

Safety Data Sheet

acc. to OSHA HCS

Printing date 05/17/2022

Reviewed on 05/17/2022

1 Identification

- **Product identifier**
- **Trade name:** SILVER CONDUCTIVE ADHESIVE 478SS
- **Article number:** 12685-15
- **Application of the substance / the mixture** Laboratory chemicals
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
Electron Microscopy Sciences
1560 Industry Road
USA-Hatfield, PA 19440
Tel: 215-412-8400 Fax: 215-412-8450
email: sgkcck@aol.com
www.emsdiasum.com
- **Information department:** Product safety department
- **Emergency telephone number:**
ChemTrec 1-800-424-9300 Contract CCN7661
1-703-527-3887

2 Hazard(s) identification

- **Classification of the substance or mixture**



GHS08 Health hazard

Specific Target Organ Toxicity - Single Exposure 1 H370 Causes damage to organs.

Specific Target Organ Toxicity - Repeated Exposure 1 H372 Causes damage to organs through prolonged or repeated exposure.



GHS07

Eye Irritation 2A

H319 Causes serious eye irritation.

Sensitization - Skin 1

H317 May cause an allergic skin reaction.

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



GHS07



GHS08

- **Signal word** Danger
- **Hazard statements**
Causes serious eye irritation.
May cause an allergic skin reaction.
Causes damage to organs.
Causes damage to organs through prolonged or repeated exposure.
- **Precautionary statements**
Do not breathe dust/fume/gas/mist/vapors/spray.
Wash thoroughly after handling.
Do not eat, drink or smoke when using this product.

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Contaminated work clothing must not be allowed out of the workplace.
 Wear protective gloves / eye protection / face protection.
 If on skin: Wash with plenty of water.
 If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
 IF exposed: Call a POISON CENTER or doctor/physician.
 Get medical advice/attention if you feel unwell.
 If skin irritation or rash occurs: Get medical advice/attention.
 Specific treatment (see on this label).
 If eye irritation persists: Get medical advice/attention.
 Wash contaminated clothing before reuse.
 Store locked up.
 Dispose of contents/container in accordance with local/regional/national/international regulations.

· **Classification system:**

· **NFPA ratings (scale 0 - 4)**



Health = 2
 Fire = 1
 Reactivity = 0

· **HMIS-ratings (scale 0 - 4)**



Health = 2
 Fire = 1
 Reactivity = 0

· **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:**

112-15-2	2-(2-ethoxyethoxy)ethyl acetate	> 10-≤25%
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4 First-aid measures

· **Description of first aid measures**

· **General information:**

Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.

· **After inhalation:**

Supply fresh air and to be sure call for a doctor.

In case of unconsciousness place patient stably in side position for transportation.

· **After skin contact:** Immediately wash with water and soap and rinse thoroughly.

· **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.

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

5 Fire-fighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:** Use fire fighting measures that suit the environment.
- **Special hazards arising from the substance or mixture** No further relevant information available.
- **Advice for firefighters**
- **Protective equipment:** No special measures required.

6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures** Not required.
- **Environmental precautions:**
Dilute with plenty of water.
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).
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.
- **Protective Action Criteria for Chemicals**

- **PAC-1:**

7440-22-4	silver	0.3 mg/m ³
112-15-2	2-(2-ethoxyethoxy)ethyl acetate	16 mg/m ³

- **PAC-2:**

All components have the value 170 mg/m³.

- **PAC-3:**

7440-22-4	silver	990 mg/m ³
112-15-2	2-(2-ethoxyethoxy)ethyl acetate	1,000 mg/m ³

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:** No special requirements.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:** Keep receptacle tightly sealed.

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· **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:**
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.
Avoid contact with the eyes and skin.
- **Breathing equipment:**
In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use respiratory protective device that is independent of circulating air.
- **Protection of hands:**



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

- **Material of gloves**
The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.
- **Penetration time of glove material**
The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.
- **Eye protection:**



Tightly sealed goggles

9 Physical and chemical properties

- **Information on basic physical and chemical properties**
- **General Information**
- **Appearance:**
Form: Liquid

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· Color:	Silver-colored
· Odor:	Characteristic
· Odor threshold:	Not determined.
· pH-value:	Not determined.
· Change in condition	
Melting point/Melting range:	Undetermined.
Boiling point/Boiling range:	217.4 °C (423.3 °F)
· Flash point:	110 °C (230 °F)
· Flammability (solid, gaseous):	Not flammable.
· Ignition temperature:	310 °C (590 °F)
· 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 at 20 °C (68 °F):	0.4 hPa (0.3 mm Hg)
· Density at 20 °C (68 °F):	2.589 g/cm ³ (21.60521 lbs/gal)
· Relative density	Not determined.
· Vapor density	Not determined.
· Evaporation rate	Not determined.
· Solubility in / Miscibility with	
Water:	Fully miscible.
· Partition coefficient (n-octanol/water):	Not determined.
· Viscosity:	
Dynamic at 20 °C (68 °F):	20,000 mPas
Kinematic:	Not determined.
· Solvent content:	
VOC content:	0.00 % 0.0 g/l / 0.00 lb/gal
Solids content:	75.0 %
· 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.

