

**Safety Data Sheet  
acc. to OSHA HCS**

Printing date 01/09/2018

Rev. 7

Reviewed on 01/09/2018

**1 Identification**

- **Product identifier**
- **Trade name: LITOKROM STARLIKE (comp A)**
- **Application of the substance / the mixture** Epoxy mortar
- **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:**

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

· **Hazard statements**

H315 Causes skin irritation.  
H319 Causes serious eye irritation.  
H317 May cause an allergic skin reaction.

· **Precautionary statements**

Avoid breathing dust/fume/gas/mist/vapors/spray  
Wear protective gloves / eye protection / face protection.  
If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.  
Continue rinsing.  
Take off contaminated clothing.  
Wash contaminated clothing before reuse.  
Dispose of contents/container in accordance with local/regional/national/international regulations.

· **Classification system:**

· **NFPA ratings (scale 0 - 4)**



· **HMIS-ratings (scale 0 - 4)**

HEALTH	2	Health = 2
FIRE	1	Fire = 1
REACTIVITY	0	Reactivity = 0

(Contd. on page 2)

# Safety Data Sheet

## acc. to OSHA HCS

Printing date 01/09/2018

Rev. 7

Reviewed on 01/09/2018

Trade name: LITOCROM STARLIKE (comp A)

(Contd. of page 1)

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

### 3 Composition/information on ingredients

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

#### · Dangerous components:

CAS: 25068-38-6	reaction product: bisphenol-A-(epichlorhydrin) epoxy resin (number average molecular weight $\bar{M}_n$ 700)	5-10%
CAS: 9003-36-5	formaldehyde, oligomeric reaction products with 1-chloro-2,3-epoxypropane and phenol	2.5-5%
CAS: 68609-97-2	oxirane, mono[(C12-14-alkyloxy)methyl] derivs	1-2.5%
CAS: 38640-62-9	Bis(isopropyl)naphthalene	1-2.5%

### 4 First aid measures

- Description of first aid measures
  - 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:
    - If skin irritation continues, consult a doctor.*
    - 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: *If symptoms persist consult 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.*
    - Do not inhale explosion gases or combustion gases.*

### 6 Accidental release measures

- Personal precautions, protective equipment and emergency procedures *Not required.*
- 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:
  - Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).*
- 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)

US

# Safety Data Sheet

## acc. to OSHA HCS

Printing date 01/09/2018

Rev. 7

Reviewed on 01/09/2018

Trade name: LITOCROM STARLIKE (comp A)

(Contd. of page 2)

## 7 Handling and storage

- **Handling:**
  - **Precautions for safe handling**  
*Keep receptacles tightly sealed.*  
*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:** *No special requirements.*
    - **Information about storage in one common storage facility:** *Not required.*
    - **Further information about storage conditions:**  
*Keep receptacle tightly sealed.*  
*Store in a cool place.*  
*Store in dry conditions.*
- **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 product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.*
  - **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 or drink while working.*  
*Keep away from tobacco products.*  
*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.*
    - **Breathing equipment:** *Not necessary if room is well-ventilated.*
  - **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**

- *Rubber gloves*
- *Neoprene 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

(Contd. on page 4)

# Safety Data Sheet

## acc. to OSHA HCS

Printing date 01/09/2018

Rev. 7

Reviewed on 01/09/2018

Trade name: LITOCROM STARLIKE (comp A)

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

(Contd. of page 3)

### 9 Physical and chemical properties

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

##### · General Information

##### · Appearance:

- |                   |                                 |
|-------------------|---------------------------------|
| · Form:           | Fluid                           |
|                   | Pasty                           |
| · Color:          | Different according to coloring |
| · Odor:           | Odorless                        |
| · Odor threshold: | Not determined.                 |

· pH-value: *Not determined.*

##### · Change in condition

- |                                |               |
|--------------------------------|---------------|
| · Melting point/Melting range: | Undetermined. |
| · Boiling point/Boiling range: | Undetermined. |

· Flash point: *Not applicable.*· 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:         | > 1 g/cm <sup>3</sup> (>8.345 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. |
| · 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** *Reacts with strong acids and oxidizing agents.*· **Conditions to avoid** *No further relevant information available.*· **Incompatible materials:** *No further relevant information available.*· **Hazardous decomposition products:** *No dangerous decomposition products known.*

