Safety data sheet
according to 1907/2006/EC, Article 31

Printing date 31.05.2019 Rev. 1 Revision: 31.05.2019

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

· **1.1 Product identifier**
· **Trade name: Starlike EVO (comp A)**

· **1.2 Relevant identified uses of the substance or mixture and uses advised against**
No further relevant information available.
· **Application of the substance / the mixture** Epoxy mortar

· **1.3 Details of the supplier of the safety data sheet**
· **Manufacturer/Supplier:**
LITOKOL S.p.A.
Via G.Falcone, 13/1
42048 Rubiera (RE) - ITALY
Tel. +39 0522 626391 - Fax. +39 0522 620150

· **Further information obtainable from:** LITOKOL S.p.A. - Email: laboratorio@litokol.it

· **1.4 Emergency telephone number:**
UNITED KINGDOM
• National Poisons Information Service (NPIS) - Tel: +44 844 8920111

ITALY - POISON CONTROL CENTERS (24h / 365d) :
• Milano - Ospedale Niguarda Ca' Granda - Tel. +39 02 66101029
• Pavia - Centro Nazionale di Informazione Tossicologica - IRCCS Fondazione S. Maugeri - Tel. +39 0382 24444
• Firenze - Azienda Ospedaliero-Universitaria "Careggi" U.O. Tossicologia Medica - Tel. +39 055 7947819
• Bergamo - Azienda Ospedaliera Papa Giovanni XXIII - Tel. +39 800 883300
• Roma - CAV Policlinico "Umberto I" - Tel. 06 49978000
• Roma - CAV Policlinico "A. Gemelli" - Tel. 06 3054343
• Roma - CAV "Ospedale Pediatrico Bambino Gesù" - Tel. +39 06 68593726
• Foggia - Azienda Ospedaliero-Universitaria Foggia - Tel. +39 0881 732326
• Napoli - Azienda Ospedaliera "A. Cardarelli" - Tel. +39 081 7472870

LITOKOL S.p.A.
Technical support: Tel. +39 0522 622852 (Monday - Friday: 8.30-12.30 AM , 2.00-6.00 PM)

SECTION 2: Hazards identification

· **2.1 Classification of the substance or mixture**
· **Classification according to Regulation (EC) No 1272/2008**

Skin Irrit. 2	H315	Causes skin irritation.
Eye Irrit. 2	H319	Causes serious eye irritation.
Skin Sens. 1	H317	May cause an allergic skin reaction.
Aquatic Chronic 3	H412	Harmful to aquatic life with long lasting effects.

· **2.2 Label elements**
· **Labelling according to Regulation (EC) No 1272/2008**
The substance is classified and labelled according to the CLP regulation.
· **Hazard pictograms**

GHS07

· **Signal word** Warning

· **Hazard-determining components of labelling:**
Reaction product: bisphenol-A-(epichlorhydrin) epoxy resin (number average molecular weight ≤ 700)
formaldehyde, oligomeric reaction products with 1-chloro-2,3-epoxypropane and phenol
Oxirane, mono[(C12-14-alkyloxy)methyl] derivs
bis(1,2,2,6,6-pentamethyl-4-piperidyl) sebacate
methyl 1,2,2,6,6-pentamethyl-4-piperidylsebacate
· **Hazard statements**
H315 Causes skin irritation.
H319 Causes serious eye irritation.
H317 May cause an allergic skin reaction.
H412 Harmful to aquatic life with long lasting effects.
· **Precautionary statements**
P102 Keep out of reach of children.

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P261 Avoid breathing dust/fume/gas/mist/vapours/spray.
P280 Wear protective gloves / eye protection / face protection.
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P333+P313 If skin irritation or rash occurs: Get medical advice/attention.
P337+P313 If eye irritation persists: Get medical advice/attention.
P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

· **2.3 Other hazards**
· **Results of PBT and vPvB assessment**
· **PBT:** Not applicable.
· **vPvB:** Not applicable.

SECTION 3: Composition/information on ingredients

· **3.2 Mixtures**
· **Description:** Mixture of substances listed below with nonhazardous additions.

· **Dangerous components:**		
CAS: 25068-38-6 NLP: 500-033-5 Index number: 603-074-00-8 Reg.nr.: 01-2119456619-26-XXXX	Reaction product: bisphenol-A-(epichlorhydrin) epoxy resin (number average molecular weight ≤ 700) Aquatic Chronic 2, H411; Skin Irrit. 2, H315; Eye Irrit. 2, H319; Skin Sens. 1, H317	10-15%
CAS: 9003-36-5 NLP: 500-006-8 Reg.nr.: 01-2119454392-40-XXXX	formaldehyde, oligomeric reaction products with 1-chloro-2,3-epoxypropane and phenol Aquatic Chronic 2, H411; Skin Irrit. 2, H315; Skin Sens. 1, H317	2.5-5%
CAS: 68609-97-2 EINECS: 271-846-8 Index number: 603-103-00-4 Reg.nr.: 01-2119485289-22-XXXX	Oxirane, mono[(C12-14-alkyloxy)methyl] derivs Skin Irrit. 2, H315; Skin Sens. 1, H317	2.5-5%
CAS: 41556-26-7 EINECS: 255-437-1	bis(1,2,2,6,6-pentamethyl-4-piperidyl) sebacate Aquatic Acute 1, H400; Aquatic Chronic 1, H410; Skin Sens. 1, H317	≥0.25-<1%
CAS: 82919-37-7 EINECS: 280-060-4	methyl 1,2,2,6,6-pentamethyl-4-piperidylsebacate Aquatic Acute 1, H400; Aquatic Chronic 1, H410; Skin Sens. 1, H317	≥0.1-<0.25%

· **Additional information:** For the wording of the listed hazard phrases refer to section 16.

