Section 1: Identification of the substance or mixture and the company

1.1. Product Identifier

EM-Tec AG30 long pot file, extreme conductivity silver filled epoxy

1.2 Relevant identified uses of the substance or mixture and uses advised against

Silver filled electrically conductive epoxy resin for use with hardener. Making electrically conductive bonds.

Uses advised against: Not available

1.3. Details of the supplier of the Safety Data Sheet

Vof Micro to Nano
Wateringweg 79
2031EK Haarlem
Netherlands
Tel: +31(0)85-2013155
E: info@microtonano.com

1.4 Emergency telephone number

112 (NLD) or your national emergency telephone number for chemical spills, leaks, fires, exposures or accidents

Section 2: Hazards identification

2.1. Classification of the substance or mixture

Physical: Low flammability
Health: Skin corrosion/irritation category 2
Environment: Chronic aquatic hazard category 1

Classification according to Regulation EC Nr. 1272/2008

Xi: Irritant
Xn: Harmful
Health: R38: Irritating to skin
Physical: Not classified
Environment: R51/53: Toxic to aquatic organisms, may cause long-term adverse effects in...
Safety Data Sheet

Product name: EM-Tec AG30 Silver filled epoxy, part A
Document Nr.: SDS00115002430A-02
Date: September 14th 2017
Version: 2.0

Other hazards:
the aquatic environment
Not classified

2.2 Labeling elements

Labelling accordance to Regulation EC Nr. 1272/2008

Hazard pictogramm(s):

Signal word: Warning

Hazard statement(s):
H317: May cause an allergic skin reaction
H341: Suspected of causing genetic defects
H410: Very toxic to aquatic life with long lasting effects

Precautionary statement(s)
Prevention:
P102: Keep out of reach of children
P201+P202: Obtain special instructions before use. Do not handle until safety precautions have read and understood
P261: Avoid breathing fumes/vapours/mist
P270: Do not eat, drink or smoke when using this product
P 272: Contaminated work clothing should not be allowed out of the workplace
P 273: Avoid release to the environment
P280: Wear protective gloves/protective clothing/eye protection/face protection

Response:
P308+P313: If exposed or concerned: Get medical attention
P302+P352: If on skin: Wash with plenty of water and soap.
P333+P313: If skin irritation or a rash occurs: Get medical attention
P362+P364: Take of contaminated clothing and wash before reuse
P391: Collect spillage

Storage:
P405: Store locked up

Disposal:
P501: Dispose of contents/container in accordance to local/regional/international regulations

Supplemental hazard info: none

2.3 Other hazards
Argyria warning: Long term ingestion or inhalation of silver dust can lead to an irreversible blue-grey discoloration of the skin

Dermatitis or Eczema’s: Prolonged and repeated exposure to uncured epoxy resins may cause dermatitis or eczema’s

Section 3: Composition / information on components

3.1. Substances

Not applicable

3.2 Mixtures

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS Nr.</th>
<th>WT%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Silver flakes (&lt;1mm) - Ag</td>
<td>7440-22-4</td>
<td>60-90</td>
</tr>
<tr>
<td>4,4’-methylene bis [N,N-bis(2-oxiranylmethyl) aniline]</td>
<td>28768-32-3</td>
<td>10-30</td>
</tr>
<tr>
<td>Neopentyl glycol diglycidyl ether</td>
<td>17557-23-2</td>
<td>1-5</td>
</tr>
</tbody>
</table>

(* Explanation notes: see section 16)

Section 4: First aid measures

4.1. Description of first aid measures

**Contact with eyes:** Rinse cautiously with water for several minutes. If possible, remove contact lenses. Continue rinsing. Seek medical attention if irritation persists.

**Contact with skin:** Wash with water and soap. Seek medical attention if irritation persists.

**Inhalation:** Fresh air, keep warm and at rest. Seek medical attention if ill effects occur.

**Ingestion:** If swallowed, do not induce vomiting. Seek immediate medical advice. If vomiting appears imminent or occurs hold patient's head down, lower than their hips to help avoid possible aspiration of vomitus. Never give liquid to a person with reduced awareness. Give water to rinse out mouth, then provide water slowly as much as casually can comfortably drink. Avoid giving milk or oils. Avoid giving alcohol.

