:

protect from sunlight and do not expose to temperatures exceeding + 50°C.

10.5 Incompatible materials:

acids, alkalines, oxidants, reductants

10.6 Hazardous decomposition products:

doesn't decompose with normal use

11 SECTION 11: Toxicological information:

11.1 Information on toxicological effects:

H302 Acute tox. 4: Harmful if swallowed.
H314 Skin Corr. 1B: Causes severe skin burns and eye damage.
H373 STOT RE 2: May cause damage to organs through prolonged or repeated exposure.

Calculated acute toxicity, ATE oral: 1 058.186 mg/kg

Calculated acute toxicity, ATE dermal: /

polyoxypropylenediamine	LD50 oral, rat: 475 mg/kg LD50 dermal, rabbit: 2 090 mg/kg LC50, Inhalation, rat, 4h: ≥ 50 mg/l
2,4-diamino-3,5-diethyltoluene	LD50 oral, rat: 738 mg/kg LD50 dermal, rabbit: 1 100 mg/kg LC50, Inhalation, rat, 4h: ≥ 50 mg/l
Glycerylpolyoxypropylenetriamine	LD50 oral, rat: ≥ 5 000 mg/kg LD50 dermal, rabbit: ≥ 5 000 mg/kg LC50, Inhalation, rat, 4h: ≥ 50 mg/l
3-aminopropyltriethoxysilane	LD50 oral, rat: 500 mg/kg LD50 dermal, rabbit: ≥ 5 000 mg/kg LC50, Inhalation, rat, 4h: ≥ 50 mg/l

12 SECTION 12: Ecological information:

12.1 Toxicity:

polyoxypropylenediamine	LC50 (Fish): >100 mg/L (96h) EC50 (Daphnia): 15 mg/L (48h)
2,4-diamino-3,5-diethyltoluene	LC50 (Fish): 200 mg/L (48h) EC50 (Daphnia): 0,5 mg/L (48h) EC50 (soil microorganisms): > 170 mg/L (24h)

12.2 Persistence and degradability:

No additional data available

12.3 Bioaccumulative potential:

No additional data available

12.4 Mobility in soil:

Water hazard class, WGK (AwSV): 2

Solubility in water: not soluble

12.5 Results of PBT and vPvB assessment:

No additional data available

12.6 Other adverse effects:

No additional data available

13 SECTION 13: Disposal considerations:

13.1 Waste treatment methods:

Draining into the sewers is not permitted. Removal should be carried out by licensed services. Possible restrictive regulations by local authority should always be adhered to.

14 SECTION 14: Transport information:

14.1 UN number:

2735

14.2 UN proper shipping name:

UN 2735 Amines, liquid, corrosive, n.o.s. (mixture with 2,4-diamino-3,5-diethyltoluene; ...) , 8, III, (E)

14.3 Transport hazard class(es):

Class(es):	8
Identification number of the hazard:	80

14.4 Packing group:

III

14.5 Environmental hazards:

environmentally hazardous

14.6 Special precautions for user:

Hazard characteristics: Risk of burns. Risk to the aquatic environment and the sewerage system.

Additional guidance:



15 SECTION 15: Regulatory information:

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

Water hazard class, WGK (AwSV): 2

Volatile organic component (VOC): 0.010 %
Volatile organic component (VOC): 0.000 g/l
Composition by regulation (EC) 648/2004: none

15.2 Chemical Safety Assessment:

No data available

16 SECTION 16: Other information:

Legend to abbreviations used in the safety data sheet:

ADR:	The European Agreement concerning the International Carriage of Dangerous Goods by Road
BCF:	Bioconcentration factor
CAS:	Chemical Abstracts Service
CLP:	Classification, Labelling and Packaging of chemicals
EINECS:	European INventory of Existing Commercial chemical Substances
Nr.:	number
PTB:	persistent, toxic, bioaccumulative
TLV:	Threshold Limit Value
vPvB:	very persistent and very bioaccumulative substances
WGK:	Water hazard class
WGK 1:	slightly hazardous for water
WGK 2:	hazardous for water
WGK 3:	extremely hazardous for water

