Safety Data Sheet
acc. to OSHA HCS

Printing date 12/02/2016 Rev. 3 Reviewed on 11/17/2016

1 Identification

· **Product identifier**
· **Trade name: LITOCHROM STARLIKE CRYSTAL - (comp B)**
· **Application of the substance / the mixture** Hardener

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

· **Information department:** LITOKOL S.p.A. - Email: laboratorio@litokol.it

· **Emergency telephone number:**

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

*

2 Hazard(s) identification

· **Classification of the substance or mixture**
Skin Irrit. 2 H315 Causes skin irritation.
Eye Irrit. 2A H319 Causes serious eye irritation.
Skin Sens. 1 H317 May cause an allergic skin reaction.

· **Label elements**
· **GHS label elements** The substance is classified and labeled according to the Globally Harmonized System (GHS).
· **Hazard pictograms**

GHS07

· **Signal word** Warning

· **Hazard-determining components of labeling:**
3,6,9-triazaundecamethylenediamine
· **Hazard statements**
H315 Causes skin irritation.
H319 Causes serious eye irritation.
H317 May cause an allergic skin reaction.
· **Precautionary statements**
Wear protective gloves.
Wash thoroughly after handling.
If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
If skin irritation or rash occurs: Get medical advice/attention.
IF ON SKIN: Wash with plenty of water.
Dispose of contents/container in accordance with local/regional/national/international regulations.
· **Classification system:**
· **NFPA ratings (scale 0 - 4)**

Health = 1
Fire = 1
Reactivity = 0

· **HMIS-ratings (scale 0 - 4)**

Health = 1
Fire = 1
Reactivity = 0

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

(Contd. on page 2)
US

Safety Data Sheet
acc. to OSHA HCS

Trade name: LITOCHROM STARLIKE CRYSTAL - (comp B)

(Contd. of page 1)

· **vPvB:** Not applicable.

3 Composition/information on ingredients

· **Chemical characterization: Mixtures**
· **Description:** Mixture of the substances listed below with nonhazardous additions.

· **Dangerous components:**		
CAS: 68951-85-9	Fatty acids, tall-oil, polymers with bisphenol A, diethylenetriamine, epichlorohydrin and tetraethylenepentamine	25-50%
CAS: 26950-63-0	triethylenetetramine, propoxylated	10-15%
CAS: 100-51-6	Benzyl alcohol	10-15%
CAS: 102-71-6	2,2',2''-nitrilotriethanol	2.5-5%
CAS: 112-57-2	3,6,9-triazaundecamethylenediamine	0.1-1%

4 First-aid measures

· **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.
· **After eye contact:** Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.
· **After swallowing:**
Rinse out mouth and then drink plenty of water.
Drink copious amounts of water and provide fresh air. Immediately call a doctor.
· **Information for doctor:**

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

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

5 Fire-fighting measures

· **Extinguishing media**
· **Suitable extinguishing agents:**
CO2, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.

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

· **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.

6 Accidental release measures

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

· **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.

· **Methods and material for containment and cleaning up:**
Pick up mechanically.
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
Dispose contaminated material as waste according to item 13.
Ensure adequate ventilation.

· **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.

(Contd. on page 3)

Safety Data Sheet
acc. to OSHA HCS

Trade name: LITOCHROM STARLIKE CRYSTAL - (comp B)

(Contd. of page 2)

· **Protective Action Criteria for Chemicals**

· **PAC-1:**		
CAS: 100-51-6	Benzyl alcohol	30 ppm
CAS: 102-71-6	2,2',2''-nitrilotriethanol	15 mg/m3
CAS: 112-57-2	3,6,9-triazaundecamethylenediamine	15 mg/m3

· **PAC-2:**		
CAS: 100-51-6	Benzyl alcohol	52 ppm
CAS: 102-71-6	2,2',2''-nitrilotriethanol	240 mg/m3
CAS: 112-57-2	3,6,9-triazaundecamethylenediamine	130 mg/m3

· **PAC-3:**		
CAS: 100-51-6	Benzyl alcohol	740 ppm
CAS: 102-71-6	2,2',2''-nitrilotriethanol	1,500 mg/m3
CAS: 112-57-2	3,6,9-triazaundecamethylenediamine	790 mg/m3

7 Handling and storage

· **Handling:**

· **Precautions for safe handling**
Ensure good ventilation/exhaustion at the workplace.
Prevent formation of aerosols.
· **Information about protection against explosions and fires:** No special measures required.

· **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 receptacle tightly sealed.
Protect from heat and direct sunlight.