4.2. Important symptoms and effects, either immediate or delayed
Section 5: Firefighting Measures

5.1. Extinguishing media

Use dry sand, graphite powder or dry sodium chloride based extinguishers. DO NOT USE WATER, CO2 or FOAM.

5.2 Special hazards arising from the substance or mixture

Not flammable or combustible, but will burn if involved in a fire. Produces carbon oxides (CO, CO2), irritating smoke and toxic fumes in fires.

5.3 Advice to firefighters

Fight fire from a safe distance, with adequate cover. Wear self-contained breathing apparatus and full firefighting turn-out gear.

Section 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Ensure adequate ventilation. Wear suitable protective clothing including eye/face protection.

6.2 Environmental precautions
Avoid release to the environment
Do not allow to enter public sewers and waterways

6.3 Methods and material for containment and clean up

Clean up spills immediately
Collect spillage and wipe residue with a paper towel wetted with alcohol.
Collect spillage and dirty towels in a sealable waste container
Wash spill area with soap and water to remove last traces of residue

6.4 Reference to other sections

For further information see section 8

Section 7: Handling and storage

7.1. Precautions for safe handling

Avoid breathing dust/fumes/mist/vapours
Ensure adequate ventilation
Avoid contact with skin and eyes
Wash thoroughly after use
Wear protective gloves/protective clothing/eye protection

7.2 Conditions for safe storage, including any incompatibilities

Store locked up in a cool dry place
Keep out of reach of children

7.3 Specific end uses(s)

Silver filled electrically conductive epoxy resin for use with hardener.
Making electrically conductive bonds.

Section 8: Exposure control and personal protection

8.1. Control parameters

Exposure limits

Wateringweg 79  T +31-85-2013155
2031EK Haarlem  E info@microtonano.com
The Netherlands  I www.microtonano.com
Product name: EM-Tec AG30 Silver filled epoxy, part A
Date: September 14th 2017
Document Nr.: SDS00115002430A-02
Version: 2.0

Occupational exposure limits (OEL)

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>TWA</th>
<th>STEL</th>
<th>Peak</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Silver flakes (&lt;1mm) - Ag</td>
<td>0.1mg/m3</td>
<td>Not available</td>
<td>Not available</td>
<td>Not available</td>
</tr>
<tr>
<td>4,4'-methylenebis[N,N-bis(2-oxiranylmethyl) aniline]</td>
<td>Not available</td>
<td>Not available</td>
<td>Not available</td>
<td>Not available</td>
</tr>
<tr>
<td>Neopentyl glycol diglycidyl ether</td>
<td>Not available</td>
<td>Not available</td>
<td>Not available</td>
<td>Not available</td>
</tr>
<tr>
<td>EM-Tec AG30 Silver filled epoxy, part A</td>
<td>Not available</td>
<td>Not available</td>
<td>Not available</td>
<td>Not available</td>
</tr>
</tbody>
</table>

8.2 Exposure controls

Control procedures: Ensure adequate ventilation
Personal protection: Take precautions to avoid contact with eyes and skin when handling the products
Inhalation: In case of insufficient ventilation, wear suitable respiratory equipment:
Air purifying respirator with organic gas/vapour cartridge (type A)
Hands and skin: Wear suitable gloves against chemicals; recommended gloves:
Nitrile
Eyes: Wear safety goggles or full-face protection

Section 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance/physical state: Solid, paste
Colour: Silver grey
Odour: Not available
pH: Not available
Boiling point/range: Not available
Flash point: ≥127°C (closed cup)
Evaporation rate: Not available
Explosion limits: upper limit: Not available
lower limit: Not available
Vapour pressure: Not available
Specific gravity: 3.56 g/cm3 @ 20°C
Solubility in water: Insoluble
Auto-ignition: Not available
Viscosity @40°C: >>20.5 mm²/s

