

SAFETY DATA SHEET  
according to Regulation (EC) No. 1907/2006, as amended

**ELANTAS**

## Elan-tech® RA64.1 B FAST Fuchsia w/bag

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Version 5.0 SDB\_GB      Revision Date: 16.04.2025      Date of last issue: 07.02.2024  
Date of first issue: 26.01.2022

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

**1.1 Product identifier**  
Trade name : Elan-tech® RA64.1 B FAST Fuchsia w/bag

**1.2 Relevant identified uses of the substance or mixture and uses advised against**  
Type of Application (Use) : Engineering Material  
Recommended restrictions on use : For industrial use only.

**1.3 Details of the supplier of the safety data sheet**  
Company : ELANTAS Europe S.r.l.  
Strada Antolini 1  
43044 Collecchio  
Italy  
Telephone : +3907363081  
Telefax : +390736402746  
E-mail address of person responsible for the SDS : msds.elantas.europe@altana.com

**1.4 Emergency telephone**  
+44 1235 239670 (All languages)

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### SECTION 2: Hazards identification

**2.1 Classification of the substance or mixture**  
**Classification (REGULATION (EC) No 1272/2008)**  
Acute toxicity, Category 4  
Skin corrosion, Category 1  
Serious eye damage, Category 1  
Skin sensitization, Category 1  
Reproductive toxicity, Category 1B  
Long-term (chronic) aquatic hazard, Category 3  
H302: Harmful if swallowed.  
H314: Causes severe skin burns and eye damage.  
H318: Causes serious eye damage.  
H317: May cause an allergic skin reaction.  
H360: May damage fertility or the unborn child if swallowed.  
H412: Harmful to aquatic life with long lasting effects.

**2.2 Label elements**  
**Labeling (REGULATION (EC) No 1272/2008)**  
Hazard pictograms : The image shows three hazard pictograms. The first is a skull and crossbones with a red exclamation mark inside a red diamond. The second is a hand with a red exclamation mark inside a red diamond. The third is a red exclamation mark inside a red diamond.

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Signal Word : Danger

Hazard Statements : H302 Harmful if swallowed.  
H314 Causes severe skin burns and eye damage.  
H317 May cause an allergic skin reaction.  
H360 May damage fertility or the unborn child if swallowed.  
H412 Harmful to aquatic life with long lasting effects.

Supplemental Hazard Statements : EUH071 Corrosive to the respiratory tract.

Precautionary Statements

**Prevention:**  
P201 Obtain special instructions before use.  
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection/ hearing protection.

**Response:**  
P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water.  
P304 + P340 + P310 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER/ doctor.  
P305 + P351 + P333 + P310 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER/ doctor.  
P308 + P313 IF exposed or concerned: Get medical advice/ attention.

**Hazardous ingredients which must be listed on the label:**  
bicyclo[2.2.1]heptanebis(methylamine)  
m-phenylenebis(methylamine)  
N-(3-aminopropyl)-N,N-dimethylpropane-1,3-diamine  
Amines, polyethylenepoly-, triethylenetetramine fraction  
3-aminomethyl-3,5,5-trimethylcyclohexylamine  
Phenol, styrenated  
Phenol, 4,4'-(1-methylethylidene)bis-, polymer with N,N'-bis(2-aminoethyl)-1,2-ethanediamine and (chloromethyl)oxirane  
3,6-dioxaoctamethylenediamine  
1,3-Propanediol, 2-ethyl-2-(hydroxymethyl)-, polymer with (chloromethyl) oxirane

### 2.3 Other hazards

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

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**Ecological information:** The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

**Toxicological information:** The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

**SECTION 3: Composition/information on ingredients****3.2 Mixtures**

Chemical nature : Amine

**Components**

Chemical name	CAS-No. EC-No. Index-No. Registration number	Classification	Concentration (% w/w)
bicyclo[2.2.1]heptanebis(methylamine)	56602-77-8 260-280-7 01-2119452792-48	Acute Tox. 4; H302 Skin Corr. 1C; H314 Eye Dam. 1; H318 Aquatic Chronic 3; H412	>= 12,5 - < 20
benzyl alcohol	100-51-6 202-859-9 603-057-00-5 01-2119492630-38	Acute Tox. 4; H302 Acute Tox. 4; H332 Eye Irrit. 2; H319  Acute toxicity estimate  Acute oral toxicity: 1.200 mg/kg	>= 12,5 - < 20
m-phenylenebis(methylamine)	1477-55-0 216-032-5 01-2119480150-50	Acute Tox. 4; H302 Acute Tox. 4; H332 Skin Corr. 1B; H314 Skin Sens. 1B; H317 Aquatic Chronic 3; H412 EUH071	>= 5 - < 7
N'-(3-aminopropyl)-N,N-dimethylpropane-1,3-diamine	10563-29-8 234-148-4 01-2119970376-29	Acute Tox. 4; H302 Skin Corr. 1A; H314 Eye Dam. 1; H318 Skin Sens. 1B; H317	>= 3 - < 5
Amines, polyethylenepoly-, triethylenetetramine fraction	90640-67-8 292-588-2 01-2119487919-13	Acute Tox. 4; H302 Acute Tox. 4; H312 Skin Corr. 1B; H314 Skin Sens. 1B; H317 Aquatic Chronic 3; H412	>= 3 - < 5