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

11 Toxicological information

· **Information on toxicological effects**· **Acute toxicity:**· **Primary irritant effect:**· **on the skin:** No irritant effect.· **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:** No further relevant information available.· **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 1 (Self-assessment): slightly hazardous for water

Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.

· **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:**

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.

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· **Recommended cleansing agent:** Water, if necessary with cleansing agents.

14 Transport information

- | | |
|---|-----------------|
| · UN-Number | Void |
| · DOT, ADR, IMDG, IATA | Void |
| · UN proper shipping name | Void |
| · DOT, ADR, IMDG, IATA | Void |
| · Transport hazard class(es) | Void |
| · DOT, ADR, ADN, IMDG, IATA | Void |
| · Class | Void |
| · Packing group | Void |
| · DOT, ADR, IMDG, IATA | Void |
| · Environmental hazards: | Not applicable. |
| · Special precautions for user | Not applicable. |
| · Transport in bulk according to Annex II of MARPOL 73/78 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**
No further relevant information available.

· **Sara**· **Section 355 (extremely hazardous substances):**

None of the ingredients is listed.

· **Section 313 (Specific toxic chemical listings):**

All ingredients are listed.

· **TSCA (Toxic Substances Control Act):**

All components have the value ACTIVE.

· **Hazardous Air Pollutants**

None of the ingredients is 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.

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- **Carcinogenic categories**

- **EPA (Environmental Protection Agency)**

7440-22-4 | silver

D

- **TLV (Threshold Limit Value)**

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 product is classified and labeled according to the Globally Harmonized System (GHS).

- **Hazard pictograms**



GHS07 GHS08

- **Signal word** Danger

- **Hazard statements**

Causes serious eye irritation.

May cause an allergic skin reaction.

Causes damage to organs.

Causes damage to organs through prolonged or repeated exposure.

- **Precautionary statements**

Do not breathe dust/fume/gas/mist/vapors/spray.

Wash thoroughly after handling.

Do not eat, drink or smoke when using this product.

Contaminated work clothing must not be allowed out of the workplace.

Wear protective gloves / eye protection / face protection.

If on skin: Wash with plenty of water.

If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.

Continue rinsing.

IF exposed: Call a POISON CENTER or doctor/physician.

Get medical advice/attention if you feel unwell.

If skin irritation or rash occurs: Get medical advice/attention.

Specific treatment (see on this label).

If eye irritation persists: Get medical advice/attention.

Wash contaminated clothing before reuse.

Store locked up.

Dispose of contents/container in accordance with local/regional/national/international regulations.

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

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:**

- **Date of preparation / last revision** 05/17/2022 / -

- **Abbreviations and acronyms:**

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

DOT: US Department of Transportation

IATA: International Air Transport Association

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*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)**VOC: Volatile Organic Compounds (USA, EU)**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******Eye Irritation 2A: Serious eye damage/eye irritation – Category 2A******Sensitization - Skin 1: Skin sensitisation – Category 1******Specific Target Organ Toxicity - Single Exposure 1: Specific target organ toxicity (single exposure) – Category 1******Specific Target Organ Toxicity - Repeated Exposure 1: Specific target organ toxicity (repeated exposure) – Category 1***

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1 Identification

- **Product identifier**
- **Trade name:** SILVER CONDUCTIVE ADHESIVE 478SS
- **Article number:** 12685-15
- **Relevant identified uses of the substance or mixture and uses advised against**
No further relevant information available.
- **Application of the substance / the mixture** Laboratory chemicals
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
Electron Microscopy Sciences
1560 Industry Road
USA-Hatfield, PA 19440
Tel: 215-412-8400 Fax: 215-412-8450
email: sgkcck@aol.com
www.emsdiasum.com
- ProSciTech Pty Ltd
11 Carlton Street, Kirwan QLD 4817 Australia
Telephone Number: (07) 4773 9444 - 8:30am - 5:00pm, Monday to Friday (excluding Public Holidays)
Emergency Contact: (07) 4773 9444 - 8:30am - 5:00pm, Monday to Friday (excluding Public Holidays)
Website: ems.proscitech.com
- Emgrid Australia Pty. Ltd.
P.O. Box 118
The Patch VIC 3792
Australia
Tel: 03 9752 1785
Fax: 03 9752 1784
Website: www.emgrid.com.au
- **Further information obtainable from:** Product safety department
- **Emergency telephone number:**
ChemTrec 1-800-424-9300 Contract CCN7661
1-703-527-3887

2 Hazard(s) Identification

- **Classification of the substance or mixture**



GHS08 health hazard

STOT SE 1 H370 Causes damage to organs.