(Contd. on page 5)

US

# Safety Data Sheet

## acc. to OSHA HCS

Printing date 01/09/2018

Rev. 7

Reviewed on 01/09/2018

Trade name: LITOCROM STARLIKE (comp A)

(Contd. of page 4)

### 11 Toxicological information

· **Information on toxicological effects**

· **Acute toxicity:**

· **LD/LC50 values that are relevant for classification:**

**CAS: 25068-38-6 reaction product: bisphenol-A-(epichlorhydrin) epoxy resin (number average molecular weight  $\bar{M}_n$  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: 38640-62-9 Bis(isopropyl)naphthalene**

Oral	LD50	>4,000 mg/kg (rat)
Dermal	LD50	>4,000 mg/kg (rat)
Inhalative	LC50 / 4h	>5.64 mg/l (rat) (OECD 403)

· **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: 14808-60-7	Quartz (SiO <sub>2</sub> )	1
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· **NTP (National Toxicology Program)**

CAS: 14808-60-7	Quartz (SiO <sub>2</sub> )	K
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· **OSHA-Ca (Occupational Safety & Health Administration)**

None of the ingredients is listed.

### 12 Ecological information

· **Toxicity**

· **Aquatic toxicity:**

No further relevant information available.

**CAS: 25068-38-6 reaction product: bisphenol-A-(epichlorhydrin) epoxy resin (number average molecular weight  $\bar{M}_n$  700)**

EC50 / 48h	1.8 mg/l (crustacea - <i>Daphnia magna</i> )
LC50 / 96h	2 mg/l (fish - <i>Oncorhynchus mykiss</i> )
ErC50 / 72h	11 mg/l (algae - <i>Scenedesmus capricornutum</i> )

**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)

**CAS: 38640-62-9 Bis(isopropyl)naphthalene**

EC50 / 48h	0.16 mg/l (daphnia)
LC50 / 96h	0.5 mg/l (fish)
EC50 / 72h	0.15 mg/l (algae)
NOEC / 21d	0.0118 mg/l (daphnia)

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

(Contd. on page 6)

US

**Safety Data Sheet**  
acc. to OSHA HCS

Printing date 01/09/2018

Rev. 7

Reviewed on 01/09/2018

Trade name: LITOCROM STARLIKE (comp A)

(Contd. of page 5)

## · Behavior in environmental systems:

## · Bioaccumulative potential

CAS: 38640-62-9 Bis(isopropyl)naphthalene

log Kow 6.081

· Mobility in soil *No further relevant information available.*

## · Ecotoxicological effects:

· Remark: *Harmful to fish*

## · Additional ecological information:

## · General notes:

*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.**Harmful to aquatic organisms*

## · 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

· Stowage Category *Not applicable.**A*

## · 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.*

## · TSCA (Toxic Substances Control Act):

*All ingredients are listed.*

(Contd. on page 7)

US

# Safety Data Sheet

## acc. to OSHA HCS

Printing date 01/09/2018

Rev. 7

Reviewed on 01/09/2018

Trade name: LITOKROM STARLIKE (comp A)

(Contd. of page 6)

· **Proposition 65**· **Chemicals known to cause cancer:**CAS: 14808-60-7 Quartz (SiO<sub>2</sub>)· **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)**CAS: 14808-60-7 Quartz (SiO<sub>2</sub>)

A2

· **NIOSH-Ca (National Institute for Occupational Safety and Health)**CAS: 14808-60-7 Quartz (SiO<sub>2</sub>)· **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:**

reaction product: bisphenol-A-(epichlorhydrin) epoxy resin (number average molecular weight  $\geq$  700)  
 formaldehyde, oligomeric reaction products with 1-chloro-2,3-epoxypropane and phenol  
 oxirane, mono[(C12-14-alkyloxy)methyl] derivs

· **Hazard statements**

H315 Causes skin irritation.  
 H319 Causes serious eye irritation.  
 H317 May cause an allergic skin reaction.