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		Acute toxicity estimate  Acute oral toxicity: 1.716 mg/kg Acute dermal toxicity: 1.465 mg/kg	
3-aminomethyl-3,5,5-trimethylcyclohexylamine	2855-13-2 220-666-8 612-067-00-9 01-2119514687-32	Acute Tox. 4; H302 Skin Corr. 1B; H314 Eye Dam. 1; H318 Skin Sens. 1A; H317  specific concentration limit Skin Sens. 1A; H317 >= 0,001 % Skin Sens. 1A; H317 >= 0,001 %  Acute toxicity estimate  Acute oral toxicity: 1.030 mg/kg 1.030 mg/kg	=> 3 - < 5
Phenol, styrenated	61788-44-1 262-975-0 01-2119980970-27	Skin Irrit. 2; H315 Skin Sens. 1; H317 Aquatic Chronic 2; H411	=> 1 - < 2,5
Phenol, 4,4'-(1-methylethylidene)bis-, polymer with N,N'-bis(2-aminoethyl)-1,2-ethanediamine and (chloromethyl)oxirane	38294-69-8 701-406-7 500-104-0 01-2120766646-41, 01-2120766646-41-0001	Acute Tox. 4; H302 Skin Corr. 1B; H314 Eye Dam. 1; H318 Skin Sens. 1A; H317 Aquatic Acute 1; H400 Aquatic Chronic 1; H410	=> 1 - < 2,5
3,6-dioxaoctamethylenediamine	929-59-9 213-203-6	Acute Tox. 4; H302 Skin Corr. 1B; H314 Skin Sens. 1; H317	=> 1 - < 3
1,3-Propanediol, 2-ethyl-2-(hydroxymethyl)-, polymer with (chloromethyl) oxirane	30499-70-8	Skin Corr. 1C; H314 Eye Dam. 1; H318 Skin Sens. 1B; H317 Muta. 2; H341 Repr. 1B; H360 Aquatic Chronic 2; H411	=> 0,5 - < 1

For explanation of abbreviations see section 16.

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16.04.2025Date of last issue: 07.02.2024  
Date of first issue: 26.01.2022**SECTION 4: First aid measures****4.1 Description of first-aid measures**

General advice	: Show this material safety data sheet to the doctor in attendance. Keep warm and in a quiet place. Take off all contaminated clothing immediately.
If inhaled	: Move to fresh air. Keep patient warm and at rest. If unconscious, place in recovery position and seek medical advice. If symptoms persist, call a physician. If breathing is irregular or stopped, administer artificial respiration.
In case of skin contact	: Wash off immediately with soap and plenty of water. Do NOT use solvents or thinners. If on clothes, remove clothes. Burns must be treated by a physician.
In case of eye contact	: Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. If eye irritation persists, consult a specialist. If easy to do, remove contact lens, if worn.
If swallowed	: Do NOT induce vomiting. If a person vomits when lying on his back, place him in the recovery position. Call a physician immediately. Give small amounts of water to drink.

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

Symptoms	: Burn superficial burning sensation Redness Severe irritation
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**4.3 Indication of any immediate medical attention and special treatment needed**

Treatment	: The first aid procedure should be established in consultation with the doctor responsible for industrial medicine.
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**SECTION 5: Firefighting measures****5.1 Extinguishing media**

Suitable extinguishing media	: Carbon dioxide (CO <sub>2</sub> ) Foam Dry powder Water mist
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Unsuitable extinguishing	: None known.
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media

**5.2 Special hazards arising from the substance or mixture**

Specific hazards during fire fighting : The pressure in sealed containers can increase under the influence of heat.  
Cool closed containers exposed to fire with water spray.  
Hazardous decomposition products formed under fire conditions.

**5.3 Advice for firefighters**

Special protective equipment for fire-fighters : In the event of fire, wear self-contained breathing apparatus.  
Use personal protective equipment.

Further information : In the event of fire and/or explosion do not breathe fumes.  
Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.  
Immediately evacuate personnel to safe areas.  
Prevent fire extinguishing water from contaminating surface water or the ground water system.

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**SECTION 6: Accidental release measures****6.1 Personal precautions, protective equipment and emergency procedures**

Personal precautions : Refer to protective measures listed in sections 7 and 8.  
Evacuate personnel to safe areas.  
Use personal protective equipment.  
Ensure adequate ventilation.  
Inform the responsible authorities in case of gas leakage, or of entry into waterways, soil or drains.

**6.2 Environmental precautions**

Environmental precautions : Do not allow uncontrolled discharge of product into the environment.  
Try to prevent the material from entering drains or water courses.  
Local authorities should be advised if significant spillages cannot be contained.

**6.3 Methods and material for containment and cleaning up**

Methods for cleaning up : Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust).  
Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13).  
Pick up and transfer to properly labeled containers.

**6.4 Reference to other sections**

For personal protection see section 8.

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16.04.2025Date of last issue: 07.02.2024  
Date of first issue: 26.01.2022**SECTION 7: Handling and storage****7.1 Precautions for safe handling**

Advice on safe handling : Provide sufficient air exchange and/or exhaust in work rooms.  
 Do not breathe vapors or spray mist.  
 Avoid inhalation, ingestion and contact with skin and eyes.  
 Wear personal protective equipment.  
 Persons with a history of skin sensitization problems or asthma, allergies, chronic or recurrent respiratory disease should not be employed in any process in which this mixture is being used.

Advice on protection against fire and explosion : Keep away from open flames, hot surfaces and sources of ignition.

Hygiene measures : Provide adequate ventilation. Wash hands and face before breaks and immediately after handling the product.

**7.2 Conditions for safe storage, including any incompatibilities**

Requirements for storage areas and containers : Keep containers tightly closed in a dry, cool and well-ventilated place. Keep in properly labeled containers. To maintain product quality, do not store in heat or direct sunlight.

Further information on storage conditions : Protect from moisture.

