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

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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 Crystal EVO (comp A)
· **Application of the substance / the mixture** Hardener

· **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:**
ITALY - POISONS CENTRES (24h / 365d):
• Milano - Azienda Ospedaliera Niguarda Ca' Granda - Tel. +39 02 66101029
• Pavia - Centro Nazionale d'Informazione Tossicologica - IRCCS Fondazione Salvatore Maugeri Clinica del Lavoro e della riabilitazione - Tel. +39 0382 24444
• Firenze - Azienda Ospedaliera Universitaria "Careggi" U.O. Tossicologia Medica - Tel. +39 055 7947819
• Bergamo - Azienda Ospedaliera "Papa Giovanni XXIII", tossicologia clinica - Tel. +39 800 883300
• Roma - CAV Policlinico "Umberto I", PRGM tossicologia d'urgenza - Tel. 06 49978000
• Roma - CAV del Policlinico "Agostino Gemelli", Servizio di tossicologia clinica - Tel. 06 3054343
• Roma - CAV "Ospedale Pediatrico Bambino Gesù", dipartimento emergenza e accettazione DEA - Tel. +39 06 68593726
• Foggia - Azienda Ospedaliera Universitaria riuniti, Foggia - Tel. +39 800 183459
• Napoli - Azienda Ospedaliera "Antonio Cardarelli", III Servizio di anestesia e rianimazione - Tel. +39 081 5453333
• Verona - CAV dell'Azienda ospedaliera integrata (AOUI) di Verona sede di Borgo Trento - Tel. 800 011858

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.
STOT SE 3	H335 May cause respiratory irritation.

· **2.2 Label elements**
· **Labelling according to Regulation (EC) No 1272/2008**
The product 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
· **Hazard statements**
H315 Causes skin irritation.
H319 Causes serious eye irritation.
H317 May cause an allergic skin reaction.

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H335 May cause respiratory irritation.

· **Precautionary statements**

P102	Keep out of reach of children.
P260	Do not breathe dust/fume/gas/mist/vapours/spray.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P303+P361+P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310	Immediately call a POISON CENTER/doctor.
P363	Wash contaminated clothing before reuse.

· **2.3 Other hazards**

· **Results of PBT and vPvB assessment**

· **PBT:** Not applicable.

· **vPvB:** Not applicable.

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SECTION 3: Composition/information on ingredients

· **3.2 Mixtures**

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

· **Dangerous components:**

CAS: 117317-22-3 EC number: 852-593-8	TEPA polymer adduct Skin Irrit. 2, H315; Eye Irrit. 2, H319; Skin Sens. 1A, H317; STOT SE 3, H335	≥94-<98%
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; Eye Dam. 1, H318; Acute Tox. 4, H302; Skin Sens. 1A, H317 ATE: LD50 oral: 1,030 mg/kg Specific concentration limit: Skin Sens. 1A; H317: C ≥ 0.001 %	≥1-<1.5%
CAS: 9046-10-0 EC number: 618-561-0 Reg.nr.: 01-2119557899-12-XXXX	Polyetheramine Skin Corr. 1C, H314; Eye Dam. 1, H318; Aquatic Chronic 3, H412	≥1-<1.5%

· **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. If required, provide artificial respiration. Keep patient warm. Consult doctor if symptoms persist.

· **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. Then consult a doctor.
Protect unharmed eye.

· **After swallowing:**
Rinse out mouth and then drink plenty of water.
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 or alcohol resistant foam.

· **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:**
Wear fully protective suit.
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:**
Inform respective authorities in case of seepage into water course or sewage system.
Do not allow to enter sewers/ surface or ground water.

· **6.3 Methods and material for containment and cleaning up:**
Pick up mechanically.
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.

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SECTION 7: Handling and storage

· **7.1 Precautions for safe handling**
Use only in well ventilated areas.
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:**
Store in a cool location.
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.
Keep container tightly sealed.
Protect from heat and direct sunlight.
Protect from frost.