9.2 Other information
Section 10: Stability and reactivity

10.1 Reactivity

Reacts with amines

10.2 Chemical stability

Stable at normal temperatures and pressures

10.3 Possibility of hazardous reactions

No hazardous reactions known if used for its intended purposes

10.4 Conditions to avoid

Incompatible substances

10.5 Incompatible materials

Strong oxidising agents, strong acids, strong bases, acetylene, ammonia, strong hydrogen peroxides

10.6 Hazardous decomposition products

Carbon oxides (CO, CO2), irritating smoke and toxic fumes

Section 11: Toxicological information

11.1 Information on toxicological effects

Information on likely routes of exposure:

- Inhalation: May cause cough, irritation of the respiratory tract, sore throat or asthma
- Ingestion: May cause irritation
- Skin contact: May cause mild skin irritation, redness or rash
- Eye contact: May cause redness, mild eye irritation
- Chronic: Prolonged and repeated exposure may lead to skin sensitisation

Toxicological data:
Section 12: Ecological information

12.1. Toxicity

Very toxic to aquatic life

12.2 Persistence and degradability

The content is not readily biodegradable

12.3 Bioaccumulative potential

No information available

12.4 Mobility in soil

No information available

12.5 Results of PBT and vPvB assessment

No information available

12.6 Hazardous decomposition products
Section 13: Disposal considerations

13.1. Waste treatment methods

Product: This material and its container must be disposed of in a safe way. Do not discharge into drains or the environment, dispose to an authorised waste collection point.

National regulations: Disposal should be in accordance with local, state or national legislation.

Section 14: Transport information

Labels required:

14.1. UN number

UN-number: 3077

14.2 UN proper shipping name

Proper shipping name: Environmentally hazardous substance, solid, N.O.S.

14.3 Transport hazard class(es)

Class: 9
ADR/RID-Classification code: E1

14.4 Packing group

Packing: III
Limited Quantity: 5kg
Excepted Quantity: 30g

14.5 Incompatible materials

ADR/RID- Environmentally hazardous: Not applicable
Safety Data Sheet

Product name: EM-Tec AG30 Silver filled epoxy, part A
Document Nr.: SDS00115002430A-02
Date: September 14th 2017
Version: 2.0

IMDG-Marine pollutant: Yes
IATA/ICAO-Environmentally hazardous: Not applicable

14.6 Special precautions for user
Not applicable

14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC code
Not applicable

Section 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture
UN-number: 3077

15.2 Chemical safety assessment
All substances are listed

Section 16: Other information

RoHS Directive Compliant
This product is fully compliant with the directive 2100/65/EU Annex II (RoHS). It does not contain any lead, cadmium, mercury, hexavalent chromium, PBB's or PBDE's.

WEEE
This product is not a piece of electrical or electronic equipment, and it therefore not governed by Directive 2002/96/EC on waste electrical and electronic equipment (WEEE)

Abbreviations:
Asp. Tox Aspiration hazard
Carc. Carcinogenicity
Exp. Exposure
Flam. Flammable
GHS Global Harmonised System of Classification of Labelling Chemicals
Irrit. Irritant
LC50 Lethal Concentration 50%
LCLo Lowest published lethal concentration
LD50 Lethal Dose 50%
N/A Not applicable
N/E Not estimated
Safety Data Sheet

Product name: EM-Tec AG30 Silver filled epoxy, part A
Document Nr.: SDS00115002430A-02
Date: September 14th 2017
Version: 2.0

PBT Persistent Bioaccumulative and Toxic
WEL Workplace Exposure Limit
Repr. Reproductive toxicant
RoHS Restriction of Hazardous Substance
SEM Scanning Electron Microscope
STEL Short-Term Exposure Limit
STOT Specific Target Organ Toxicity
TCLo Lowest published toxic concentration
vPvB very Persistent and very Bioaccumulative
WEEE Waste Electrical and Electronic Equipment

DSD / DPD label elements

Full Text Risk and Hazard codes
H317: May cause an allergic skin reaction
H341: Suspected of causing genetic defects
H411: Toxic to aquatic life with long lasting effects
R38: Irritating to skin
R51/53: Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment

Safety advice:
S02 – Keep out of reach of children.
S09 – Keep container in a well-ventilated place.
S13 – Keep away from food, drink and animal feeding stuff.
S23 – Do not breath gas/fumes/vapour/spray.
S26 – In case of contact with eyes, rinse with plenty of water and seek medical help.
S281 – After contact with skin, wash immediately with detergent and plenty of waterways.
S29 – Do not empty in drains.
S35 – This material and its container must be disposed of in a safe way.
S36 – Wear suitable protective clothing.
S37 – Wear suitable gloves.
S38 – In case of insufficient ventilation, wear suitable respiratory equipment.
S39 - Wear eye / face protection.
S40 – In case of insufficient ventilation, wear suitable respiratory equipment.
S43 – In case of fire use....
S45 – In case of accident or if you feel unwell, immediately contact Doctor or Poisons information center (show label if possible).
S46 – If swallowed, seek immediate medical advice, and show label if possible.
SS2 – Not recommended for interior use on large surfaces.
SS3 – Avoid exposure – obtain special instructions before use.
SS6 – Dispose of this material and its container at hazardous or special waste collection point.
SS7 – Use appropriate container to avoid environment contamination.
S61 – Avoid release to the environment
S63 – In case of accident by inhalation, remove casualty to fresh air and keep at rest.
S64 – If swallowed, rinse mouth with water (only if person is conscious)

This product should be stored, handled, and used in accordance with good industrial hygiene practices and in accordance with any legal regulation.
The information contained herewith is based on the present state of our knowledge and is intended to describe the product from the point of view of safety requirements. It does not guarantee any specific properties.
It is the responsibility of the user to query and verify any information seeming suspect or where doubt on the validity may exist. The buyer assumes all responsibility of using and handling the product in accordance with local, state, federal and international regulations.
Section 1: Identification of the substance or mixture and the company

1.1. Product Identifier

EM-Tec AG30 long pot file, extreme conductivity silver filled epoxy

1.2 Relevant identified uses of the substance or mixture and uses advised against

Silver filled electrically conductive epoxy hardener for use with resin.
Making electrically conductive bonds.
Uses advised against: Not available

1.3. Details of the supplier of the Safety Data Sheet

Vof Micro to Nano
Wateringweg 79
2031EK Haarlem
Netherlands
Tel: +31(0)85-2013155
E: info@microtonano.com

1.4 Emergency telephone number

112 (NLD) or your national emergency telephone number for chemical spills, leaks, fires, exposures or accidents

Section 2: Hazards identification

2.1. Classification of the substance or mixture

<table>
<thead>
<tr>
<th>Physical:</th>
<th>Low flammability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Health:</td>
<td>Corrosive to eyes category 1</td>
</tr>
<tr>
<td></td>
<td>Skin corrosion/irritation category 1</td>
</tr>
<tr>
<td>Environment:</td>
<td>Chronic aquatic hazard category 1</td>
</tr>
<tr>
<td></td>
<td>Acute aquatic hazard category 1</td>
</tr>
<tr>
<td>Other hazards:</td>
<td>None</td>
</tr>
</tbody>
</table>

Classification according to Regulation EC Nr. 1272/2008

Xi: Irritant
Xn: Harmful
C: Corrosive

Health: R38: Irritating to skin
Safety Data Sheet

Product name: EM-Tec AG30 Silver filled epoxy, part B
Document Nr.: SDS00115002430B-02
Date: September 14th 2017
Version: 2.0

Physical Environment: R41: Risk of serious damage to eyes
Not classified
R51/53: Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment
Not classified

Other hazards: Not classified

2.2 Labeling elements

Labelling accordance to Regulation EC Nr. 1272/2008

Hazard pictogram(s):

Signal word:
Danger

Hazard statement(s):
H318: Causes serious eye damage
H315: Causes skin irritation
H317: May cause an allergic skin reaction
H410: Very toxic to aquatic life with long lasting effects