SECTION 4: First aid measures

· **4.1 Description of first aid measures**
· **General information:** Immediately remove any clothing soiled by the product.
· **After inhalation:**
Supply fresh air and to be sure call for a doctor.
In case of unconsciousness place patient stably in side position for transportation.
· **After skin contact:**
Immediately wash with water and soap and rinse thoroughly.
If skin irritation continues, consult a doctor.
· **After eye contact:** Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.
· **After swallowing:** Do not induce vomiting; call for medical help immediately.

· **4.2 Most important symptoms and effects, both acute and delayed** No further relevant information available.

· **4.3 Indication of any immediate medical attention and special treatment needed**
No further relevant information available.

SECTION 5: Firefighting measures

· **5.1 Extinguishing media**
· **Suitable extinguishing agents:**
CO2, powder or water spray. Fight larger fires with water spray.
Use fire extinguishing methods suitable to surrounding conditions.

· **5.2 Special hazards arising from the substance or mixture** No further relevant information available.

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· ***5.3 Advice for firefighters***
· ***Protective equipment:*** *Do not inhale explosion gases or combustion gases.*

SECTION 6: Accidental release measures

· ***6.1 Personal precautions, protective equipment and emergency procedures*** *Not required.*

· ***6.2 Environmental precautions:***
Do not allow to enter sewers/ surface or ground water.
Inform respective authorities in case of seepage into water course or sewage system.

· ***6.3 Methods and material for containment and cleaning up:***
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
Ensure adequate ventilation.

· ***6.4 Reference to other sections***
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

SECTION 7: Handling and storage

· ***7.1 Precautions for safe handling***
Keep receptacles tightly sealed.
Ensure good ventilation/exhaustion at the workplace.
Prevent formation of aerosols.
· ***Information about fire - and explosion protection:*** *No special measures required.*

· ***7.2 Conditions for safe storage, including any incompatibilities***
· ***Storage:***
· ***Requirements to be met by storerooms and receptacles:*** *No special requirements.*
· ***Information about storage in one common storage facility:*** *Not required.*
· ***Further information about storage conditions:***
Store in a cool place.
Store in dry conditions.
Keep container tightly sealed.

· ***7.3 Specific end use(s)*** *No further relevant information available.*

SECTION 8: Exposure controls/personal protection

· ***Additional information about design of technical facilities:*** *No further data; see item 7.*

· ***8.1 Control parameters***
· ***Ingredients with limit values that require monitoring at the workplace:***
The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.

· ***DNELs***		
CAS: 25068-38-6 Reaction product: bisphenol-A-(epichlorhydrin) epoxy resin (number average molecular weight ≤ 700)		
Oral	*DNEL / Long term exposure - Systemic effects*	*0.75 mg/Kg bw/d (general population)*
	DNEL / Short term exposure - Systemic effects	*0.75 mg/Kg (general population)*
Dermal	*DNEL / Long term exposure - Systemic effects*	*3.6 mg/Kg bw/d (general population)*
		8.33 mg/Kg bw/d (workers)
	DNEL / Short term exposure - Systemic effects	*3.6 mg/Kg (general population)*
		8.33 mg/Kg (workers)
Inhalative	*DNEL / Long term exposure - Systemic effects*	*12.25 mg/m³ (workers)*
	DNEL / Short term exposure - Systemic effects	*12.25 mg/m³ (workers)*
CAS: 68609-97-2 Oxirane, mono[(C12-14-alkyloxy)methyl] derivs		
Dermal	*DNEL / Long term exposure - Systemic effects*	*2.35 mg/Kg bw/d (general population)*
		3.9 mg/Kg bw/d (workers)
	DNEL / Long term exposure - Local effects	*1 mg/Kg (general population)*
		1.7 mg/Kg (workers)
	DNEL / Short term exposure - Systemic effects	*10 mg/Kg (general population)*

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		17 mg/Kg (workers)
	DNEL / Short term exposure - Local effects	40 mg/Kg (general population)
		68 mg/Kg (workers)
Inhalative	DNEL / Long term exposure - Systemic effects	4.1 mg/m³ (general population)
		13.8 mg/m³ (workers)
	DNEL / Long term exposure - Local effects	1.46 mg/m³ (general population)
		0.98 mg/m³ (workers)
	DNEL / Short term exposure - Systemic effects	7.6 mg/m³ (general population)
		29 mg/m³ (workers)
	DNEL / Short term exposure - Local effects	2.9 mg/m³ (general population)
		9.8 mg/m³ (workers)