Advice on common storage : Keep away from isocyanates.  
 Do not store near acids.  
 Keep away from oxidizing agents.

Further information on storage stability : Stable at normal ambient temperature and pressure.

**7.3 Specific end use(s)**

Specific use(s) : Consult the technical guidelines for the use of this substance/mixture.

**SECTION 8: Exposure controls/personal protection****8.1 Control parameters****Occupational Exposure Limits**

Components	CAS-No.	Value type (Form of exposure)	Control parameters	Basis
calcium carbonate	471-34-1	TWA (inhalable dust)	10 mg/m <sup>3</sup>	GB EH40
		TWA (Respirable dust)	4 mg/m <sup>3</sup>	GB EH40

**Derived No Effect Level (DNEL) according to Regulation (EC) No. 1907/2006:**

Substance name	End Use	Routes of exposure	Potential health effects	Value
benzyl alcohol	Workers	Inhalation	Short-term exposure,	450 mg/m <sup>3</sup>

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			Systemic effects	
	Workers	Inhalation	Long-term exposure, Systemic effects	90 mg/m3
	Workers	Skin contact	Short-term exposure, Systemic effects	47 mg/kg
	Workers	Skin contact	Long-term exposure, Systemic effects	9,5 mg/kg
	Consumers	Ingestion	Short-term exposure, Systemic effects	25 mg/kg
	Consumers	Ingestion	Long-term exposure, Systemic effects	5 mg/kg
	Consumers	Inhalation	Short-term exposure, Systemic effects	40,55 mg/m3
	Consumers	Inhalation	Long-term exposure, Systemic effects	8,11 mg/m3
	Consumers	Skin contact	Short-term exposure, Systemic effects	28,5 mg/kg
	Consumers	Skin contact	Long-term exposure, Systemic effects	5,7 mg/kg
Amines, polyethylenepoly-, triethylenetetramine fraction	Workers	Skin contact	Long-term systemic effects	0,57 mg/kg
	Workers	Inhalation	Long-term systemic effects	1 mg/m3
	Consumer use	Skin contact	Long-term systemic effects	0,25 mg/kg
	Consumers	Inhalation	Long-term systemic effects	0,29 mg/m3
	Workers	Inhalation	Short-term exposure	5380 mg/m3
Phenol, 4,4'-(1-methylethylidene)bis-, polymer with N,N'-bis(2-aminoethyl)-1,2-ethanediamine and (chloromethyl)oxirane	Workers	Oral	Long-term systemic effects	0,529 mg/m3
	Workers	Dermal	Long-term systemic effects	0,6 mg/kg

**Predicted No Effect Concentration (PNEC) according to Regulation (EC) No. 1907/2006:**

Substance name	Environmental Compartment	Value
benzyl alcohol	Fresh water	1 mg/l
	Sea water	0,1 mg/l
	Fresh water sediment	5,27 mg/kg
	Sea sediment	0,527 mg/kg
	Soil	0,456 mg/kg
	Sewage treatment plant	39 mg/l
	Intermittent releases	2,3 mg/l
Amines, polyethylenepoly-, triethylenetetramine fraction	Sewage treatment plant	4,25 mg/l
	Fresh water	0,135 mg/l
	Fresh water sediment	2,08 mg/kg
	Sea water	0,0027 mg/l
	Sea sediment	0,123 mg/kg
	Soil	1,67 mg/kg

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<table border="1"><tr><td>Phenol, 4,4'-(1-methylethylidene)bis-, polymer with N,N'-bis(2-aminoethyl)-1,2-ethanediamine and (chloromethyl)oxirane</td><td>Intermittent releases Fresh water</td><td>0,2 mg/l 0 mg/l</td></tr><tr><td></td><td>Sea water</td><td>0 mg/l</td></tr><tr><td></td><td>Sewage treatment plant</td><td>1 mg/l</td></tr><tr><td></td><td>Fresh water sediment</td><td>0,002 mg/l</td></tr><tr><td></td><td>Sea sediment</td><td>0 mg/l</td></tr><tr><td></td><td>Soil</td><td>0 mg/l</td></tr><tr><td>3-aminomethyl-3,5,5-trimethylcyclohexylamine</td><td>Fresh water</td><td>0,06 mg/l</td></tr><tr><td></td><td>Sea water</td><td>0,006 mg/l</td></tr><tr><td></td><td>Intermittent releases</td><td>0,23 mg/l</td></tr><tr><td></td><td>Fresh water sediment</td><td>5,784 mg/kg</td></tr><tr><td></td><td>Sea sediment</td><td>0,578 mg/kg</td></tr><tr><td></td><td>Sewage treatment plant</td><td>3,18 mg/l</td></tr><tr><td></td><td>Soil</td><td>1,121 mg/kg</td></tr></table>			Phenol, 4,4'-(1-methylethylidene)bis-, polymer with N,N'-bis(2-aminoethyl)-1,2-ethanediamine and (chloromethyl)oxirane	Intermittent releases Fresh water	0,2 mg/l 0 mg/l		Sea water	0 mg/l		Sewage treatment plant	1 mg/l		Fresh water sediment	0,002 mg/l		Sea sediment	0 mg/l		Soil	0 mg/l	3-aminomethyl-3,5,5-trimethylcyclohexylamine	Fresh water	0,06 mg/l		Sea water	0,006 mg/l		Intermittent releases	0,23 mg/l		Fresh water sediment	5,784 mg/kg		Sea sediment	0,578 mg/kg		Sewage treatment plant	3,18 mg/l		Soil	1,121 mg/kg
Phenol, 4,4'-(1-methylethylidene)bis-, polymer with N,N'-bis(2-aminoethyl)-1,2-ethanediamine and (chloromethyl)oxirane	Intermittent releases Fresh water	0,2 mg/l 0 mg/l																																							
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	Sewage treatment plant	3,18 mg/l																																							
	Soil	1,121 mg/kg																																							