STOT RE 1 H372 Causes damage to organs through prolonged or repeated exposure.



GHS07

Eye Irritation 2A H319 Causes serious eye irritation.

Skin Sens. 1 H317 May cause an allergic skin reaction.

- **Label elements**

- **GHS label elements** The product is classified and labelled according to the Globally Harmonised System (GHS).

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· **Hazard pictograms**

GHS07 GHS08

· **Signal word** *Danger*· **Hazard statements***Causes serious eye irritation.**May cause an allergic skin reaction.**Causes damage to organs.**Causes damage to organs through prolonged or repeated exposure.*· **Precautionary statements***Do not breathe dust/fume/gas/mist/vapours/spray.**Wash thoroughly after handling.**Do not eat, drink or smoke when using this product.**Contaminated work clothing should not be allowed out of the workplace.**Wear protective gloves / eye protection / face protection.**IF ON SKIN: Wash with plenty of water.**IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.**IF exposed: Call a POISON CENTER or doctor/physician.**Get medical advice/attention if you feel unwell.**If skin irritation or rash occurs: Get medical advice/attention.**Specific treatment (see on this label).**If eye irritation persists: Get medical advice/attention.**Wash contaminated clothing before reuse.**Store locked up.**Dispose of contents/container in accordance with local/regional/national/international regulations.*· **Other hazards**· **Results of PBT and vPvB assessment**· **PBT:** Not applicable.· **vPvB:** Not applicable.

3 Composition and Information on Ingredients

· **Chemical characterisation:** *Mixtures*· **Description:** *Mixture of substances listed below with nonhazardous additions.*· **Dangerous components:**

112-15-2 2-(2-ethoxyethoxy)ethyl acetate

>10-≤25%

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

4 First Aid Measures

· **Description of first aid measures**· **General information:***Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.*· **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.*

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- **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:** 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:** Use fire extinguishing methods suitable to surrounding conditions.
- **Special hazards arising from the substance or mixture** No further relevant information available.
- **Advice for firefighters**
- **Protective equipment:** No special measures required.

6 Accidental Release Measures

- **Personal precautions, protective equipment and emergency procedures** Not required.
- **Environmental precautions:**
Dilute with plenty of water.
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).
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.

7 Handling and Storage

- **Handling:**
- **Precautions for safe handling**
Ensure good ventilation/exhaustion at the workplace.
Prevent formation of aerosols.
- **Information about fire - and explosion protection:** 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 container tightly sealed.
- **Specific end use(s)** No further relevant information available.

8 Exposure controls and personal protection

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

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- **Control parameters**
- **Ingredients with limit values that require monitoring at the workplace:**
The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.
- **Additional information:** The lists valid during the making were used as basis.
- **Exposure controls**
- **Personal protective equipment:**
- **General protective and hygienic measures:**
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.
Avoid contact with the eyes and skin.
- **Respiratory protection:**
In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device.
- **Protection of hands:**



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

- **Material of gloves**
The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.
- **Penetration time of glove material**
The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.
- **Eye protection:**



Tightly sealed goggles

9 Physical and Chemical Properties

- **Information on basic physical and chemical properties**
 - **General Information**
 - **Appearance:**

Form:	Liquid
Colour:	Silver-coloured
 - **Odour:** Characteristic
 - **Odour threshold:** Not determined.
- | | |
|------------------|-----------------|
| pH-value: | Not determined. |
|------------------|-----------------|

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· Change in condition Melting point/freezing point:	Undetermined.
Initial boiling point and boiling range:	217.4 °C
· Flash point:	110 °C
· Flammability (solid, gas):	Not applicable.
· Ignition temperature:	310 °C
· Decomposition temperature:	Not determined.
· Auto-ignition temperature:	Product is not selfigniting.
· Explosive properties:	Product does not present an explosion hazard.
· Explosion limits: Lower:	Not determined.
Upper:	Not determined.
· Vapour pressure at 20 °C:	0.4 hPa
· Density at 20 °C:	2.589 g/cm ³
· Relative density	Not determined.
· Vapour density	Not determined.
· Evaporation rate	Not determined.
· Solubility in / Miscibility with water:	Fully miscible.
· Partition coefficient: n-octanol/water:	Not determined.
· Viscosity: Dynamic at 20 °C:	20,000 mPas
Kinematic:	Not determined.
· Solvent content: VOC (EC)	0.00 %
Solids content:	75.0 %
· 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.
- **Hazardous decomposition products:** No dangerous decomposition products known.