Legend to the H Phrases used in the safety data sheet:

H302: Harmful if swallowed. **H312 Acute tox. 4:** Harmful in contact with skin. **H314 Skin Corr. 1B:** Causes severe skin burns and eye damage. **H315 Skin Irrit. 2:** Causes skin irritation. **H317 Skin Sens. 1B:** May cause an allergic skin reaction. **H318 Eye Dam. 1:** Causes serious eye damage. **H319 Eye Irrit. 2:** Causes serious eye irritation. **H373 STOT RE 2:** May cause damage to organs through prolonged or repeated exposure. **H400 Aquatic Acute 1:** Very toxic to aquatic life. **H410 Aquatic Chronic 1:** Very toxic to aquatic life with long lasting effects. **H411 Aquatic Chronic 2:** Toxic to aquatic life with long lasting effects. **H412 Aquatic Chronic 3:** Harmful to aquatic life with long lasting effects.

CLP Calculation method:

Calculation method

Reason of revision, changes of following items:

Sections: 2.2, 3

MSDS reference number:

ECM-105672,00

This safety information sheet has been compiled in accordance with annex II/A of the regulation (EU) No 2015/830. Classification has been calculated in accordance with European regulation 1272/2008 with their respective amendments. It has been compiled with the utmost care. We cannot, however, accept responsibility for damage, of any kind, that may be caused by using these data or the product concerned. To use this preparation for an experiment or a new application, the user must carry

out a material suitability and safety study himself.



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NL5705CA HELMOND (NEDERLAND)

Phone: 0031492547665 — Fax: 0031492547592

E-mail: jw.koolen@prokol.nl — Website: <http://www.prokol.nl/>

1.4 Emergency telephone number:

+31302748888

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Signal word:

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P280: Wear protective gloves, protective clothing, eye protection, face protection.
P301+P330+P331: IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P304+P340: IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P312: Call a POISON CENTER or doctor if you feel unwell.
P501: Dispose of contents/container in accordance with local/regional/national/international regulations.

Contains:

3-aminopropyltriethoxysilane polyoxypropylenediamine 2,4-diamino-3,5-diethyltoluene

2.3 Other hazards:

none

3 SECTION 3: Composition/information on ingredients:

polyoxypropylenediamine	≤ 30 %	CAS number: 9046-10-0 EINECS: REACH Registration number: 01-2119557899-12 CLP Classification: H302 Acute tox. 4 H314 Skin Corr. 1B H412 Aquatic Chronic 3
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Glycerylpolyoxypropylenetriamine	≤ 4 %	CAS number: 64852-22-8 EINECS: REACH Registration number: CLP Classification: H315 Skin Irrit. 2 H318 Eye Dam. 1 H412 Aquatic Chronic 3

3-aminopropyltriethoxysilane	≤ 0.4 %	CAS number:	919-30-2
		EINECS:	213-048-4
		REACH Registration number:	01-2119480479-24
		CLP Classification:	H302 Acute tox. 4 H314 Skin Corr. 1B H317 Skin Sens. 1B

For the full text of the H phrases mentioned in this section, see section 16.

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Ingestion: rinse mouth, do not induce vomiting, take to hospital immediately.

Inhalation: let sit upright, fresh air, rest and take to hospital.

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

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Ingestion: caustic, lack of breath, vomiting, blisters on lips and tongue, burning pain in mouth and throat, gullet and stomach

Inhalation: headache, dizziness, nausea, drowsiness, unconsciousness

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

none

5 SECTION 5: Fire-fighting measures:

5.1 Extinguishing media:

CO2, foam, powder, sprayed water

5.2 Special hazards arising from the substance or mixture:

none

5.3 Advice for firefighters:

Extinguishing agents to be avoided: none

6 SECTION 6: Accidental release measures:

6.1 Personal precautions, protective equipment and emergency procedures:

Do not walk into or touch spilled substances and avoid inhalation of fumes, smoke, dusts and vapours by staying up wind. Remove any contaminated clothing and used contaminated protective equipment and dispose of it safely.