· **PNECs**	
CAS: 25068-38-6 Reaction product: bisphenol-A-(epichlorhydrin) epoxy resin (number average molecular weight ≤ 700)	
PNEC / aqua	6 mg/l (freshwater)
	0.0006 mg/l (marine water)
PNEC / sediment	0.996 mg/Kg dw (freshwater)
	0.0996 mg/Kg dw (marine water)
PNEC / soil	0.196 mg/Kg dw
PNEC / STP	10 mg/l (sewage treatment plant)
CAS: 9003-36-5 formaldehyde, oligomeric reaction products with 1-chloro-2,3-epoxypropane and phenol	
PNEC / aqua	0.003 mg/l (freshwater)
	0.0254 mg/l (intermittent releases)
	0.0003 mg/l (marine water)
PNEC / sediment	0.249 mg/Kg dw (freshwater)
	0.0294 mg/Kg dw (marine water)
PNEC / soil	237 mg/Kg dw
PNEC / STP	10 mg/l (sewage treatment plant)
CAS: 68609-97-2 Oxirane, mono[(C12-14-alkyloxy)methyl] derivs	
PNEC / aqua	0.0072 mg/l (freshwater)
	0.00072 mg/l (marine water)
PNEC / sediment	66.77 mg/Kg dw (freshwater)
	6.677 mg/Kg dw (marine water)

· **Additional information:** The lists valid during the making were used as basis.

· **8.2 Exposure controls**

· **Personal protective equipment:**

· **General protective and hygienic measures:**

The usual precautionary measures are to be adhered to when handling chemicals.
Do not eat or drink while working.
Keep away from tobacco products.
Avoid close or long term contact with the skin.
Keep away from foodstuffs, beverages and feed.
Immediately remove all soiled and contaminated clothing
Wash hands before breaks and at the end of work.
Avoid contact with the eyes and skin.
Ensure that washing facilities are available at the work place.

· **Respiratory protection:**

In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device.

Filter A/P2

· **Protection of hands:**

Protective gloves

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The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.
Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

· **Material of gloves**
Butyl rubber, BR
Nitrile rubber, NBR
The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

· **Penetration time of glove material**
For the mixture of chemicals mentioned below the penetration time has to be at least 480 minutes (Permeation according to EN 374 Part 3: Level 6).
The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

· **Eye protection:**

Tightly sealed goggles

· **Body protection:** Light weight protective clothing

SECTION 9: Physical and chemical properties

· **9.1 Information on basic physical and chemical properties**	
· **General Information**	
· **Appearance:**	
· **Form:**	Pasty
· **Colour:**	Different according to colouring
· **Odour:**	Odourless
· **Odour threshold:**	Not determined.
· **pH-value:**	Not determined.
· **Change in condition**	
· **Melting point/freezing point:**	Undetermined.
· **Initial boiling point and boiling range:**	Undetermined.
· **Flash point:**	Not applicable.
· **Flammability (solid, gas):**	Not applicable.
· **Decomposition temperature:**	Not determined.
· **Auto-ignition temperature:**	Product is not selfigniting.
· **Explosive properties:**	Product does not present an explosion hazard.
· **Explosion limits:**	
· **Lower:**	Not determined.
· **Upper:**	Not determined.
· **Vapour pressure:**	Not determined.
· **Density at 20 °C:**	1.6 g/cm³
· **Relative density**	Not determined.
· **Vapour density**	Not determined.
· **Evaporation rate**	Not determined.
· **Solubility in / Miscibility with**	
· **water:**	Not miscible or difficult to mix.
· **Partition coefficient: n-octanol/water:**	Not determined.
· **Viscosity:**	
· **Dynamic:**	Not determined.
· **Kinematic:**	Not determined.
· **9.2 Other information**	No further relevant information available.

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SECTION 10: Stability and reactivity

· **10.1 Reactivity** No further relevant information available.

· **10.2 Chemical stability**
· **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.

· **10.3 Possibility of hazardous reactions** Reacts with strong acids and oxidising agents.

· **10.4 Conditions to avoid** No further relevant information available.

· **10.5 Incompatible materials:** No further relevant information available.

· **10.6 Hazardous decomposition products:** No dangerous decomposition products known.

SECTION 11: Toxicological information

· **11.1 Information on toxicological effects**
· **Acute toxicity** Based on available data, the classification criteria are not met.

· **LD/LC50 values relevant for classification:**		
CAS: 25068-38-6 Reaction product: bisphenol-A-(epichlorhydrin) epoxy resin (number average molecular weight ≤ 700)		
Oral	LD50	>2,000 mg/kg (rat)
Dermal	LD50	>2,000 mg/kg (rabbit)
CAS: 9003-36-5 formaldehyde, oligomeric reaction products with 1-chloro-2,3-epoxypropane and phenol		
Oral	LD50	>2,000 mg/kg (rat)
Dermal	LD50	>2,000 mg/kg (rat)
CAS: 68609-97-2 Oxirane, mono[(C12-14-alkyloxy)methyl] derivs		
Oral	LD50	26,800 mg/kg (rat)
Dermal	LD50	4,000 mg/kg (rat)

· **Primary irritant effect:**
· **Skin corrosion/irritation**
Causes skin irritation.
· **Serious eye damage/irritation**
Causes serious eye irritation.
· **Respiratory or skin sensitisation**
May cause an allergic skin reaction.
· **CMR effects (carcinogenity, mutagenicity and toxicity for reproduction)**
· **Germ cell mutagenicity** Based on available data, the classification criteria are not met.
· **Carcinogenicity** Based on available data, the classification criteria are not met.
· **Reproductive toxicity** Based on available data, the classification criteria are not met.
· **STOT-single exposure** Based on available data, the classification criteria are not met.
· **STOT-repeated exposure** Based on available data, the classification criteria are not met.
· **Aspiration hazard** Based on available data, the classification criteria are not met.