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11 Toxicological Information

- **Information on toxicological effects**
- **Acute toxicity**
- **Primary irritant effect:**
- **Skin corrosion/irritation** No irritant effect.
- **Serious eye damage/irritation** Irritating effect.
- **Respiratory or skin sensitisation** Sensitisation possible through skin contact.
- **Additional toxicological information:**
The product shows the following dangers according to the calculation method of the General EU Classification Guidelines for Preparations as issued in the latest version:
Irritant

12 Ecological Information

- **Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **Persistence and degradability** No further relevant information available.
- **Behaviour 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 1 (German Regulation) (Self-assessment): slightly hazardous for water
Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.
- **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**
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.
- **Recommended cleansing agents:** Water, if necessary together with cleansing agents.

14 Transport information

- | | |
|-------------------------------------|---------------|
| · UN-Number | |
| · ADG, IMDG, IATA | not regulated |
| · UN proper shipping name | |
| · ADG, IMDG, IATA | not regulated |
| · Transport hazard class(es) | |
| · ADG, ADN, IMDG, IATA | |
| · Class | not regulated |

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-AU

Safety Data Sheet

according to WHS Regulations

Printing date 17.05.2022

Revision: 17.05.2022

Trade name: **SILVER CONDUCTIVE ADHESIVE 478SS**

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· Packing group	
· ADG, IMDG, IATA	not regulated
· Environmental hazards:	Not applicable.
· Special precautions for user	Not applicable.
· Transport in bulk according to Annex II of Marpol and the IBC Code	Not applicable.
· UN "Model Regulation":	not regulated

15 Regulatory information

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

· **Australian Inventory of Industrial Chemicals**

All ingredients are listed.

· **Standard for the Uniform Scheduling of Medicines and Poisons**

7440-22-4 silver

S2

· **Australia: Priority Existing Chemicals**

None of the ingredients is listed.

· **GHS label elements** The product is classified and labelled according to the Globally Harmonised System (GHS).

· **Hazard pictograms**



GHS07 GHS08

· **Signal word** Danger

· **Hazard statements**

Causes serious eye irritation.

May cause an allergic skin reaction.

Causes damage to organs.

Causes damage to organs through prolonged or repeated exposure.

· **Precautionary statements**

Do not breathe dust/fume/gas/mist/vapours/spray.

Wash thoroughly after handling.

Do not eat, drink or smoke when using this product.

Contaminated work clothing should not be allowed out of the workplace.

Wear protective gloves / eye protection / face protection.

IF ON SKIN: Wash with plenty of water.

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.

Continue rinsing.

IF exposed: Call a POISON CENTER or doctor/physician.

Get medical advice/attention if you feel unwell.

If skin irritation or rash occurs: Get medical advice/attention.

Specific treatment (see on this label).

If eye irritation persists: Get medical advice/attention.

Wash contaminated clothing before reuse.

Store locked up.

Dispose of contents/container in accordance with local/regional/national/international regulations.

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Safety Data Sheet according to WHS Regulations

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Trade name: SILVER CONDUCTIVE ADHESIVE 478SS

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- **Directive 2012/18/EU**
- **Named dangerous substances - ANNEX I** None of the ingredients is listed.
- **Seveso category H3** STOT SPECIFIC TARGET ORGAN TOXICITY – SINGLE EXPOSURE
- **Qualifying quantity (tonnes) for the application of lower-tier requirements** 50 t
- **Qualifying quantity (tonnes) for the application of upper-tier requirements** 200 t
- **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

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:**
- **Abbreviations and acronyms:**
 - 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*
 - 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)*
 - PBT: Persistent, Bioaccumulative and Toxic*
 - vPvB: very Persistent and very Bioaccumulative*
 - Eye Irritation 2A: Serious eye damage/eye irritation – Category 2A*
 - Skin Sens. 1: Skin sensitisation – Category 1*
 - STOT SE 1: Specific target organ toxicity (single exposure) – Category 1*
 - STOT RE 1: Specific target organ toxicity (repeated exposure) – Category 1*

-AU-

Safety Data Sheet

according to HPR, Schedule 1

Printing date 05/17/2022

Reviewed on 05/17/2022

1 Identification

- **Product identifier**
- **Trade name:** SILVER CONDUCTIVE ADHESIVE 478SS
- **Article number:** 12685-15
- **Application of the substance / the mixture** Laboratory chemicals
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
Electron Microscopy Sciences
1560 Industry Road
USA-Hatfield, PA 19440
Tel: 215-412-8400 Fax: 215-412-8450
email: sgkcck@aol.com
www.emsdiasum.com
- **Information department:** Product safety department
- **Emergency telephone number:**
ChemTrec 1-800-424-9300 Contract CCN7661
1-703-527-3887

2 Hazard identification

- **Classification of the substance or mixture**



GHS08 Health hazard

Specific Target Organ Toxicity - Single Exposure - Category 1 H370 Causes damage to organs.