6.2 Environmental precautions:

do not allow to flow into sewers or open water.

6.3 Methods and material for containment and cleaning up:

Contain released substance, store into suitable containers. If possible remove by using absorbent material.

6.4 Reference to other sections:

for further information check sections 8 & 13.

7 SECTION 7: Handling and storage:

7.1 Precautions for safe handling:

handle with care to avoid spillage.

7.2 Conditions for safe storage, including any incompatibilities:

keep in a sealed container in a closed, frost-free, ventilated room.

7.3 Specific end use(s):

/





8 SECTION 8: Exposure controls/personal protection:

8.1 Control parameters:

Listing of the hazardous ingredients in section 3, of which the TLV value is known

/

8.2 Exposure controls:

Inhalation protection:	use with sufficient exhaust ventilation. If necessary, use an air-purifying face mask in case of respiratory hazards. Use the ABEK type as protection against these troublesome levels.	
Skin protection:	handling with nitril-gloves (EN 374). Breakthrough time: >480' Material thickness: 0,35 mm. Thoroughly check gloves before use. Take of the gloves properly without touching the outside with your bare hands. The manufacturer of the protective gloves has to be consulted about the suitability for a specific work station. Wash and dry your hands.	
Eye protection:	keep an eye-rinse bottle within reach. Tight-fitting safety goggles. Wear a face shield and protective suit in case of exceptional processing problems.	
Other protection:	impermeable clothing. The type of protective equipment depends on the concentration and amount of hazardous substances at the work station in question.	

9 SECTION 9: Physical and chemical properties:

9.1 Information on basic physical and chemical properties:

Melting point/melting range: /

Boiling point/Boiling range:	260 °C — 441 °C
pH:	/
pH 1% diluted in water:	/
Vapour pressure/20°C,:	/
Vapour density:	not applicable
Relative density, 20°C:	1.0970 kg/l
Appearance/20°C:	liquid
Flash point:	185 °C
Flammability (solid, gas):	not applicable
Auto-ignition temperature:	/
Upper flammability or explosive limit, (Vol %):	/
Lower flammability or explosive limit, (Vol %):	/
Explosive properties:	not applicable
Oxidising properties:	not applicable
Decomposition temperature:	/
Solubility in water:	not soluble
Partition coefficient: n-octanol/water:	not applicable
Odour:	characteristic
Odour threshold:	not applicable
Dynamic viscosity, 20°C:	2 100 mPa.s
Kinematic viscosity, 40°C:	1 914 mm ² /s
Evaporation rate (n-BuAc = 1):	0.010

9.2 Other information:

Volatile organic component (VOC):	0.01 %
Volatile organic component (VOC):	0.000 g/l
Sustained combustion test :	/

10 SECTION 10: Stability and reactivity:

10.1 Reactivity:

stable under normal conditions.

10.2 Chemical stability:

extremely high or low temperatures.

10.3 Possibility of hazardous reactions:

none

10.4 Conditions to avoid:

protect from sunlight and do not expose to temperatures exceeding + 50°C.

10.5 Incompatible materials:

acids, alkalines, oxidants, reductants

10.6 Hazardous decomposition products:

doesn't decompose with normal use

11 SECTION 11: Toxicological information:

11.1 Information on toxicological effects:

H302 Acute tox. 4: Harmful if swallowed.
H314 Skin Corr. 1B: Causes severe skin burns and eye damage.
H373 STOT RE 2: May cause damage to organs through prolonged or repeated exposure.