Precautionary statement(s)
Prevention:
P102: Keep out of reach of children
P201+P202: Obtain special instructions before use. Do not handle until safety precautions have read and understood
P261: Avoid breathing fumes/vapours/mist
P270: Do not eat, drink or smoke when using this product
P 272: Contaminated work clothing should not be allowed out of the workplace
P 273: Avoid release to the environment
P280: Wear protective gloves/protective clothing/eye protection/face protection

Response:
P308+P313: If exposed or concerned: Get medical attention
P302+P352: If on skin: Wash with plenty of water and soap.
P333+P313: If skin irritation or a rash occurs: Get medical attention
P362+P364: Take of contaminated clothing and wash before reuse
P391: Collect spillage

Storage:
P405: Store locked up

Wateringweg 79 T +31-85-2013155
2031EK Haarlem E info@microtonano.com
The Netherlands I www.microtonano.com
**Safety Data Sheet**

**Product name:** EM-Tec AG30 Silver filled epoxy, part B

**Document Nr.:** SDS00115002430B-02

**Date:** September 14th 2017

**Version:** 2.0

---

**Disposal:**

P501: Dispose of contents/container in accordance to local/regional/ international regulations

**Supplemental hazard info:**

none

---

### 2.3 Other hazards

**Argyria warning:** Long term ingestion or inhalation of silver dust can lead to an irreversible blue-grey discoloration of the skin

---

## Section 3: Composition / information on components

### 3.1. Substances

Not applicable

### 3.2 Mixtures

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS Nr.</th>
<th>WT%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Silver flakes (&lt;1mm) - Ag</td>
<td>7440-22-4</td>
<td>60-90</td>
</tr>
<tr>
<td>9,12-octadecadienoid acid based polyamidoamine</td>
<td>68541-13-9</td>
<td>7-13</td>
</tr>
<tr>
<td>Fatty acid-polyethyamine polymer</td>
<td>68082-29-1</td>
<td>5-10</td>
</tr>
<tr>
<td>3,3’-[Oxybis(2,1-ethane-diylxy)]bis-1-propanamine</td>
<td>4246-51-9</td>
<td>1-5</td>
</tr>
<tr>
<td>triethylenetetramine</td>
<td>112-24-3</td>
<td>0.5-1.5</td>
</tr>
</tbody>
</table>

(* Explanation notes: see section 16*)

---

## Section 4: First aid measures

### 4.1. Description of first aid measures

**Contact with eyes:** Rinse cautiously with water for several minutes. If possible, remove contact lenses. Continue rinsing. Seek medical attention if irritation persists.

**Contact with skin:** Wash with water and soap. Seek medical attention if irritation persists.

**Inhalation:** Fresh air, keep warm and at rest. Seek medical attention of ill effects occur

**Ingestion:** If swallowed, do not induce vomiting. Seek immediate medical advice
If vomiting appears imminent or occurs hold patient's head down, lower than their hips to help avoid possible aspiration of vomitus. Never give liquid to a person with reduced awareness. Give water to rinse out mouth, then provide water slowly as much as casually can comfortably drink. Avoid giving milk or oils. Avoid giving alcohol.

4.2. Important symptoms and effects, either immediate or delayed

**Eye contact:** Corrosive to eyes. Symptoms: redness, severe irritation, pain, burns

**Skin contact:** Irritating to skin. Symptoms: redness, severe irritation, rash (allergic contact dermatitis)

**Inhalation:** May cause irritation of the respiratory tract. Not available

**Ingestion:** May cause digestive tract irritation. Symptoms: sore throat, abdominal pain, nausea, vomiting

4.3. Indication of any immediate medical attention and special treatment

**General advise:** If you feel unwell, seek medical advice; show product label if possible. If symptoms persist, always call a doctor.

Section 5: Firefighting Measures

5.1. Extinguishing media

Use dry sand, graphite powder or dry sodium Chloride based extinguishers. DO NOT USE WATER, CO2 or FOAM

5.2 Special hazards arising from the substance or mixture

Not flammable or combustible, but will burn if involved in a fire. Produces carbon oxides (CO, CO2), irritating smoke and toxic fumes in fires. Inhalation of toxic smoke or fumes may have delayed effects. Exposed person may need to be put under surveillance for 48 hrs.