SECTION 12: Ecological information

· **12.1 Toxicity**
· **Aquatic toxicity:**
No further relevant information available.

CAS: 25068-38-6 Reaction product: bisphenol-A-(epichlorhydrin) epoxy resin (number average molecular weight ≤ 700)	
EC50 / 48h	1.8 mg/l (crustacea - Daphnia magna)
LC50 / 96h	2 mg/l (fish - Oncorhyncus mykiss)
ErC50 / 72h	11 mg/l (algae - Scenedesmus capricornutum)
CAS: 9003-36-5 formaldehyde, oligomeric reaction products with 1-chloro-2,3-epoxypropane and phenol	
EC50 / 48h	1.6 mg/l
LC50 / 96h	0.55 mg/l (fish)
EC50 / 72h	1.8 mg/l (algae)
NOEC / 21d	0.3 mg/l
LC50 / 48h	0.73 mg/l (fish)

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CAS: 68609-97-2 Oxirane, mono[(C12-14-alkyloxy)methyl] derivs	
EC50 / 48h	6.07 mg/l (crustacea - Daphnia magna)
LC50 / 96h	>500 mg/l (fish)
EC50 / 72h	843 mg/l (algae)

· **12.2 Persistence and degradability**
No further relevant information available.

CAS: 68609-97-2 Oxirane, mono[(C12-14-alkyloxy)methyl] derivs	
Ready Biodegradability / 28d	87 %

· **12.3 Bioaccumulative potential** No further relevant information available.

· **12.4 Mobility in soil** No further relevant information available.
· **Ecotoxical effects:**
· **Remark:** Harmful to fish
· **Additional ecological information:**
· **General notes:**
Water hazard class 2 (German Regulation) (Self-assessment): hazardous for water
Do not allow product to reach ground water, water course or sewage system.
Danger to drinking water if even small quantities leak into the ground.
Harmful to aquatic organisms

· **12.5 Results of PBT and vPvB assessment**
· **PBT:** Not applicable.
· **vPvB:** Not applicable.

· **12.6 Other adverse effects** No further relevant information available.

SECTION 13: Disposal considerations

· **13.1 Waste treatment methods**
· **Recommendation**
Disposal must be made according to official regulations.
Must not be disposed together with household garbage. Do not allow product to reach sewage system.

· **Uncleaned packaging:**
· **Recommendation:**
Disposal must be made according to official regulations.
Packagings that may not be cleansed are to be disposed of in the same manner as the product.

SECTION 14: Transport information

· **14.1 UN-Number**	
· **ADR, ADN, IMDG, IATA**	Void
· **14.2 UN proper shipping name**	
· **ADR, ADN, IMDG, IATA**	Void
· **14.3 Transport hazard class(es)**	
· **ADR, ADN, IMDG, IATA**	
· **Class**	Void
· **14.4 Packing group**	
· **ADR, IMDG, IATA**	Void
· **14.5 Environmental hazards:**	
· **Marine pollutant:**	No
· **14.6 Special precautions for user**	Not applicable.
· **14.7 Transport in bulk according to Annex II of Marpol and the IBC Code**	Not applicable.
· **UN "Model Regulation":**	Void

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SECTION 15: Regulatory information

· **15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**
Regulation (EC) No 1907/2006 (REACH - Registration, Evaluation, Authorisation and Restriction of Chemicals)
Regulation (EC) No 1272/2008 (CLP - Classification, Labelling and Packaging of substances and mixtures)
Compilation of Safety Data Sheet: Reg.UE n. 830/2015 (amending Reg.EC n.1907/2006, Annex II)

· **Directive 2012/18/EU**
· **Named dangerous substances - ANNEX I** None of the ingredients is listed.
· **REACH**
· **REGULATION (EC) No 1907/2006 ANNEX XVII** Conditions of restriction: 3

· **15.2 Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

SECTION 16: Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· **Relevant phrases**
H315 Causes skin irritation.
H317 May cause an allergic skin reaction.
H319 Causes serious eye irritation.
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.

· **Classification according to Regulation (EC) No 1272/2008**	
Skin corrosion/irritation Serious eye damage/eye irritation Skin sensitization Hazardous to the aquatic environment - chronic hazard	The classification of the mixture is generally based on the calculation method using substance data according to Regulation (EC) No 1272/2008.