### 8.2 Exposure controls

**Engineering measures**  
Effective exhaust ventilation system  
effective ventilation in all processing areas

**Personal protective equipment**

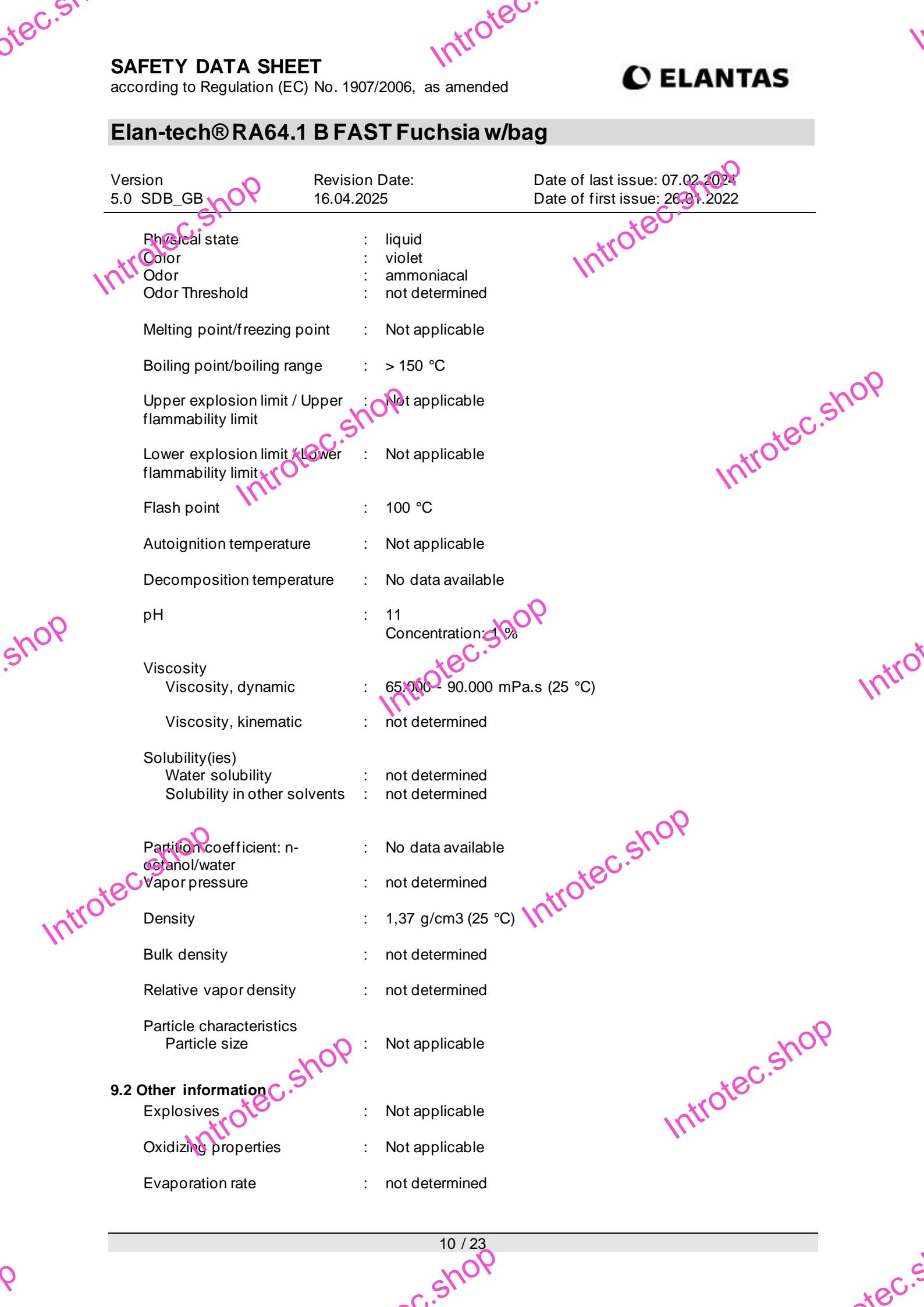
Eye protection	: Safety glasses with side-shields conforming to EN166 Do not wear contact lenses. Ensure that eyewash stations and safety showers are close to the workstation location.
Hand protection Material	: Protective gloves complying with EN 374.
Remarks	: Nitrile rubber
Skin and body protection	: Protective suit Recommended preventive skin protection
Respiratory protection	: Use respirator when performing operations involving potential exposure to vapor of the product. The filter class for the respirator must be suitable for the maximum expected contaminant concentration (gas/vapor/aerosol/particulates) that may arise when handling the product. If this concentration is exceeded, self-contained breathing apparatus must be used. Recommended Filter type: ABEK-filter Equipment should conform to EN 14387
Protective measures	: Avoid contact with skin. Wear suitable protective equipment.