5.3 Advice to firefighters

Fight fire from a safe distance, with adequate cover. Wear self-contained breathing apparatus and full firefighting turn-out gear.
Section 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Ensure adequate ventilation
Wear suitable protective clothing including eye/face protection

6.2 Environmental precautions

Avoid release to the environment
Do not allow to enter public sewers and waterways

6.3 Methods and material for containment and clean up

Clean up spills immediately
Collect spillage and wipe residue with a paper towel wetted with alcohol.
Collect spillage and dirty towels in a sealable waste container made of plastic or steel
Avoid containers with copper, aluminium, zinc or galvanised surfaces since the waste material can slowly oxidises these metals.
Wash spill area with soap and water to remove last traces of residue

6.4 Reference to other sections

For further information see section 8

Section 7: Handling and storage

7.1. Precautions for safe handling

Avoid breathing dust/fumes/mist/vapours
Ensure adequate ventilation
Avoid contact with skin and eyes
Wash thoroughly after use
Wear protective gloves/protective clothing/eye protection

7.2 Conditions for safe storage, including any incompatibilities

Store locked up in a cool dry place
Keep out of reach of children

7.3 Specific end uses(s)
Silver filled electrically conductive epoxy hardener for use with resin. Making electrically conductive bonds.

Section 8: Exposure control and personal protection

8.1. Control parameters

Exposure limits

Occupational exposure limits (OEL)

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>TWA</th>
<th>STEL</th>
<th>Peak</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Silver flakes (&lt;1mm) - Ag</td>
<td>0.1mg/m3</td>
<td>Not available</td>
<td>Not available</td>
<td>Not available</td>
</tr>
<tr>
<td>triethylenetetramine</td>
<td>0.5mg/m3</td>
<td>Not available</td>
<td>Not available</td>
<td>Not available</td>
</tr>
<tr>
<td>EM-Tec AG30 Silver filled epoxy, part B</td>
<td>Not available</td>
<td>Not available</td>
<td>Not available</td>
<td>Not available</td>
</tr>
</tbody>
</table>

8.2 Exposure controls

- Control procedures: Ensure adequate ventilation
- Personal protection: Take precautions to avoid contact with eyes and skin when handling the products
- Inhalation: In case of insufficient ventilation, wear suitable respiratory equipment:
  - Air purifying respirator with organic gas/vapour cartridge (type A)
- Hands and skin: Wear suitable gloves against chemicals; recommended gloves: Nitrile
- Eyes: Wear safety goggles or full-face protection

Section 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

- Appearance/physical state: Solid, paste
- Colour: Silver grey
- Odour: Amine-like
- pH: Not available
- Boiling point/range: >221°C
- Flash point: >93°C (closed cup)
- Evaporation rate: Not available

<table>
<thead>
<tr>
<th>Explosion limits: upper limit</th>
<th>Not available</th>
</tr>
</thead>
<tbody>
<tr>
<td>Explosion limits: lower limit</td>
<td>Not available</td>
</tr>
<tr>
<td>Vapour pressure:</td>
<td>&lt;0.48 KpA</td>
</tr>
</tbody>
</table>

Micro to Nano
Innovative Microscopy Supplies

Wateringweg 79
2031EK Haarlem
The Netherlands
T +31-85-2013155
E info@microtonano.com
I www.microtonano.com
**Section 10: Stability and reactivity**

**10.1 Reactivity**

Reacts exothermically with ketones and epoxides. May react violently with peroxides. May slowly attack metals such as aluminium, zinc, copper and their alloys.