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

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SECTION 8: Exposure controls/personal protection

· **8.1 Control parameters**

· **Ingredients with limit values that require monitoring at the workplace:**	
CAS: 2855-13-2 3-aminomethyl-3,5,5-trimethylcyclohexylamine	
MAK (Germany)	als Dampf und Aerosol;vgl.Abschn.IIb

· **Regulatory information** MAK (Germany): MAK- und BAT-Liste

· **DNELs**		
CAS: 2855-13-2 3-aminomethyl-3,5,5-trimethylcyclohexylamine		
Oral	DNEL / Long term exposure - Systemic effects	0.526 mg/Kg bw/d (general population)

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Inhalative	DNEL / Long term exposure - Local effects	0.073 mg/m³ (workers)
	DNEL / Short term exposure - Local effects	0.073 mg/m³ (workers)
CAS: 9046-10-0 Polyetheramine		
Dermal	DNEL / Long term exposure - Systemic effects	2.5 mg/Kg bw/d (workers)
Inhalative	DNEL / Long term exposure - Systemic effects	10.58 mg/m³ (workers)

· **PNECs**

CAS: 2855-13-2 3-aminomethyl-3,5,5-trimethylcyclohexylamine	
PNEC / aqua	0.06 mg/l (freshwater)
	0.23 mg/l (intermittent releases)
	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
PNEC / STP	3.18 mg/l (sewage treatment plant)
CAS: 9046-10-0 Polyetheramine	
PNEC / aqua	0.015 mg/l (freshwater)
	0.15 mg/l (intermittent releases)
	0.0142 mg/l (marine water)
PNEC / sediment	0.132 mg/Kg dw (freshwater)
	0.125 mg/Kg dw (marine water)
PNEC / soil	0.0176 mg/Kg dw
PNEC / STP	7.5 mg/l (sewage treatment plant)

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

· **8.2 Exposure controls**
· **Appropriate engineering controls** No further data; see item 7.
· **Individual protection measures, such as 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 foodstuffs, beverages and feed.
Immediately remove all soiled and contaminated clothing
Wash hands before breaks and at the end of work.
Do not inhale gases / fumes / aerosols.
Avoid contact with the eyes and skin.
Ensure that washing facilities are available at the work place.

· **Respiratory protection:**
Use suitable respiratory protective device in case of insufficient ventilation.
Short term filter device:
Filter A

· **Hand protection**

Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
Rubber gloves
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.
Value for the permeation: Level > 2

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· **Eye/face protection**

Tightly sealed goggles

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

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SECTION 9: Physical and chemical properties

· **9.1 Information on basic physical and chemical properties**	
· **General Information**	
· **Physical state**	*Fluid*
· **Colour:**	*Yellow*
· **Odour:**	*Amine-like*
· **Odour threshold:**	*Not determined.*
· **Melting point/freezing point:**	*Undetermined.*
· **Boiling point or initial boiling point and boiling range**	*180 °C*
· **Flammability**	*Product is not flammable.*
· **Lower and upper explosion limit**	
· **Lower:**	*Not determined.*
· **Upper:**	*Not determined.*
· **Flash point:**	*130 °C*
· **Decomposition temperature:**	*Not applicable.*
· **pH**	*Not determined.*
· **Viscosity:**	
· **Kinematic viscosity**	*Not determined.*
· **Dynamic at 25 °C:**	*2500 mPas*
· **Solubility**	
· **water:**	*Not miscible or difficult to mix.*
· **Partition coefficient n-octanol/water (log value)**	*Not applicable.*
· **Vapour pressure:**	*Not determined.*
· **Density and/or relative density**	
· **Density at 20 °C:**	*0.98 g/cm³*
· **Relative density**	*Not determined.*
· **Vapour density**	*Not determined.*
· **9.2 Other information**	
· **Appearance:**	
· **Form:**	*Liquid*
· **Important information on protection of health and environment, and on safety.**	
· **Auto-ignition temperature:**	*Product is not selfigniting.*
· **Explosive properties:**	*Product does not present an explosion hazard.*
· **Solvent content:**	
· **VOC (EC)**	*0.00 %*
· **Change in condition**	
· **Evaporation rate**	*Not determined.*
· **Information with regard to physical hazard classes**	
· **Explosives**	*Void*
· **Flammable gases**	*Void*
· **Aerosols**	*Void*
· **Oxidising gases**	*Void*
· **Gases under pressure**	*Void*
· **Flammable liquids**	*Void*
· **Flammable solids**	*Void*
· **Self-reactive substances and mixtures**	*Void*
· **Pyrophoric liquids**	*Void*
· **Pyrophoric solids**	*Void*
· **Self-heating substances and mixtures**	*Void*

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· **Substances and mixtures, which emit flammable gases in contact with water**	Void
· **Oxidising liquids**	Void
· **Oxidising solids**	Void
· **Organic peroxides**	Void
· **Corrosive to metals**	Void
· **Desensitised explosives**	Void

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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** No dangerous reactions known.