Specific Target Organ Toxicity - Repeated Exposure - Category 1 H372 Causes damage to organs through prolonged or repeated exposure.



GHS07

Eye Irritation - Category 2A H319 Causes serious eye irritation.

Skin Sensitizer - Category 1 H317 May cause an allergic skin reaction.

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



GHS07 GHS08

- **Signal word** Danger
- **Hazard statements**
Causes serious eye irritation.
May cause an allergic skin reaction.
Causes damage to organs.
Causes damage to organs through prolonged or repeated exposure.
- **Precautionary statements**
Do not breathe dust/fume/gas/mist/vapours/spray.
Wash thoroughly after handling.

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Safety Data Sheet

according to HPR, Schedule 1

Printing date 05/17/2022

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Trade name: **SILVER CONDUCTIVE ADHESIVE 478SS**

(Contd. of page 1)

Do not eat, drink or smoke when using this product.

Contaminated work clothing should not be allowed out of the workplace.

Wear protective gloves/protective clothing/eye protection/face protection.

If on skin: Wash with plenty of water.

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

IF exposed or concerned: Call a poison center/doctor.

Get medical advice/attention if you feel unwell.

Take off contaminated clothing and wash it before reuse.

If skin irritation or rash occurs: Get medical advice/attention.

Specific treatment (see on this label).

If eye irritation persists: Get medical advice/attention.

Store locked up.

Dispose of contents/container in accordance with local/regional/national/international regulations.

· **Classification system:**

· **NFPA ratings (scale 0 - 4)**



Health = 2

Fire = 1

Reactivity = 0

· **HMIS-ratings (scale 0 - 4)**



Health = 2

Fire = 1

Reactivity = 0

3 Composition/Information on ingredients

· **Chemical characterization: Mixtures**

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

· **Dangerous components:**

112-15-2	2-(2-ethoxyethoxy)ethyl acetate	10-30% w/w *
----------	---------------------------------	--------------

* Actual concentration ranges are withheld as a trade secret.

4 First-aid measures

· **Description of first aid measures**

· **General information:**

Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.

· **After inhalation:**

Supply fresh air and to be sure call for a doctor.

In case of unconsciousness place patient stably in side position for transportation.

· **After skin contact:** Immediately wash with water and soap and rinse thoroughly.

· **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.

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Safety Data Sheet

according to HPR, Schedule 1

Printing date 05/17/2022

Reviewed on 05/17/2022

Trade name: SILVER CONDUCTIVE ADHESIVE 478SS

(Contd. of page 2)

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

5 Fire-fighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:** Use fire fighting measures that suit the environment.
- **Special hazards arising from the substance or mixture** No further relevant information available.
- **Advice for firefighters**
- **Protective equipment:** No special measures required.

6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures** Not required.
- **Environmental precautions:**
Dilute with plenty of water.
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).
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.

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:** No special requirements.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:** Keep receptacle tightly sealed.
- **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.

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Safety Data Sheet

according to HPR, Schedule 1

Printing date 05/17/2022

Reviewed on 05/17/2022

Trade name: **SILVER CONDUCTIVE ADHESIVE 478SS**

(Contd. of page 3)

- **Exposure controls**

- **Personal protective equipment:**

- **General protective and hygienic measures:**

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.

Avoid contact with the eyes and skin.

- **Breathing equipment:**

In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use respiratory protective device that is independent of circulating air.

- **Protection of hands:**



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

- **Material of gloves**

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

- **Penetration time of glove material**

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

- **Eye protection:**



Tightly sealed goggles

9 Physical and chemical properties

- **Information on basic physical and chemical properties**

- **General Information**

- **Appearance:**

Form: Liquid

Color: Silver-colored

- **Odor:** Characteristic

- **Odor threshold:** Not determined.

- **pH-value:** Not determined.

- **Change in condition**

Melting point/Melting range: Undetermined.

Boiling point/Boiling range: 217.4 °C

- **Flash point:** 110 °C

- **Flammability (solid, gaseous):** Not flammable.

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CA

Safety Data Sheet

according to HPR, Schedule 1

Printing date 05/17/2022

Reviewed on 05/17/2022

Trade name: **SILVER CONDUCTIVE ADHESIVE 478SS**

(Contd. of page 4)

· Ignition temperature:	310 °C
· 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 at 20 °C:	0.4 hPa
· Density at 20 °C:	2.589 g/cm ³
· Relative density	Not determined.
· Vapor density	Not determined.
· Evaporation rate	Not determined.
· Solubility in / Miscibility with Water:	Fully miscible.
· Partition coefficient (n-octanol/water):	Not determined.
· Viscosity:	
Dynamic at 20 °C:	20,000 mPas
Kinematic:	Not determined.
· Solvent content:	
Solids content:	75.0 %
· 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.
- **Hazardous decomposition products:** No dangerous decomposition products known.