**10.2 Chemical stability**

Stable at normal temperatures and pressures

**10.3 Possibility of hazardous reactions**

No hazardous reactions known if used for its intended purposes

**10.4 Conditions to avoid**

Avoid excessive heat and incompatible substances

**10.5 Incompatible materials**

Strong oxidising agents, strong acids, peroxides

**10.6 Hazardous decomposition products**

Carbon oxides (CO, CO2), ammonia, nitric aces, nitrogen oxides (NOx) and silver metal fumes

**Section 11: Toxicological information**

**11.1 Information on toxicological effects**

Information on likely routes of exposure:
### Toxicological data:

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>Toxicity</th>
<th>Irritation</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Silver, metal</strong></td>
<td>Dermal (rabbit) LD50: 2000mg/kg</td>
<td>Not established</td>
</tr>
<tr>
<td></td>
<td>Inhalation (rat) LC50: 5.16mg/L (4h)</td>
<td>Not established</td>
</tr>
<tr>
<td></td>
<td>Oral (Guinea pig) LD50: &gt;5g/kg</td>
<td>Not established</td>
</tr>
<tr>
<td><strong>9,12-octadecadienoid acid based polyamidoamine</strong></td>
<td>Dermal (rabbit) LD50: Not established</td>
<td>Not established</td>
</tr>
<tr>
<td></td>
<td>Inhalation (rat) LC50: Not established</td>
<td>Not established</td>
</tr>
<tr>
<td></td>
<td>Oral (rat) LD50: &gt;2g/kg</td>
<td>Not established</td>
</tr>
<tr>
<td><strong>Fatty acid-polyethylamine polymer</strong></td>
<td>Dermal (rabbit) LD50: Not established</td>
<td>Not established</td>
</tr>
<tr>
<td></td>
<td>Inhalation (rat) LC50: Not established</td>
<td>Not established</td>
</tr>
<tr>
<td></td>
<td>Oral (rat) LD50: &gt;2g/kg</td>
<td>Not established</td>
</tr>
<tr>
<td><strong>3,3’-[Oxybis(2,1-ethane-diyloxy)]bis-1-propanamine</strong></td>
<td>Dermal (rabbit) LD50: 2150mg/kg</td>
<td>Not established</td>
</tr>
<tr>
<td></td>
<td>Inhalation (rat) LC50: Not established</td>
<td>Not established</td>
</tr>
<tr>
<td></td>
<td>Oral (rat) LD50: 4310 mg/kg</td>
<td>Not established</td>
</tr>
<tr>
<td><strong>triethylenetetramine</strong></td>
<td>Dermal (rabbit) LD50: 805mg/kg</td>
<td>Not established</td>
</tr>
<tr>
<td></td>
<td>Inhalation (rat) LC50: Not established</td>
<td>Not established</td>
</tr>
<tr>
<td></td>
<td>Oral (rat) LD50: 2500 mg/kg</td>
<td>Not established</td>
</tr>
<tr>
<td><strong>EM-Tec AG30 Silver filled epoxy, part B</strong></td>
<td>Not established</td>
<td>Not established</td>
</tr>
</tbody>
</table>

### Section 12: Ecological information

#### 12.1. Toxicity
Very toxic to aquatic life

12.2 Persistence and degradability

The content is not readily biodegradable

12.3 Bioaccumulative potential

No information available

12.4 Mobility in soil

No information available

12.5 Results of PBT and vPvB assessment

No information available

12.6 Hazardous decomposition products

No experimental data available

Section 13: Disposal considerations

13.1. Waste treatment methods

Product: This material and its container must be disposed of in a safe way. Do not discharge into drains or the environment, dispose to an authorised waste collection point.

National regulations: Disposal should be in accordance with local, state, or national legislation.

Section 14: Transport information

Labels required:

Micro to Nano
Innovative Microscopy Supplies
Wateringweg 79  T  +31-85-2013155
2031EK Haarlem  E  info@microtonano.com
The Netherlands  I  www.microtonano.com
### 14.1. UN number

**UN-number:** 3077

### 14.2 UN proper shipping name

**Proper shipping name:** Environmentally hazardous substance, solid, N.O.S.

### 14.3 Transport hazard class(es)

- **Class:** 9
- **ADR/RID-Classification code:** E1

### 14.4 Packing group

- **Packing:** III
- **Limited Quantity:** 5kg
- **Excepted Quantity:** 30g

### 14.5 Incompatible materials

- **ADR/RID- Environmentally hazardous:** Not applicable
- **IMDG-Marine pollutant:** Yes
- **IATA/ICAO-Environmentally hazardous:** Not applicable