· **Precautionary statements**

Avoid breathing dust/fume/gas/mist/vapors/spray  
 Wear protective gloves / eye protection / face protection.  
 If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.  
 Continue rinsing.  
 Take off contaminated clothing.  
 Wash contaminated clothing before reuse.  
 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** 01/09/2018 / 6· **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)

US

**Safety Data Sheet**  
**acc. to OSHA HCS**

Printing date 01/09/2018

Rev. 7

Reviewed on 01/09/2018

**Trade name: LITOCROM STARLIKE (comp A)**

(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.**

US



**Safety Data Sheet  
acc. to OSHA HCS**

Printing date 12/14/2016

Rev. 7

Reviewed on 11/08/2016

**1 Identification**

- **Product identifier**
  - **Trade name: LITOKROM STARLIKE (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/protective clothing/eye protection/face protection.  
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)**



· **HMIS-ratings (scale 0 - 4)**



· **Other hazards**

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

(Contd. on page 2)

# Safety Data Sheet

## acc. to OSHA HCS

Printing date 12/14/2016

Rev. 7

Reviewed on 11/08/2016

Trade name: LITOCROM STARLIKE (comp B)

· vPvB: Not applicable.

(Contd. of page 1)

### 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	58-62%
CAS: 26950-63-0	triethylenetetramine, propoxylated	1-1.5%
CAS: 112-57-2	3,6,9-triazaundecamethylenediamine	1-1.5%

### 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.

- Do not induce vomiting; immediately call for medical help.

- **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:**

- CO<sub>2</sub>, 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

Printing date 12/14/2016

Rev. 7

Reviewed on 11/08/2016

Trade name: LITOCROM STARLIKE (comp B)

(Contd. of page 2)

## 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 constituent is the only constituent of the product which has a PEL, TLV or other recommended exposure limit.*  
*At this time, the other constituents have no known exposure limits.*

<b>CAS: 112-57-2 3,6,9-triazaundecamethylenediamine</b>	
<b>WEEL</b>	<i>Long-term value: 5 mg/m<sup>3</sup></i> <i>Skin; DSEN</i>

- **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.*
    - **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.*

(Contd. on page 4)

US

# Safety Data Sheet

## acc. to OSHA HCS

Printing date 12/14/2016

Rev. 7

Reviewed on 11/08/2016

Trade name: LITOCROM STARLIKE (comp B)

(Contd. of page 3)

· 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 colored
- Odor: Amine-like
- Odor threshold: Not determined.

· pH-value: Not determined.

#### · Change in condition

- Melting point/Melting range: Undetermined.
- Boiling point/Boiling range: 200 °C (392 °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 applicable.

· Density at 20 °C (68 °F): 0.98 g/cm<sup>3</sup> (8.178 lbs/gal)

- Relative density: Not determined.
- Vapor density: Not determined.
- Evaporation rate: Not determined.

#### · Solubility in / Miscibility with

· Water: Not determined.

· Partition coefficient (n-octanol/water): Not determined.

#### · Viscosity:

- Dynamic: Not determined.
- Kinematic: Not determined.

#### · Solvent content:

· Solids content: 100.0 %

· 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.

(Contd. on page 5)

# Safety Data Sheet

## acc. to OSHA HCS

Printing date 12/14/2016

Rev. 7

Reviewed on 11/08/2016

Trade name: LITOCROM STARLIKE (comp B)

(Contd. of page 4)

· **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: 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)**

*None of the ingredients is listed.*

· **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: 112-57-2 3,6,9-triazaundecamethylenediamine**

EC50 / 48h	24.1 mg/l (crustacea - <i>Daphnia magna</i> )
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.*

· **Additional ecological information:**

· **General notes:**

*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.*

(Contd. on page 6)

US

# Safety Data Sheet

## acc. to OSHA HCS

Printing date 12/14/2016

Rev. 7

Reviewed on 11/08/2016

Trade name: LITOCROM STARLIKE (comp B)

(Contd. of page 5)

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

### 14 Transport information

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

- **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

(Contd. on page 7)

US

**Safety Data Sheet**  
acc. to OSHA HCS

Printing date 12/14/2016

Rev. 7

Reviewed on 11/08/2016

**Trade name: LITOCROM STARLIKE (comp B)**

(Contd. of page 6)

- **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/protective clothing/eye protection/face protection.*  
*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** *12/14/2016 / 6*
- **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*  
*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.**

US