11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity:**
- **Primary irritant effect:**
- **on the skin:** No irritant effect.
- **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

(Contd. on page 6)

CA

Safety Data Sheet according to HPR, Schedule 1

Printing date 05/17/2022

Reviewed on 05/17/2022

Trade name: **SILVER CONDUCTIVE ADHESIVE 478SS**

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· **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.

12 Ecological information

· **Toxicity**· **Aquatic toxicity:** No further relevant information available.· **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 1 (Self-assessment): slightly hazardous for water

Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.

· **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:**

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.· **Recommended cleansing agent:** Water, if necessary with cleansing agents.

14 Transport information

· **UN-Number**· **DOT/TDG, ADR, IMDG, IATA** Void· **UN proper shipping name**· **DOT/TDG, ADR, IMDG, IATA** Void· **Transport hazard class(es)**· **DOT, ADR, ADN, IMDG, IATA**· **Class** Void· **Packing group**· **DOT/TDG, ADR, IMDG, IATA** Void· **Environmental hazards:**

Not applicable.

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Safety Data Sheet

according to HPR, Schedule 1

Printing date 05/17/2022

Reviewed on 05/17/2022

Trade name: **SILVER CONDUCTIVE ADHESIVE 478SS**

(Contd. of page 6)

- | | |
|---|-----------------|
| · Special precautions for user | Not applicable. |
| · Transport in bulk according to Annex II of MARPOL 73/78 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**
No further relevant information available.
- **Sara**

· Section 355 (extremely hazardous substances):
--

None of the ingredients is listed.

· Section 313 (Specific toxic chemical listings):
--

All ingredients are listed.

· TSCA (Toxic Substances Control Act):

All components have the value ACTIVE.

· Canadian substance listings:

· Canadian Domestic Substances List (DSL)
--

All ingredients are listed.

· Canadian Non-Domestic Substances List (NDSL)

None of the ingredients is listed.

· Canadian Ingredient Disclosure list (limit 0.1%)

None of the ingredients is listed.

· Canadian Ingredient Disclosure list (limit 1%)

7440-22-4 silver

- **GHS label elements** The product is classified and labeled according to the Globally Harmonized System (GHS).

- **Hazard pictograms**



GHS07 GHS08

- **Signal word** Danger

- **Hazard statements**

Causes serious eye irritation.

May cause an allergic skin reaction.

Causes damage to organs.

Causes damage to organs through prolonged or repeated exposure.

- **Precautionary statements**

Do not breathe dust/fume/gas/mist/vapours/spray.

Wash thoroughly after handling.

Do not eat, drink or smoke when using this product.

Contaminated work clothing should not be allowed out of the workplace.

Wear protective gloves/protective clothing/eye protection/face protection.

If on skin: Wash with plenty of water.

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Safety Data Sheet

according to HPR, Schedule 1

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(Contd. of page 7)

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.

Continue rinsing.

IF exposed or concerned: Call a poison center/doctor.

Get medical advice/attention if you feel unwell.

Take off contaminated clothing and wash it before reuse.

If skin irritation or rash occurs: Get medical advice/attention.

Specific treatment (see on this label).

If eye irritation persists: Get medical advice/attention.

Store locked up.

Dispose of contents/container in accordance with local/regional/national/international regulations.

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

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:

· Date of the latest revision of the safety data sheet 05/17/2022 / -

· Abbreviations and acronyms:

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

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)

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

CA

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

Printing date 17.05.2022

Revision: 17.05.2022

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

- **1.1 Product identifier**
- **Trade name:** SILVER CONDUCTIVE ADHESIVE 478SS
- **Article number:** 12685-15
- **1.2 Relevant identified uses of the substance or mixture and uses advised against**
No further relevant information available.
- **Application of the substance / the mixture** Laboratory chemicals
- **1.3 Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
Electron Microscopy Sciences
1560 Industry Road
USA-Hatfield, PA 19440
Tel: 215-412-8400 Fax: 215-412-8450
email: sgkcck@aol.com
www.emsdiasum.com
- **Further information obtainable from:** Product safety department
- **1.4 Emergency telephone number:**
ChemTrec 1-800-424-9300 Contract CCN7661
1-703-527-3887

SECTION 2: Hazards identification

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



health hazard

STOT SE 1 H370 Causes damage to organs.

STOT RE 1 H372 Causes damage to organs through prolonged or repeated exposure.