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### SECTION 9: Physical and chemical properties

#### 9.1 Information on basic physical and chemical properties

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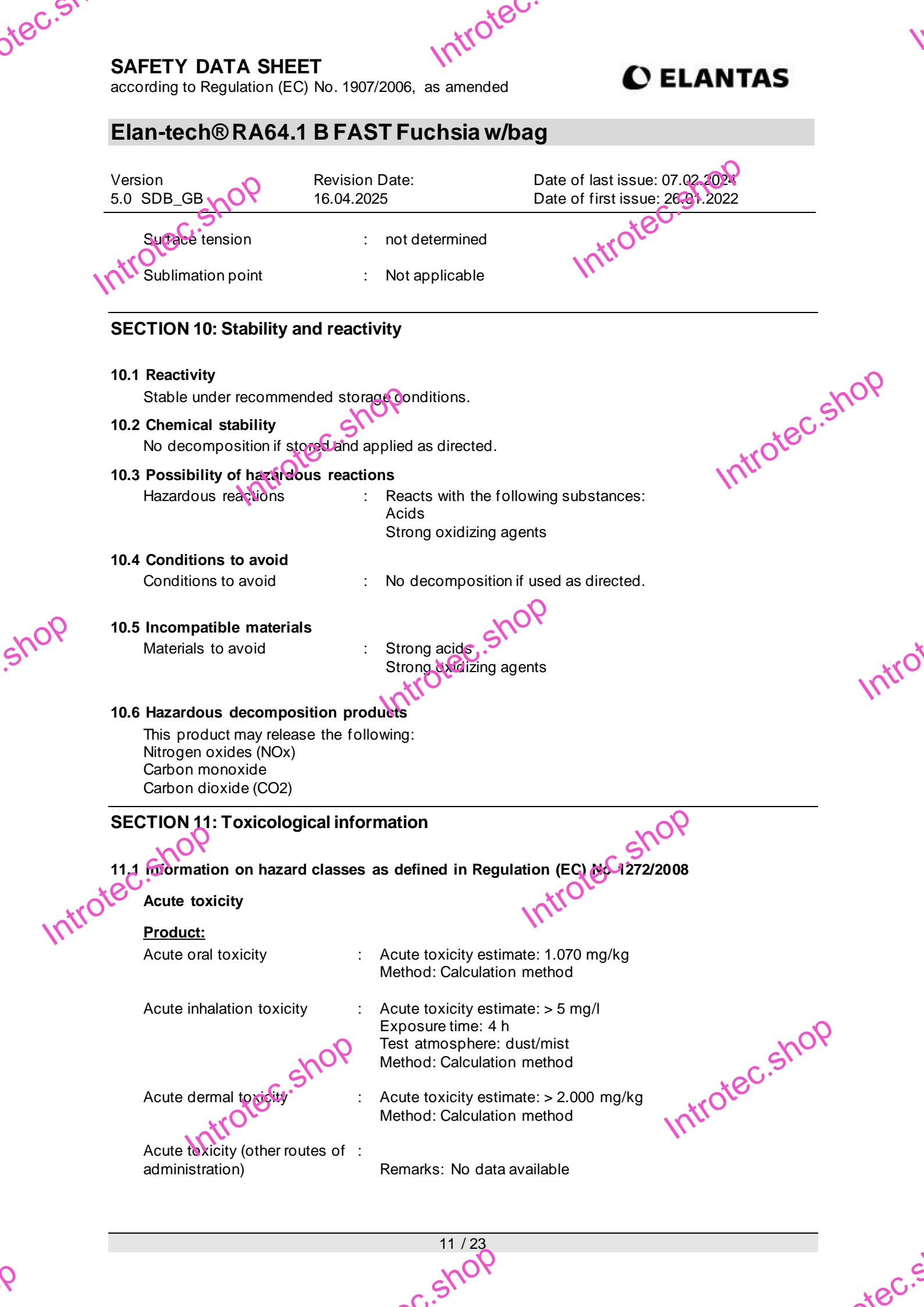
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Physical state	:	liquid
Color	:	violet
Odor	:	ammoniacal
Odor Threshold	:	not determined
Melting point/freezing point	:	Not applicable
Boiling point/boiling range	:	> 150 °C
Upper explosion limit / Upper flammability limit	:	Not applicable
Lower explosion limit / Lower flammability limit	:	Not applicable
Flash point	:	100 °C
Autoignition temperature	:	Not applicable
Decomposition temperature	:	No data available
pH	:	11 Concentration: 1 %
Viscosity		
Viscosity, dynamic	:	65.000- 90.000 mPa.s (25 °C)
Viscosity, kinematic	:	not determined
Solubility(ies)		
Water solubility	:	not determined
Solubility in other solvents	:	not determined
Partition coefficient: n-octanol/water	:	No data available
Vapor pressure	:	not determined
Density	:	1,37 g/cm <sup>3</sup> (25 °C)
Bulk density	:	not determined
Relative vapor density	:	not determined
Particle characteristics		
Particle size	:	Not applicable
<b>9.2 Other information</b>		
Explosives	:	Not applicable
Oxidizing properties	:	Not applicable
Evaporation rate	:	not determined



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Surface tension : not determined

Sublimation point : Not applicable

## SECTION 10: Stability and reactivity

### 10.1 Reactivity

Stable under recommended storage conditions.

### 10.2 Chemical stability

No decomposition if stored and applied as directed.

### 10.3 Possibility of hazardous reactions

Hazardous reactions : Reacts with the following substances:  
Acids  
Strong oxidizing agents

### 10.4 Conditions to avoid

Conditions to avoid : No decomposition if used as directed.