### 14.6 Special precautions for user

Not applicable

### 14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC code

Not applicable

**Section 15: Regulatory information**

**15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture**
Safety Data Sheet

Product name: EM-Tec AG30 Silver filled epoxy, part B
Document Nr.: SDS00115002430B-02
Date: September 14th 2017
Version: 2.0

UN-number: 3077

15.2 Chemical safety assessment

All substances are listed

Section 16: Other information

RoHS Directive Compliant
This product is fully compliant with the directive 2100/65/EU Annex II (RoHS). It does not contain any lead, cadmium, mercury, hexavalent chromium, PBB's or PBDE's.

WEEE
This product is not a piece of electrical or electronic equipment, and it therefore not governed by Directive 2002/96/EC on waste electrical and electronic equipment (WEEE)

Abbreviations:
- Asp. Tox: Aspiration hazard
- Carc.: Carcinogenicity
- Exp.: Exposure
- Flam.: Flammable
- GHS: Global Harmonised System of Classification of Labelling Chemicals
- Irrit.: Irritant
- LC50: Lethal Concentration 50%
- LCLo: Lowest published lethal concentration
- LD50: Lethal Dose 50%
- N/A: Not applicable
- N/E: Not estimated
- PBT: Persistent Bioaccumulative and Toxic
- WEL: Workplace Exposure Limit
- Repr.: Reproductive toxicant
- RoHS: Restriction of Hazardous Substance
- SEM: Scanning Electron Microscope
- STEL: Short-Term Exposure Limit
- STOT: Specific Target Organ Toxicity
- TCLo: Lowest published toxic concentration
- vPvB: very Persistent and very Bioaccumulative
- WEEE: Waste Electrical and Electronic Equipment

DSD / DPD label elements
Full Text Risk and Hazard codes

H318: Causes serious eye damage
H315: Causes skin irritation
H317: May cause an allergic skin reaction
H410: Very toxic to aquatic life with long lasting effects

R38: Irritating to skin
R41: Risk of serious damage to eyes
R51/53: Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment

Safety advice:

S02 – Keep out of reach of children.
S09 – Keep container in a well-ventilated place.
S13 – Keep away from food, drink and animal feeding stuff.
S23 – Do not breathe gas/fumes/vapour/spray.
S26 – In case of contact with eyes, rinse with plenty of water and seek medical help.
S281 – After contact with skin, wash immediately with detergent and plenty of waterways.
S29 – Do not empty in drains.
S35 – This material and its container must be disposed of in a safe way.
S36 – Wear suitable protective clothing.
S37 – Wear suitable gloves.
S38 – In case of insufficient ventilation, wear suitable respiratory equipment.
S39 – Wear eye / face protection.
S40 – In case of insufficient ventilation, wear suitable respiratory equipment.
S43 – In case of fire use....
S45 – In case of accident or if you feel unwell, immediately contact Doctor or Poisons information center (show label if possible).
S46 – If swallowed, seek immediate medical advice, and show label if possible.
S52 – Not recommended for interior use on large surfaces.
S53 – Avoid exposure – obtain special instructions before use.
S56 – Dispose of this material and its container at hazardous or special waste collection point.
S57 – Use appropriate container to avoid environment contamination.
S61 – Avoid release to the environment
S63 – In case of accident by inhalation, remove casualty to fresh air and keep at rest.
S64 – If swallowed, rinse mouth with water (only if person is conscious)

This product should be stored, handled, and used in accordance with good industrial hygiene practices and in accordance with any legal regulation. The information contained herewith is based on the present state of our knowledge and is intended to describe the product from the point of view of safety requirements. It does not guarantee any specific properties. It is the responsibility of the user to query and verify any information seeming suspect or where doubt on the validity may exist. The buyer assumes all responsibility of using and handling the product in accordance with local, state, federal and international regulations.