Eye Irrit. 2 H319 Causes serious eye irritation.

Skin Sens. 1 H317 May cause an allergic skin reaction.

- **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 GHS08

- **Signal word** *Danger*
- **Hazard statements**
H319 Causes serious eye irritation.
H317 May cause an allergic skin reaction.
H370 Causes damage to organs.
H372 Causes damage to organs through prolonged or repeated exposure.

(Contd. on page 2)

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 17.05.2022

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Trade name: **SILVER CONDUCTIVE ADHESIVE 478SS**

(Contd. of page 1)

- **Precautionary statements**

- P260 Do not breathe dust/fume/gas/mist/vapours/spray.
 P280 Wear protective gloves / eye protection / face protection.
 P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
 P333+P313 If skin irritation or rash occurs: Get medical advice/attention.
 P405 Store locked up.
 P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

- **2.3 Other hazards**

- **Results of PBT and vPvB assessment**

- **PBT:** Not applicable.
- **vPvB:** Not applicable.

SECTION 3: Composition/information on ingredients

- **3.2 Chemical characterisation: Mixtures**

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

- **Dangerous components:**

CAS: 112-15-2	2-(2-ethoxyethoxy)ethyl acetate	⚠ Eye Irrit. 2, H319	>10-≤25%
EINECS: 203-940-1			

- **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:**

Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.

- **After inhalation:**

Supply fresh air and to be sure call for a doctor.

In case of unconsciousness place patient stably in side position for transportation.

- **After skin contact:** Immediately wash with water and soap and rinse thoroughly.

- **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.

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

- **4.3 Indication of any immediate medical attention and special treatment needed**

No further relevant information available.

SECTION 5: Firefighting measures

- **5.1 Extinguishing media**

- **Suitable extinguishing agents:** Use fire extinguishing methods suitable to surrounding conditions.

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

- **5.3 Advice for firefighters**

- **Protective equipment:** No special measures required.

GB

(Contd. on page 3)

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 17.05.2022

Revision: 17.05.2022

Trade name: **SILVER CONDUCTIVE ADHESIVE 478SS**

(Contd. of page 2)

SECTION 6: Accidental release measures

- **6.1 Personal precautions, protective equipment and emergency procedures** *Not required.*
- **6.2 Environmental precautions:**
Dilute with plenty of water.
Do not allow to enter sewers/ surface or ground water.
- **6.3 Methods and material for containment and cleaning up:**
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
Dispose contaminated material as waste according to item 13.
Ensure adequate ventilation.
- **6.4 Reference to other sections**
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

SECTION 7: Handling and storage

- **7.1 Precautions for safe handling**
Ensure good ventilation/exhaustion at the workplace.
Prevent formation of aerosols.
- **Information about fire - and explosion protection:** *No special measures required.*
- **7.2 Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** *No special requirements.*
- **Information about storage in one common storage facility:** *Not required.*
- **Further information about storage conditions:** *Keep container tightly sealed.*
- **7.3 Specific end use(s)** *No further relevant information available.*

SECTION 8: Exposure controls/personal protection

- **8.1 Control parameters**
- **Additional information about design of technical facilities:** *No further data; see item 7.*
- **Ingredients with limit values that require monitoring at the workplace:**
The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.
- **Additional information:** *The lists valid during the making were used as basis.*
- **8.2 Exposure controls**
- **Personal protective equipment:**
- **General protective and hygienic measures:**
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.
Avoid contact with the eyes and skin.
- **Respiratory protection:**
In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device.

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Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 17.05.2022

Revision: 17.05.2022

Trade name: **SILVER CONDUCTIVE ADHESIVE 478SS**

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· **Protection of hands:**

Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

· **Material of gloves**

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

· **Penetration time of glove material**

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

· **Eye protection:**

Tightly sealed goggles

SECTION 9: Physical and chemical properties

· **9.1 Information on basic physical and chemical properties**· **General Information**· **Appearance:**

Form:	Liquid
Colour:	Silver-coloured
Odour:	Characteristic
Odour threshold:	Not determined.

· **pH-value:** Not determined.

· **Change in condition**

Melting point/freezing point:	Undetermined.
Initial boiling point and boiling range:	217.4 °C

· **Flash point:** 110 °C

· **Flammability (solid, gas):** Not applicable.

· **Ignition temperature:** 310 °C

· **Decomposition temperature:** Not determined.

· **Auto-ignition temperature:** Product is not selfigniting.

· **Explosive properties:** Product does not present an explosion hazard.

· **Explosion limits:**

Lower:	Not determined.
Upper:	Not determined.