### 10.5 Incompatible materials

Materials to avoid : Strong acids  
Strong oxidizing agents

### 10.6 Hazardous decomposition products

This product may release the following:

Nitrogen oxides (NOx)

Carbon monoxide

Carbon dioxide (CO2)

## SECTION 11: Toxicological information

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

#### Acute toxicity

##### Product:

Acute oral toxicity : Acute toxicity estimate: 1.070 mg/kg  
Method: Calculation method

Acute inhalation toxicity : Acute toxicity estimate: > 5 mg/l  
Exposure time: 4 h  
Test atmosphere: dust/mist  
Method: Calculation method

Acute dermal toxicity : Acute toxicity estimate: > 2.000 mg/kg  
Method: Calculation method

Acute toxicity (other routes of administration) : Remarks: No data available

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**Components:**

**benzyl alcohol:**

Acute oral toxicity : Acute toxicity estimate: 1.200 mg/kg  
Method: Acute toxicity estimate according to Regulation (EC) No. 1272/2008

Acute inhalation toxicity : LC50 (Rat, male and female): 4 mg/l  
Exposure time: 4 h  
Test atmosphere: dust/mist  
Method: OECD Test Guideline 403  
GLP: yes

**Amines, polyethylenopoly-, triethylenetetramine fraction:**

Acute oral toxicity : LD50 (Rat, male and female): 1.716 mg/kg  
Method: OECD Test Guideline 401  
GLP: yes

Acute toxicity estimate: 1.716 mg/kg  
Method: Calculation method

Acute dermal toxicity : LD50 (Rabbit, male and female): 1.465 mg/kg  
Method: OECD Test Guideline 402  
GLP: yes

Acute toxicity estimate: 1.465 mg/kg  
Method: Calculation method

**3-aminomethyl-3,5,5-trimethylcyclohexylamine:**

Acute oral toxicity : Acute toxicity estimate: 1.030 mg/kg  
Method: Acute toxicity estimate according to Regulation (EC) No. 1272/2008

Acute toxicity estimate: 1.030 mg/kg  
Method: Acute toxicity estimate according to Regulation (EC) No. 1272/2008

**Phenol, 4,4'-(1-methylethylidene)bis-, polymer with N,N'-bis(2-aminoethyl)-1,2-ethanediamine and (chloromethyl)oxirane:**

Acute oral toxicity : LD50 (Rat, female): > 300 mg/kg  
Method: OECD Test Guideline 420  
GLP: yes

**Skin corrosion/irritation:**

**Product:**

Remarks : No data available

**Components:**

**benzyl alcohol:**

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Species	:	Rabbit
Method	:	OECD Test Guideline 404
Result	:	No skin irritation
GLP	:	yes

**Amines, polyethylenepoly-, triethylenetetramine fraction:**

Species	:	Rabbit
Method	:	OECD Test Guideline 404
Result	:	Corrosive
GLP	:	yes

**Phenol, 4,4'-(1-methylethylidene)bis-, polymer with N,N'-bis(2-aminoethyl)-1,2-ethanediamine and (chloromethyl)oxirane:**

Species	:	reconstructed human epidermis (RhE)
Assessment	:	Causes burns.
Method	:	OECD Test Guideline 439
Result	:	Corrosive to skin
GLP	:	yes
Test substance	:	Read-across (Analogy)

**Serious eye damage/eye irritation****Product:**

Remarks	:	No data available
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**Components:****benzyl alcohol:**

Species	:	Rabbit
Method	:	OECD Test Guideline 405
Result	:	Eye irritation
GLP	:	yes

**Amines, polyethylenepoly-, triethylenetetramine fraction:**

Species	:	Rabbit
Method	:	OECD Test Guideline 405
Result	:	Risk of serious damage to eyes.
GLP	:	yes

**Phenol, 4,4'-(1-methylethylidene)bis-, polymer with N,N'-bis(2-aminoethyl)-1,2-ethanediamine and (chloromethyl)oxirane:**

Species	:	Rabbit
Assessment	:	Risk of serious damage to eyes.
Method	:	OECD Test Guideline 405
Result	:	Corrosive to eyes
GLP	:	yes

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Remarks : No data available

**Components:****Amines, polyethylenepoly-, triethylenetetramine fraction:**

Test Type : Fugehler Test  
Species : Guinea pig  
Method : OECD Test Guideline 406  
Result : May cause sensitization by skin contact.  
GLP : yes

**Phenol, 4,4'-(1-methylethylidene)bis-, polymer with N,N'-bis(2-aminoethyl)-1,2-ethanediamine and (chloromethyl)oxirane:**

Test Type : Local lymph node assay (LLNA)  
Species : Mouse  
Assessment : The product is a skin sensitizer, sub-category 1A.  
Method : OECD Test Guideline 429  
Result : Causes sensitization.  
GLP : yes

**Germ cell mutagenicity****Components:****Phenol, 4,4'-(1-methylethylidene)bis-, polymer with N,N'-bis(2-aminoethyl)-1,2-ethanediamine and (chloromethyl)oxirane:**

Genotoxicity in vitro : Test Type: Ames test  
Test system: Salmonella typhimurium  
Metabolic activation: with and without metabolic activation  
Method: OECD Test Guideline 471  
Result: negative  
GLP: yes

**Carcinogenicity****Product:**

Remarks : No data available

**Reproductive toxicity****Product:**

Effects on fertility : Remarks: No data available

Effects on fetal development : Remarks: No data available

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Effects on fetal development : Test Type: reproductive and developmental toxicity study  
Species: Rat, male and female  
Strain: wistar  
Application Route: Oral  
General Toxicity Maternal: NOAEL: 60 mg/kg body weight  
Teratogenicity: NOAEL F1: 60 mg/kg body weight  
Developmental Toxicity: NOAEL F1: 60 mg/kg body weight  
Embryo-fetal toxicity.: NOAEL F1: 60 mg/kg body weight  
Method: OECD Test Guideline 422  
GLP: yes