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

8 Exposure controls/personal protection

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

· **Control parameters**
· **Components with limit values that require monitoring at the workplace:**
The following constituents are the only constituents of the product which have a PEL, TLV or other recommended exposure limit.
At this time, the other constituents have no known exposure limits.

CAS: 100-51-6 Benzyl alcohol	
WEEL	Long-term value: 10 ppm
CAS: 102-71-6 2,2',2''-nitrilotriethanol	
TLV	Long-term value: 5 mg/m³
CAS: 112-57-2 3,6,9-triazaundecamethylenediamine	
WEEL	Long-term value: 5 mg/m³ Skin; DSEN

· **Regulatory information** TLV: Threshold Limit Values (ACGIH)
· **Additional information:** The lists that were valid during the creation were used as basis.

· **Exposure controls**
· **Personal protective equipment:**
· **General protective and hygienic measures:**
Do not eat, drink, smoke or sniff 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.

(Contd. on page 4)

Safety Data Sheet
acc. to OSHA HCS

Trade name: LITOCHROM STARLIKE CRYSTAL - (comp B)

(Contd. of page 3)

· **Breathing equipment:**
Use suitable respiratory protective device in case of insufficient ventilation.
Short term filter device:
Filter B
· **Protection of hands:**

Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
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.
· **Eye protection:**

Tightly sealed goggles

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

9 Physical and chemical properties

· **Information on basic physical and chemical properties**	
· **General Information**	
· **Appearance:**	
· **Form:**	Liquid
· **Color:**	Amber
· **Odor:**	Characteristic
· **Odor threshold:**	Not determined.
· **pH-value:**	Not determined.
· **Change in condition**	
· **Melting point/Melting range:**	Undetermined.
· **Boiling point/Boiling range:**	>130 °C (>266 °F)
· **Flash point:**	>130 °C (>266 °F)
· **Flammability (solid, gaseous):**	Not applicable.
· **Ignition temperature:**	
· **Decomposition temperature:**	Not determined.
· **Auto igniting:**	Product is not selfigniting.
· **Danger of explosion:**	Product does not present an explosion hazard.
· **Explosion limits:**	
· **Lower:**	Not determined.
· **Upper:**	Not determined.
· **Vapor pressure:**	Not determined.
· **Density at 20 °C (68 °F):**	0.99 g/cm³ (8.262 lbs/gal)
· **Relative density**	Not determined.
· **Vapor 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.

(Contd. on page 5)

Safety Data Sheet
acc. to OSHA HCS

Trade name: LITOCHROM STARLIKE CRYSTAL - (comp B)

(Contd. of page 4)

· **Kinematic:**	Not determined.
· **Other information**	No further relevant information available.

10 Stability and reactivity

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

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

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

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

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

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

11 Toxicological information

· **Information on toxicological effects**
· **Acute toxicity:**

· **LD/LC50 values that are relevant for classification:**		
CAS: 26950-63-0 triethylenetetramine, propoxylated		
Oral	LD50	4190 mg/kg (rat)
Dermal	LD50	>2000 mg/kg (rabbit)
CAS: 100-51-6 Benzyl alcohol		
Oral	LD50	1620 mg/kg (rat)
Dermal	LD50	2000 mg/kg (rabbit)
Inhalative	LC50 / 4h	>4178 mg/l (rat)
CAS: 102-71-6 2,2',2''-nitrilotriethanol		
Oral	LD50	4190 mg/kg (rat)
Dermal	LD50	>2000 mg/kg (rabbit)
CAS: 112-57-2 3,6,9-triazaundecamethylenediamine		
Oral	LD50	2140 mg/kg (rat)
Dermal	LD50	1260 mg/kg (rabbit)

· **Primary irritant effect:**
· **on the skin:** Irritant to skin and mucous membranes.
· **on the eye:** Irritating effect.
· **Sensitization:** Sensitization possible through skin contact.
· **Additional toxicological information:**
The product shows the following dangers according to internally approved calculation methods for preparations:
Irritant

· **Carcinogenic categories**

· **IARC (International Agency for Research on Cancer)**		
CAS: 102-71-6	2,2',2''-nitrilotriethanol	3

· **NTP (National Toxicology Program)**
None of the ingredients is listed.

· **OSHA-Ca (Occupational Safety & Health Administration)**
None of the ingredients is listed.