· **10.4 Conditions to avoid** Keep ignition sources away - Do not smoke.

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

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

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SECTION 11: Toxicological information

· **11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008**
· **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 (ATE)
Dermal	LD50	>2,000 mg/kg (rat)
Inhalative	LC50 / 4h	>5.01 mg/m³ (rat)
CAS: 9046-10-0 Polyetheramine		
Oral	LD50	2,885 mg/kg (rat)
Dermal	LD50	2,980 mg/kg (rabbit)
Inhalative	LC50 / 8h	>0.74 mg/m³ (rat)

· **Skin corrosion/irritation**
Causes skin irritation.
· **Serious eye damage/irritation**
Causes serious eye irritation.
· **Respiratory or skin sensitisation**
May cause an allergic skin reaction.
· **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.

· **11.2 Information on other hazards**

· **Endocrine disrupting properties**
None of the ingredients is listed.

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SECTION 12: Ecological information

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

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CAS: 2855-13-2 3-aminomethyl-3,5,5-trimethylcyclohexylamine	
EC50 / 48h	23 mg/l (crustacea - Daphnia magna)
LC50 / 96h	110 mg/l (fish)
EC50 / 72h	>50 mg/l (algae - Desmodesmus subspicatus)
CAS: 9046-10-0 Polyetheramine	
EC50 / 48h	80 mg/l (crustacea - Daphnia magna)
LC50 / 96h	15 mg/l (fish)
EC50 / 72h	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.

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

· **12.6 Endocrine disrupting properties** The product does not contain substances with endocrine disrupting properties.

· **12.7 Other adverse effects**
· **Additional ecological information:**
· **General notes:**
Must not reach sewage water or drainage ditch undiluted or unneutralised.
Also poisonous for fish and plankton in water bodies.
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.

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 or ID number**	
· **ADR, IMDG, IATA**	Void
· **14.2 UN proper shipping name**	
· **ADR, 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:**	Not applicable.
· **14.6 Special precautions for user**	Not applicable.
· **14.7 Maritime transport in bulk according to IMO instruments**	Not applicable.

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· **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. 878/2020 (amending Reg.EC n.1907/2006, Annex II)

· **REACH**
· **REGULATION (EC) No 1907/2006 ANNEX XVII** Conditions of restriction: 3

· **Directive 2012/18/EU**
· **Named dangerous substances - ANNEX I** None of the ingredients is listed.

· **REGULATION (EC) No 273/2004 on drug precursors**
None of the ingredients is listed.

· **REGULATION (EC) No 111/2005 laying down rules for the monitoring of trade between the Community and third countries in drug precursors**
None of the ingredients is listed.

· **REGULATION (EU) 2019/1148**

· **Annex I - RESTRICTED EXPLOSIVES PRECURSORS (Upper limit value for the purpose of licensing under Article 5(3))**
None of the ingredients is listed.

· **Annex II - REPORTABLE EXPLOSIVES PRECURSORS**
None of the ingredients is listed.

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

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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.
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.
H335 May cause respiratory irritation.
H412 Harmful to aquatic life with long lasting effects.

· **Classification according to Regulation (EC) No 1272/2008**

Skin corrosion/irritation Serious eye damage/eye irritation Skin sensitisation 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.
· **Version number of previous version:** 2
· **Abbreviations and acronyms:**
REACH: Registration, Evaluation, Authorisation and Restriction of Chemicals
CLP: Classification, Labelling and Packaging
ADR: Accord relatif au transport international 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)

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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 Corr. 1C: Skin corrosion/irritation – Category 1C
Skin Irrit. 2: Skin corrosion/irritation – Category 2
Eye Dam. 1: Serious eye damage/eye irritation – Category 1
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 3: Hazardous to the aquatic environment - long-term aquatic hazard – Category 3
· **** Data compared to the previous version altered.***