· **Contact:** LITOKOL S.p.A.
· **Abbreviations and acronyms:**
REACH: Registration, Evaluation, Authorisation and Restriction of Chemicals
CLP: Classification, Labelling and Packaging
ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
IMDG: International Maritime Code for Dangerous Goods
IATA: International Air Transport Association
GHS: Globally Harmonised System of Classification and Labelling of Chemicals
EINECS: European Inventory of Existing Commercial Chemical Substances
ELINCS: European List of Notified Chemical Substances
CAS: Chemical Abstracts Service (division of the American Chemical Society)
DNEL: Derived No-Effect Level (REACH)
PNEC: Predicted No-Effect Concentration (REACH)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
PBT: Persistent, Bioaccumulative and Toxic
vPvB: very Persistent and very Bioaccumulative
Skin Irrit. 2: Skin corrosion/irritation – Category 2
Eye Irrit. 2: Serious eye damage/eye irritation – Category 2
Skin Sens. 1: Skin sensitisation – Category 1
Aquatic Acute 1: Hazardous to the aquatic environment - acute aquatic hazard – Category 1
Aquatic Chronic 1: Hazardous to the aquatic environment - long-term aquatic hazard – Category 1
Aquatic Chronic 2: Hazardous to the aquatic environment - long-term aquatic hazard – Category 2
Aquatic Chronic 3: Hazardous to the aquatic environment - long-term aquatic hazard – Category 3

Safety data sheet
according to 1907/2006/EC, Article 31

Printing date 11.03.2019 Rev. 1 Revision: 11.03.2019

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

· **1.1 Product identifier**
· **Trade name: comp B**

· **1.2 Relevant identified uses of the substance or mixture and uses advised against**
Catalyst for EpoxyElite Evo (comp A), EpoxyÉlite EVO (FR) (comp A), LITOELASTIC EVO (comp A), LITOELASTIC EVO (FR) (comp A), Starlike EVO (comp A), Starlike Crystal EVO (comp A), Starlike ColorCrysral EVO (comp A)
· **Application of the substance / the mixture** Hardening agent/ Curing agent

· **1.3 Details of the supplier of the safety data sheet**
· **Manufacturer/Supplier:**
LITOKOL S.p.A.
Via G.Falcone, 13/1
42048 Rubiera (RE) - ITALY
Tel. +39 0522 626391 - Fax. +39 0522 620150

· **Further information obtainable from:** LITOKOL S.p.A. - Email: laboratorio@litokol.it

· **1.4 Emergency telephone number:**
UNITED KINGDOM
• National Poisons Information Service (NPIS) - Tel: +44 844 8920111

ITALY - POISON CONTROL CENTERS (24h / 365d) :
• Milano - Ospedale Niguarda Ca' Granda - Tel. +39 02 66101029
• Pavia - Centro Nazionale di Informazione Tossicologica - IRCCS Fondazione S. Maugeri - Tel. +39 0382 24444
• Firenze - Azienda Ospedaliero-Universitaria "Careggi" U.O. Tossicologia Medica - Tel. +39 055 7947819
• Bergamo - Azienda Ospedaliera Papa Giovanni XXIII - Tel. +39 800 883300
• Roma - CAV Policlinico "Umberto I" - Tel. 06 49978000
• Roma - CAV Policlinico "A. Gemelli" - Tel. 06 3054343
• Roma - CAV "Ospedale Pediatrico Bambino Gesù" - Tel. +39 06 68593726
• Foggia - Azienda Ospedaliero-Universitaria Foggia - Tel. +39 0881 732326
• Napoli - Azienda Ospedaliera "A. Cardarelli" - Tel. +39 081 7472870

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SECTION 2: Hazards identification

· **2.1 Classification of the substance or mixture**
· **Classification according to Regulation (EC) No 1272/2008**

Skin Irrit. 2	H315	Causes skin irritation.
Eye Irrit. 2	H319	Causes serious eye irritation.
Skin Sens. 1	H317	May cause an allergic skin reaction.
STOT SE 3	H335	May cause respiratory irritation.

· **2.2 Label elements**
· **Labelling according to Regulation (EC) No 1272/2008**
The substance is classified and labelled according to the CLP regulation.
· **Hazard pictograms**

GHS07

· **Signal word** Warning

· **Hazard-determining components of labelling:**
TEPA polymer adduct
3-aminomethyl-3,5,5-trimethylcyclohexylamine
3,6,9-triazaundecamethylenediamine
Polyetheramine
· **Hazard statements**
H315 Causes skin irritation.
H319 Causes serious eye irritation.
H317 May cause an allergic skin reaction.
H335 May cause respiratory irritation.
· **Precautionary statements**
P102 Keep out of reach of children.

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P261	Avoid breathing dust/fume/gas/mist/vapours/spray.
P280	Wear protective gloves / eye protection / face protection.
P303+P361+P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P312	Call a POISON CENTER/doctor if you feel unwell.
P362+P364	Take off contaminated clothing and wash it before reuse.

· **2.3 Other hazards**
· **Results of PBT and vPvB assessment**
· **PBT:** Not applicable.
· **vPvB:** Not applicable.

SECTION 3: Composition/information on ingredients

· **3.2 Mixtures**
· **Description:** Mixture of substances listed below with nonhazardous additions.