**STOT-single exposure****Product:**

Remarks : No data available

**STOT-repeated exposure****Product:**

Remarks : No data available

**Repeated dose toxicity****Product:**

Remarks : No data available

**Components:****Phenol, 4,4'-(1-methylethylidene)bis-, polymer with N,N'-bis(2-aminoethyl)-1,2-ethanediamine and (chloromethyl)oxirane:**

Species : Rat, male and female  
NOAEL : 60 mg/kg  
Application Route : Oral  
Method : OECD Test Guideline 422  
GLP : yes

**Aspiration toxicity****Components:****3-aminomethyl-3,5,5-trimethylcyclohexylamine:**

No aspiration toxicity classification

**11.2 Information on other hazards****Endocrine disrupting properties****Product:**

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: The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

**Further information****Product:**

Remarks : No data available

**SECTION 12: Ecological information****12.1 Toxicity****Product:**

Toxicity to fish : Remarks: No data available

Toxicity to daphnia and other aquatic invertebrates : Remarks: No data available

**Components:****benzyl alcohol:**Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 230 mg/l  
Exposure time: 48 h  
Method: OECD Test Guideline 202  
GLP: yesToxicity to algae/aquatic plants : ErC50 (Pseudokirchneriella subcapitata (green algae)): 770 mg/l  
Exposure time: 72 h  
Test Type: static test  
Method: OECD Test Guideline 201  
GLP: yes**Amines, polyethylenepoly-, triethylenetetramine fraction:**Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 31,1 mg/l  
Exposure time: 48 h  
Test Type: static test  
Method: Directive 67/548/EEC, Annex V, C.2.  
GLP: yesToxicity to algae/aquatic plants : ErC50 (Selenastrum capricornutum (green algae)): 20 mg/l  
Exposure time: 72 h  
Test Type: semi-static test  
Method: OECD Test Guideline 201  
GLP: yes**Phenol, 4,4'-(1-methylethylidene)bis-, polymer with N,N'-bis(2-aminoethyl)-1,2-ethanediamine and (chloromethyl)oxirane:**

Toxicity to fish : LL50 (Oncorhynchus mykiss (rainbow trout)): &gt; 0,16 mg/l

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Exposure time: 96 h  
Test Type: semi-static test  
Method: OECD Test Guideline 203  
GLP: yes

Toxicity to daphnia and other aquatic invertebrates : EL50 (Daphnia magna (Water flea)): 1,7 mg/l  
End point: Immobilization  
Exposure time: 48 h  
Test Type: static test  
Method: OECD Test Guideline 202  
GLP: yes

Toxicity to algae/aquatic plants : ErL50 (Pseudokirchneriella subcapitata (green algae)): 0.31 mg/l  
Exposure time: 72 h  
Test Type: semi-static test  
Method: OECD Test Guideline 201  
GLP: yes

Toxicity to microorganisms : (activated sludge): > 100 mg/l  
Exposure time: 3 h  
Test Type: Respiration inhibition  
Method: OECD Test Guideline 209  
GLP: yes

**12.2 Persistence and degradability****Product:**

Biodegradability : Remarks: No data available

Physico-chemical removability : Remarks: No data available

**Components:****3-aminomethyl-3,5,5-trimethylcyclohexylamine:**

Biodegradability : Test Type: aerobic  
Result: Not readily biodegradable.  
Method: Directive 67/548/EEC Annex V, C.4.A.  
GLP: yes

**Phenol, 4,4'-(1-methylethylidene)bis-, polymer with N,N'-bis(2-aminoethyl)-1,2-ethanediamine and (chloromethyl)oxirane:**

Biodegradability : Test Type: aerobic  
Inoculum: activated sludge  
Result: Not readily biodegradable.  
Biodegradation: 0 %  
Exposure time: 28 d  
Method: OECD Test Guideline 301B  
GLP: yes

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### 12.3 Bioaccumulative potential

**Product:**  
Bioaccumulation : Remarks: No data available

**Components:**

**3-aminomethyl-3,5,5-trimethylcyclohexylamine:**  
Partition coefficient: n-octanol/water : log Pow: 0,99  
Method: OECD Test Guideline 107  
GLP: yes

**Phenol, 4,4'-(1-methylethylidene)bis-, polymer with N,N'-bis(2-aminoethyl)-1,2-ethanediamine and (chloromethyl)oxirane:**  
Partition coefficient: n-octanol/water : log Pow: 0,292 (20 - 25 °C)  
pH: 12  
Method: OECD Test Guideline 117  
GLP: yes

### 12.4 Mobility in soil

**Components:**

**Phenol, 4,4'-(1-methylethylidene)bis-, polymer with N,N'-bis(2-aminoethyl)-1,2-ethanediamine and (chloromethyl)oxirane:**  
Distribution among environmental compartments : Koc: 566 ml/g  
Method: estimated

### 12.5 Results of PBT and vPvB assessment

**Product:**  
Assessment : This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

### 12.6 Endocrine disrupting properties

**Product:**  
Assessment : The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

### 12.7 Other adverse effects

**Product:**  
Additional ecological information : An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

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### SECTION 13: Disposal considerations

**13.1 Waste treatment methods**

Product	: In accordance with local and national regulations. Container hazardous when empty. Do not dispose of with domestic refuse. Do not mix waste streams during collection.
Contaminated packaging	: Empty containers should be taken to an approved waste handling site for recycling or disposal.