Calculated acute toxicity, ATE oral: 1 058.186 mg/kg

Calculated acute toxicity, ATE dermal: /

polyoxypropylenediamine	LD50 oral, rat: 475 mg/kg LD50 dermal, rabbit: 2 090 mg/kg LC50, Inhalation, rat, 4h: ≥ 50 mg/l
2,4-diamino-3,5-diethyltoluene	LD50 oral, rat: 738 mg/kg LD50 dermal, rabbit: 1 100 mg/kg LC50, Inhalation, rat, 4h: ≥ 50 mg/l
Glycerylpolyoxypropylenetriamine	LD50 oral, rat: ≥ 5 000 mg/kg LD50 dermal, rabbit: ≥ 5 000 mg/kg LC50, Inhalation, rat, 4h: ≥ 50 mg/l
3-aminopropyltriethoxysilane	LD50 oral, rat: 500 mg/kg LD50 dermal, rabbit: ≥ 5 000 mg/kg LC50, Inhalation, rat, 4h: ≥ 50 mg/l

12 SECTION 12: Ecological information:

12.1 Toxicity:

polyoxypropylenediamine	LC50 (Fish): >100 mg/L (96h) EC50 (Daphnia): 15 mg/L (48h)
2,4-diamino-3,5-diethyltoluene	LC50 (Fish): 200 mg/L (48h) EC50 (Daphnia): 0,5 mg/L (48h) EC50 (soil microorganisms): > 170 mg/L (24h)

12.2 Persistence and degradability:

No additional data available

12.3 Bioaccumulative potential:

No additional data available

12.4 Mobility in soil:

Water hazard class, WGK (AwSV): 2

Solubility in water: not soluble

12.5 Results of PBT and vPvB assessment:

No additional data available

12.6 Other adverse effects:

No additional data available

13 SECTION 13: Disposal considerations:

13.1 Waste treatment methods:

Draining into the sewers is not permitted. Removal should be carried out by licensed services. Possible restrictive regulations by local authority should always be adhered to.

14 SECTION 14: Transport information:

14.1 UN number:

2735

14.2 UN proper shipping name:

UN 2735 Amines, liquid, corrosive, n.o.s. (mixture with 2,4-diamino-3,5-diethyltoluene; ...) , 8, III, (E)

14.3 Transport hazard class(es):

Class(es):	8
Identification number of the hazard:	80

14.4 Packing group:

III

14.5 Environmental hazards:

environmentally hazardous

14.6 Special precautions for user:

Hazard characteristics: Risk of burns. Risk to the aquatic environment and the sewerage system.

Additional guidance:



15 SECTION 15: Regulatory information:

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

Water hazard class, WGK (AwSV): 2

Volatile organic component (VOC): 0.010 %
Volatile organic component (VOC): 0.000 g/l
Composition by regulation (EC) 648/2004: none

15.2 Chemical Safety Assessment:

No data available

16 SECTION 16: Other information:

Legend to abbreviations used in the safety data sheet:

ADR:	The European Agreement concerning the International Carriage of Dangerous Goods by Road
BCF:	Bioconcentration factor
CAS:	Chemical Abstracts Service
CLP:	Classification, Labelling and Packaging of chemicals
EINECS:	European INventory of Existing Commercial chemical Substances
Nr.:	number
PTB:	persistent, toxic, bioaccumulative
TLV:	Threshold Limit Value
vPvB:	very persistent and very bioaccumulative substances
WGK:	Water hazard class
WGK 1:	slightly hazardous for water
WGK 2:	hazardous for water
WGK 3:	extremely hazardous for water

Legend to the H Phrases used in the safety data sheet:

H302: Harmful if swallowed. **H312 Acute tox. 4:** Harmful in contact with skin. **H314 Skin Corr. 1B:** Causes severe skin burns and eye damage. **H315 Skin Irrit. 2:** Causes skin irritation. **H317 Skin Sens. 1B:** May cause an allergic skin reaction. **H318 Eye Dam. 1:** Causes serious eye damage. **H319 Eye Irrit. 2:** Causes serious eye irritation. **H373 STOT RE 2:** May cause damage to organs through prolonged or repeated exposure. **H400 Aquatic Acute 1:** Very toxic to aquatic life. **H410 Aquatic Chronic 1:** Very toxic to aquatic life with long lasting effects. **H411 Aquatic Chronic 2:** Toxic to aquatic life with long lasting effects. **H412 Aquatic Chronic 3:** Harmful to aquatic life with long lasting effects.

CLP Calculation method:

Calculation method

Reason of revision, changes of following items:

Sections: 2.2, 3

MSDS reference number:

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