· **Dangerous components:**

	TEPA polymer adduct Skin Irrit. 2, H315; Eye Irrit. 2, H319; Skin Sens. 1A, H317; STOT SE 3, H335	78≤x<82%
CAS: 2855-13-2 EINECS: 220-666-8 Index number: 612-067-00-9 Reg.nr.: 01-2119514687-32-XXXX	3-aminomethyl-3,5,5-trimethylcyclohexylamine Skin Corr. 1B, H314; Acute Tox. 4, H302; Acute Tox. 4, H312; Skin Sens. 1, H317; Aquatic Chronic 3, H412	9≤x<10.5%
CAS: 112-57-2 EINECS: 203-986-2 Index number: 612-060-00-0 Reg.nr.: 01-2119487290-37-XXXX	3,6,9-triazaundecamethylenediamine Skin Corr. 1B, H314; Aquatic Chronic 2, H411; Acute Tox. 4, H302; Acute Tox. 4, H312; Skin Sens. 1, H317	5≤x<6%
CAS: 9046-10-0 EC number: 618-561-0	Polyetheramine Skin Corr. 1B, H314; Acute Tox. 4, H302; Acute Tox. 4, H312; Aquatic Chronic 3, H412	5≤x<6%

· **Additional information:** For the wording of the listed hazard phrases refer to section 16.

SECTION 4: First aid measures

· **4.1 Description of first aid measures**
· **General information:** Immediately remove any clothing soiled by the product.
· **After inhalation:**
Supply fresh air and to be sure call for a doctor.
In case of unconsciousness place patient stably in side position for transportation.
· **After skin contact:**
Immediately wash with water and soap and rinse thoroughly.
If skin irritation continues, consult a doctor.
· **After eye contact:**
Protect unharmed eye.
Rinse opened eye for several minutes under running water.
· **After swallowing:** Rinse out mouth and then drink plenty of water.

· **4.2 Most important symptoms and effects, both acute and delayed** No further relevant information available.

· **4.3 Indication of any immediate medical attention and special treatment needed**
No further relevant information available.

SECTION 5: Firefighting measures

· **5.1 Extinguishing media**
· **Suitable extinguishing agents:**
Use fire extinguishing methods suitable to surrounding conditions.
CO2, powder or water spray. Fight larger fires with water spray.

· **5.2 Special hazards arising from the substance or mixture**
Formation of toxic gases is possible during heating or in case of fire.

· **5.3 Advice for firefighters**
· **Protective equipment:**
Wear fully protective suit.

(Contd. of page 2)

Wear self-contained respiratory protective device.
Do not inhale explosion gases or combustion gases.
· **Additional information**
Cool endangered receptacles with water spray.
Dispose of fire debris and contaminated fire fighting water in accordance with official regulations.

SECTION 6: Accidental release measures

· **6.1 Personal precautions, protective equipment and emergency procedures**
Wear protective equipment. Keep unprotected persons away.
Ensure adequate ventilation

· **6.2 Environmental precautions:** *Do not allow to enter sewers/ surface or ground water.*

· **6.3 Methods and material for containment and cleaning up:**
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
Ensure adequate ventilation.

· **6.4 Reference to other sections**
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

SECTION 7: Handling and storage

· **7.1 Precautions for safe handling**
Use only in well ventilated areas.
Keep receptacles tightly sealed.
Prevent formation of aerosols.
Keep away from heat and direct sunlight.
· **Information about fire - and explosion protection:** *No special measures required.*

· **7.2 Conditions for safe storage, including any incompatibilities**
· **Storage:**
· **Requirements to be met by storerooms and receptacles:** *Store only in the original receptacle.*
· **Information about storage in one common storage facility:** *Not required.*
· **Further information about storage conditions:** *Store receptacle in a well ventilated area.*

· **7.3 Specific end use(s)** *No further relevant information available.*

SECTION 8: Exposure controls/personal protection

· **Additional information about design of technical facilities:** *No further data; see item 7.*

· **8.1 Control parameters**
· **Ingredients with limit values that require monitoring at the workplace:**
The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.

· **DNELs**		
CAS: 112-57-2 3,6,9-triazaundecamethylenediamine		
Oral	DNEL / Long term exposure - Systemic effects	0.53 mg/Kg bw/d (general population)
	DNEL / Short term exposure - Systemic effects	26 mg/Kg (general population)
Dermal	DNEL / Long term exposure - Systemic effects	0.32 mg/Kg bw/d (general population)
		0.74 mg/Kg bw/d (workers)
	DNEL / Short term exposure - Local effects	1.29 mg/Kg (general population)
Inhalative	DNEL / Long term exposure - Local effects	0.38 mg/m³ (general population)
	DNEL / Short term exposure - Systemic effects	2,071 mg/m³ (general population)
		6,940 mg/m³ (workers)
CAS: 9046-10-0 Polyetheramine		
Oral	DNEL / Long term exposure - Systemic effects	900 mg/Kg bw/d (general population)
Dermal	DNEL / Long term exposure - Systemic effects	900 mg/Kg bw/d (general population)
		2.5 mg/Kg bw/d (workers)
Inhalative	DNEL / Long term exposure - Systemic effects	1.6 mg/m³ (general population)
		8.8 mg/m³ (workers)