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### SECTION 14: Transport information

**14.1 UN number or ID number**

ADR/RID/ADN	: UN 2735
IMDG	: UN 2735
IATA	: UN 2735

**14.2 UN proper shipping name**

ADR/RID/ADN	: AMINES, LIQUID, CORROSIVE, N.O.S. (bicyclo[2.2.1]heptanebis(methylamine))
IMDG	: AMINES, LIQUID, CORROSIVE, N.O.S. (bicyclo[2.2.1]heptanebis(methylamine))
IATA	: Amines, liquid, corrosive, n.o.s. (bicyclo[2.2.1]heptanebis(methylamine))

**14.3 Transport hazard class(es)**

ADR/RID/ADN	: 8
IMDG	: 8
IATA	: 8

**14.4 Packing group**

ADR/RID/ADN	
Packing group	: III
Classification Code	: C7
Hazard Identification Number	: 80
Labels	: 8
Tunnel restriction code	: E
IMDG	
Packing group	: III
Labels	: 8
EmS Code	: F-A, S-B
Remarks	: IMDG Code segregation group 18 - Alkalies
IATA (Cargo)	
Packing instruction (cargo)	: 856

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aircraft)

Packing group : III  
Labels : Corrosives

### IATA (Passenger)

Packing instruction (passenger aircraft) : 852  
Packing instruction (LQ) : Y841  
Packing group : III  
Labels : Corrosives

## 14.5 Environmental hazards

### ADR/RID/ADN

Environmentally hazardous : no

### IMDG

Marine pollutant : no

## 14.6 Special precautions for user

Remarks : The transport of dangerous goods, including their loading and unloading, must be done by people who received the necessary training required by Modal Regulations.

The transport classification(s) provided herein are for informational purposes only, and solely based upon the properties of the unpackaged material as it is described within this Safety Data Sheet. Transportation classifications may vary by mode of transportation, package sizes, and variations in regional or country regulations.

## 14.7 Maritime transport in bulk according to IMO instruments

Not applicable for product as supplied.

## SECTION 15: Regulatory information

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

Relevant EU provisions transposed through retained EU law

REACH - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles (Annex XVII)	: Conditions of restriction for the following entries should be considered: Number on list 3
REACH - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles (Annex XVII)	: Conditions of restriction for the following entries should be considered: Number on list: 3
REACH - Candidate List of Substances of Very High Concern for Authorization (Article 59).	: Not applicable
Regulation (EU) No 2024/590 on substances that deplete the ozone layer	: Not applicable
Regulation (EU) 2019/1021 on persistent organic pollutants (recast)	: Not applicable
UK REACH List of substances subject to authorisation (Annex XIV)	: Not applicable
Regulation (EU) 2019/1148 on the marketing and use of explosives precursors	: Not applicable
	: Not applicable

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International Chemical Weapons Convention (CWC) : Not applicable  
Schedules of Toxic Chemicals and Precursors

Council Regulation (EC) No 111/2005 laying down rules : Not applicable  
for the monitoring of trade between the Community and  
third countries in drug precursors

Seveso III: Directive 2012/18/EU of the European : Not applicable  
Parliament and of the Council on the  
control of major-accident hazards involving  
dangerous substances.

Seveso III Directive (2012/18/EU) implemented : Not applicable  
by Control of Major Accident Hazards Regulations 2015 (COMAH)

### 15.2 Chemical Safety Assessment

Not applicable

## SECTION 16: Other information

### Full text of H-Statements

H302	: Harmful if swallowed.
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.
H319	: Causes serious eye irritation.
H332	: Harmful if inhaled.
H341	: Suspected of causing genetic defects.
H360	: May damage fertility or the unborn child if swallowed.
H400	: Very toxic to aquatic life.
H410	: Very toxic to aquatic life with long lasting effects.
H411	: Toxic to aquatic life with long lasting effects.
H412	: Harmful to aquatic life with long lasting effects.
EUH071	: Corrosive to the respiratory tract.

### Full text of other abbreviations

Acute Tox.	: Acute toxicity
Aquatic Acute	: Short-term (acute) aquatic hazard
Aquatic Chronic	: Long-term (chronic) aquatic hazard
Eye Dam.	: Serious eye damage
Eye Irrit.	: Eye irritation
Muta.	: Germ cell mutagenicity
Repr.	: Reproductive toxicity
Skin Corr.	: Skin corrosion
Skin Irrit.	: Skin irritation
Skin Sens.	: Skin sensitization
GB EH40	: UK. EH40 WEL - Workplace Exposure Limits
GB EH40 / TWA	: Long-term exposure limit (8-hour TWA reference period)

ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways; ADR - Agreement concerning the International Carriage of Dangerous Goods by

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Road; AIIC - Australian Inventory of Industrial Chemicals; ASTM - American Society for the Testing of Materials; bw - Body weight; CLP - Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECHA - European Chemicals Agency; EC-Number - European Community number; ECx - Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECL - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s. - Not Otherwise Specified; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RID - Regulations concerning the International Carriage of Dangerous Goods by Rail; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; SVHC - substance of very high concern; TCSI - Taiwan Chemical Substance Inventory; TECI - Thailand Existing Chemicals Inventory; TRGS - Technical Rule for Hazardous Substances; TSCA - Toxic Substances Control Act (United States); UN - United Nations; vPvB - Very Persistent and Very Bioaccumulative

### Further information

Training advice : Provide adequate information, instruction and training for operators.

Other information : Sections, highlighted in grey, indicates changes towards the previous version.

Sources of key data used to compile the Material Safety Data Sheet : Information taken from reference works and the literature. See the list mentioned above.

### Data Sheet

#### Classification of the mixture:

Acute Tox. 4	H302
Skin Corr. 1	H314
Eye Dam. 1	H318
Skin Sens. 1	H317
Repr. 1B	H360
Aquatic Chronic 3	H412

#### Classification procedure:

Calculation method

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a

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guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification.

GB / EN