12 Ecological information

· **Toxicity**

· **Aquatic toxicity:**	
CAS: 100-51-6 Benzyl alcohol	
EC50 / 48h	230 mg/l (daphnia)
LC50 / 96h	460 mg/l (fish)
LC50 / 48h	646 mg/l (fish)

(Contd. on page 6)

Safety Data Sheet
acc. to OSHA HCS

Printing date 12/02/2016 Rev. 3 Reviewed on 11/17/2016

Trade name: LITOCHROM STARLIKE CRYSTAL - (comp B)

(Contd. of page 5)

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)

· **Persistence and degradability** No further relevant information available.
· **Behavior in environmental systems:**

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

· **Mobility in soil** No further relevant information available.
· **Ecotoxical effects:**
· **Remark:** Harmful to fish
· **Additional ecological information:**
· **General notes:**
Harmful to aquatic organisms
Water hazard class 2 (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.

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

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

13 Disposal considerations

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

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

14 Transport information

· **UN-Number**	
· **DOT, ADR, ADN, IMDG, IATA**	Void
· **UN proper shipping name**	
· **DOT, ADR, ADN, IMDG, IATA**	Void
· **Transport hazard class(es)**	
· **DOT, ADR, ADN, IMDG, IATA**	
· **Class**	Void
· **Packing group**	
· **DOT, ADR, IMDG, IATA**	Void
· **Environmental hazards:**	
· **Marine pollutant:**	No
· **Special precautions for user**	Not applicable.
· **Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code**	Not applicable.
· **UN "Model Regulation":**	Void

15 Regulatory information

· **Safety, health and environmental regulations/legislation specific for the substance or mixture**
· **Sara**

· **Section 355 (extremely hazardous substances):**
None of the ingredients is listed.

· **Section 313 (Specific toxic chemical listings):**
None of the ingredients is listed.

(Contd. on page 7)

Safety Data Sheet
acc. to OSHA HCS

Printing date 12/02/2016 Rev. 3 Reviewed on 11/17/2016

Trade name: LITOCHROM STARLIKE CRYSTAL - (comp B)

(Contd. of page 6)

· **TSCA (Toxic Substances Control Act):**
All ingredients are listed.

· **Proposition 65**

· **Chemicals known to cause cancer:**
None of the ingredients is listed.

· **Chemicals known to cause reproductive toxicity for females:**
None of the ingredients is listed.

· **Chemicals known to cause reproductive toxicity for males:**
None of the ingredients is listed.

· **Chemicals known to cause developmental toxicity:**
None of the ingredients is listed.

· **Carcinogenic categories**

· **EPA (Environmental Protection Agency)**
None of the ingredients is listed.

· **TLV (Threshold Limit Value established by ACGIH)**
None of the ingredients is listed.

· **NIOSH-Ca (National Institute for Occupational Safety and Health)**
None of the ingredients is listed.

· **GHS label elements** The substance is classified and labeled according to the Globally Harmonized System (GHS).
· **Hazard pictograms**

GHS07

· **Signal word** Warning

· **Hazard-determining components of labeling:**
3,6,9-triazaundecamethylenediamine
· **Hazard statements**
H315 Causes skin irritation.
H319 Causes serious eye irritation.
H317 May cause an allergic skin reaction.
· **Precautionary statements**
Wear protective gloves.
Wash thoroughly after handling.
If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
If skin irritation or rash occurs: Get medical advice/attention.
IF ON SKIN: Wash with plenty of water.
Dispose of contents/container in accordance with local/regional/national/international regulations.

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.

· **Contact:** LITOKOL S.p.A.
· **Date of preparation / last revision** 12/02/2016 / 2
· **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
DOT: US Department of Transportation
IATA: International Air Transport Association
ACGIH: American Conference of Governmental Industrial Hygienists
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)
NFPA: National Fire Protection Association (USA)
HMIS: Hazardous Materials Identification System (USA)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
PBT: Persistent, Bioaccumulative and Toxic
vPvB: very Persistent and very Bioaccumulative

(Contd. on page 8)

Safety Data Sheet
acc. to OSHA HCS

Trade name: LITOCHROM STARLIKE CRYSTAL - (comp B)

(Contd. of page 7)

NIOSH: National Institute for Occupational Safety
OSHA: Occupational Safety & Health
TLV: Threshold Limit Value
PEL: Permissible Exposure Limit
REL: Recommended Exposure Limit
Skin Irrit. 2: Skin corrosion/irritation – Category 2
Eye Irrit. 2A: Serious eye damage/eye irritation – Category 2A
Skin Sens. 1: Skin sensitisation – Category 1
· *** Data compared to the previous version altered.**