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· **PNECs**	
CAS: 2855-13-2 3-aminomethyl-3,5,5-trimethylcyclohexylamine	
PNEC / aqua	0.06 mg/l (freshwater)
	0.006 mg/l (marine water)
PNEC / sediment	5.784 mg/Kg dw (freshwater)
	0.578 mg/Kg dw (marine water)
PNEC / soil	1.121 mg/Kg dw (sewage treatment plant)
CAS: 112-57-2 3,6,9-triazaundecamethylenediamine	
PNEC / aqua	0.0068 mg/l (freshwater)
	0.0068 mg/l (marine water)
PNEC / sediment	3.43 mg/Kg dw (freshwater)
	0.343 mg/Kg dw (marine water)
PNEC / soil	0.683 mg/Kg dw
PNEC / STP	9.73 mg/l (sewage treatment plant)
CAS: 9046-10-0 Polyetheramine	
PNEC / aqua	15 mg/l (freshwater)
	150 mg/l (intermittent releases)
	0.0142 mg/l (marine water)
PNEC / sediment	132 mg/Kg dw (freshwater)
	125 mg/Kg dw (marine water)
PNEC / soil	0.0176 mg/Kg dw

· **Additional information:** The lists valid during the making were used as basis.

· **8.2 Exposure controls**

· **Personal protective equipment:**

· **General protective and hygienic measures:**

Do not eat or drink while working.
Ensure that washing facilities are available at the work place.
The usual precautionary measures are to be adhered to when handling chemicals.
Keep away from foodstuffs, beverages and feed.
Immediately remove all soiled and contaminated clothing
Wash hands before breaks and at the end of work.
Avoid contact with the eyes and skin.

· **Respiratory protection:**

Short term filter device:
Filter B

In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device.

· **Protection of hands:**

Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.
Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

· **Material of gloves**

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

· **Penetration time of glove material**

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

(Contd. on page 5)

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· ***Eye protection:***

Tightly sealed goggles

· ***Body protection:*** *Light weight protective clothing*

SECTION 9: Physical and chemical properties

· **9.1 Information on basic physical and chemical properties**	
· **General Information**	
· **Appearance:**	
· **Form:**	Fluid
· **Colour:**	Yellowish
· **Odour:**	Characteristic
· **Odour threshold:**	Not determined.
· **pH-value:**	Not determined.
· **Change in condition**	
· **Melting point/freezing point:**	Undetermined.
· **Initial boiling point and boiling range:**	180 °C
· **Flash point:**	130 °C
· **Flammability (solid, gas):**	Not applicable.
· **Decomposition temperature:**	Not determined.
· **Auto-ignition temperature:**	Product is not selfigniting.
· **Explosive properties:**	Product does not present an explosion hazard.
· **Explosion limits:**	
· **Lower:**	Not determined.
· **Upper:**	Not determined.
· **Vapour pressure:**	Not determined.
· **Density:**	Not determined.
· **Relative density**	Not determined.
· **Vapour density**	Not determined.
· **Evaporation rate**	Not determined.
· **Solubility in / Miscibility with**	
· **water:**	Not miscible or difficult to mix.
· **Partition coefficient: n-octanol/water:**	Not determined.
· **Viscosity:**	
· **Dynamic at 25 °C:**	5000 cPs
· **Kinematic:**	Not determined.
· **Solvent content:**	
· **VOC (EC)**	0.00 %
· **9.2 Other information**	No further relevant information available.

SECTION 10: Stability and reactivity

· **10.1 Reactivity** No further relevant information available.

· **10.2 Chemical stability**
· **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.

· **10.3 Possibility of hazardous reactions** No dangerous reactions known.

· **10.4 Conditions to avoid** No further relevant information available.

· **10.5 Incompatible materials:** No further relevant information available.

· **10.6 Hazardous decomposition products:** No dangerous decomposition products known.

(Contd. on page 6)

(Contd. of page 5)

SECTION 11: Toxicological information

· **11.1 Information on toxicological effects**
· **Acute toxicity** Based on available data, the classification criteria are not met.

· **LD/LC50 values relevant for classification:**		
CAS: 2855-13-2 3-aminomethyl-3,5,5-trimethylcyclohexylamine		
Oral	LD50	1,030 mg/kg (rat)
Dermal	LD50	>2,000 mg/kg (rat)
Inhalative	LC50 / 4h	>5 mg/l (rat)
CAS: 112-57-2 3,6,9-triazaundecamethylenediamine		
Oral	LD50	2,140 mg/kg (rat)
Dermal	LD50	1,260 mg/kg (rabbit)
CAS: 9046-10-0 Polyetheramine		
Oral	LD50	475 mg/kg (rat)
Dermal	LD50	2,090 mg/kg (rabbit)

· **Primary irritant effect:**
· **Skin corrosion/irritation**
Causes skin irritation.
· **Serious eye damage/irritation**
Causes serious eye irritation.
· **Respiratory or skin sensitisation**
May cause an allergic skin reaction.
· **CMR effects (carcinogenity, mutagenicity and toxicity for reproduction)**
· **Germ cell mutagenicity** Based on available data, the classification criteria are not met.
· **Carcinogenicity** Based on available data, the classification criteria are not met.
· **Reproductive toxicity** Based on available data, the classification criteria are not met.
· **STOT-single exposure**
May cause respiratory irritation.
· **STOT-repeated exposure** Based on available data, the classification criteria are not met.
· **Aspiration hazard** Based on available data, the classification criteria are not met.

SECTION 12: Ecological information

· **12.1 Toxicity**

· **Aquatic toxicity:**	
CAS: 2855-13-2 3-aminomethyl-3,5,5-trimethylcyclohexylamine	
EC50 / 48h	23 mg/l (daphnia)
EC50 / 72h	>50 mg/l (algae - Scenedesmus capricornutum)
EC50 / 96h	110 mg/l (fish)
CAS: 112-57-2 3,6,9-triazaundecamethylenediamine	
EC50 / 48h	24.1 mg/l (crustacea - Daphnia magna)
LC50 / 96h	420 mg/l (fish)
EC50 / 72h	2.1 mg/l (algae)
CAS: 9046-10-0 Polyetheramine	
EC50 / 72h	2.1-15 mg/l (algae)
EC50 / 96h	15 mg/l (fish)
NOEC / 96h	15-600 mg/l (fish)

· **12.2 Persistence and degradability** No further relevant information available.

· **12.3 Bioaccumulative potential** No further relevant information available.

· **12.4 Mobility in soil** No further relevant information available.
· **Additional ecological information:**
· **General notes:**
Water hazard class 2 (German Regulation) (Self-assessment): hazardous for water
Do not allow product to reach ground water, water course or sewage system.
Danger to drinking water if even small quantities leak into the ground.

· **12.5 Results of PBT and vPvB assessment**
· **PBT:** Not applicable.
· **vPvB:** Not applicable.

(Contd. of page 6)

· **12.6 Other adverse effects** No further relevant information available.

SECTION 13: Disposal considerations

· **13.1 Waste treatment methods**
· **Recommendation**
Disposal must be made according to official regulations.
Must not be disposed together with household garbage. Do not allow product to reach sewage system.

· **Uncleaned packaging:**
· **Recommendation:** Disposal must be made according to official regulations.

SECTION 14: Transport information

· **14.1 UN-Number**	
· **ADR, ADN, IMDG, IATA**	Void
· **14.2 UN proper shipping name**	
· **ADR, ADN, IMDG, IATA**	Void
· **14.3 Transport hazard class(es)**	
· **ADR, ADN, IMDG, IATA**	
· **Class**	Void
· **14.4 Packing group**	
· **ADR, IMDG, IATA**	Void
· **14.5 Environmental hazards:**	
· **Marine pollutant:**	No
· **14.6 Special precautions for user**	Not applicable.
· **14.7 Transport in bulk according to Annex II of Marpol and the IBC Code**	Not applicable.
· **UN "Model Regulation":**	Void

SECTION 15: Regulatory information

· **15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**
Regulation (EC) No 1907/2006 (REACH - Registration, Evaluation, Authorisation and Restriction of Chemicals)
Regulation (EC) No 1272/2008 (CLP - Classification, Labelling and Packaging of substances and mixtures)
Compilation of Safety Data Sheet: Reg.UE n. 830/2015 (amending Reg.EC n.1907/2006, Annex II)

· **Directive 2012/18/EU**
· **Named dangerous substances - ANNEX I** None of the ingredients is listed.
· **REACH**
· **REGULATION (EC) No 1907/2006 ANNEX XVII** Conditions of restriction: 3

· **15.2 Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

SECTION 16: Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· **Relevant phrases**
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.
H319 Causes serious eye irritation.
H335 May cause respiratory irritation.
H411 Toxic to aquatic life with long lasting effects.
H412 Harmful to aquatic life with long lasting effects.

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(Contd. of page 7)

· **Classification according to Regulation (EC) No 1272/2008**	
Skin corrosion/irritation Serious eye damage/eye irritation	Expert judgement
Skin sensitization Specific target organ toxicity - single exposure	The classification of the mixture is generally based on the calculation method using substance data according to Regulation (EC) No 1272/2008.

· **Contact:** LITOKOL S.p.A.

· **Abbreviations and acronyms:**

REACH: Registration, Evaluation, Authorisation and Restriction of Chemicals
CLP: Classification, Labelling and Packaging
ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
IMDG: International Maritime Code for Dangerous Goods
IATA: International Air Transport Association
GHS: Globally Harmonised System of Classification and Labelling of Chemicals
EINECS: European Inventory of Existing Commercial Chemical Substances
ELINCS: European List of Notified Chemical Substances
CAS: Chemical Abstracts Service (division of the American Chemical Society)
VOC: Volatile Organic Compounds (USA, EU)
DNEL: Derived No-Effect Level (REACH)
PNEC: Predicted No-Effect Concentration (REACH)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
PBT: Persistent, Bioaccumulative and Toxic
vPvB: very Persistent and very Bioaccumulative
Acute Tox. 4: Acute toxicity – Category 4
Skin Corr. 1B: Skin corrosion/irritation – Category 1B
Skin Irrit. 2: Skin corrosion/irritation – Category 2
Eye Irrit. 2: Serious eye damage/eye irritation – Category 2
Skin Sens. 1: Skin sensitisation – Category 1
Skin Sens. 1A: Skin sensitisation – Category 1A
STOT SE 3: Specific target organ toxicity (single exposure) – Category 3
Aquatic Chronic 2: Hazardous to the aquatic environment - long-term aquatic hazard – Category 2
Aquatic Chronic 3: Hazardous to the aquatic environment - long-term aquatic hazard – Category 3