· **Vapour pressure at 20 °C:** 0.4 hPa

· **Density at 20 °C:** 2.589 g/cm³

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

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Trade name: **SILVER CONDUCTIVE ADHESIVE 478SS**

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· Relative density	Not determined.
· Vapour density	Not determined.
· Evaporation rate	Not determined.
· Solubility in / Miscibility with water:	Fully miscible.
· Partition coefficient: n-octanol/water:	Not determined.
· Viscosity:	
Dynamic at 20 °C:	20,000 mPas
Kinematic:	Not determined.
· Solvent content:	
VOC (EC)	0.00 %
Solids content:	75.0 %
· 9.2 Other information	No further relevant information available.

SECTION 10: Stability and reactivity

- **10.1 Reactivity** No further relevant information available.
- **10.2 Chemical stability**
- **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
- **10.3 Possibility of hazardous reactions** No dangerous reactions known.
- **10.4 Conditions to avoid** No further relevant information available.
- **10.5 Incompatible materials:** No further relevant information available.
- **10.6 Hazardous decomposition products:** No dangerous decomposition products known.

SECTION 11: Toxicological information

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

GB

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

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SECTION 12: Ecological information

- **12.1 Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **12.2 Persistence and degradability** No further relevant information available.
- **12.3 Bioaccumulative potential** No further relevant information available.
- **12.4 Mobility in soil** No further relevant information available.
- **Additional ecological information:**
- **General notes:**
Water hazard class 1 (German Regulation) (Self-assessment): slightly hazardous for water
Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.
- **12.5 Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **12.6 Other adverse effects** No further relevant information available.

SECTION 13: Disposal considerations

- **13.1 Waste treatment methods**
- **Recommendation**
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.
- **Recommended cleansing agents:** Water, if necessary together with cleansing agents.

SECTION 14: Transport information

- | | |
|--|-----------------|
| · 14.1 UN-Number | |
| · ADR, IMDG, IATA | not regulated |
| · 14.2 UN proper shipping name | |
| · ADR, IMDG, IATA | not regulated |
| · 14.3 Transport hazard class(es) | |
| · ADR, ADN, IMDG, IATA | |
| · Class | not regulated |
| · 14.4 Packing group | |
| · ADR, IMDG, IATA | not regulated |
| · 14.5 Environmental hazards: | Not applicable. |
| · 14.6 Special precautions for user | Not applicable. |
| · 14.7 Transport in bulk according to Annex II of Marpol and the IBC Code | Not applicable. |
| · UN "Model Regulation": | not regulated |

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SECTION 15: Regulatory information

- **15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**
- **Directive 2012/18/EU**
- **Named dangerous substances - ANNEX I** None of the ingredients is listed.
- **Seveso category H3** STOT SPECIFIC TARGET ORGAN TOXICITY – SINGLE EXPOSURE
- **Qualifying quantity (tonnes) for the application of lower-tier requirements** 50 t
- **Qualifying quantity (tonnes) for the application of upper-tier requirements** 200 t
- **15.2 Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

SECTION 16: Other information

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

- **Relevant phrases**

H319 Causes serious eye irritation.

- **Abbreviations and acronyms:**

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)

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

Eye Irrit. 2: Serious eye damage/eye irritation – Category 2

Skin Sens. 1: Skin sensitisation – Category 1

STOT SE 1: Specific target organ toxicity (single exposure) – Category 1

STOT RE 1: Specific target organ toxicity (repeated exposure) – Category 1

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根据 GB/T 16483-2008, GB/T 17519-2013

打印日期 2022.05.17

在 2022.05.17 审核

1 化学品及企业标识

- 产品识别者
- 化学品中文(英文)名称, 化学品俗名或商品名: **SILVER CONDUCTIVE ADHESIVE 478SS**
- 商品编号: 12685-15
- 相应纯物质或者混合物的相关下位用途及禁止用途 无相关详细资料。
- 物质或混合物的用途 实验室化学物
- 安全技术说明书内供应商详细信息
- 企业名称:
Electron Microscopy Sciences
1560 Industry Road
USA-Hatfield, PA 19440
Tel: 215-412-8400 Fax: 215-412-8450
email: sgkck@aol.com
www.emsdiasum.com
- 可获取更多资料的部门: Product safety department
- 紧急联系电话号码:
ChemTrec 1-800-424-9300 Contract CCN7661
1-703-527-3887

2 危险性概述

· 紧急情况概述:

银色的, 液体, 造成严重眼刺激。 可能导致皮肤过敏反应。 对器官造成损害。
长期或反复接触会对器官造成伤害。

· GHS危险性类别



健康危害

特定靶器官系统毒性(单次接触) 第1类 H370 对器官造成损害

特定靶器官系统毒性(重复接触) 第1类 H372 长期或反复接触会对器官造成伤害



严重眼损伤/眼刺激 类别2A

H319 造成严重眼刺激

敏化(皮肤) 第1类

H317 可能导致皮肤过敏反应

· 标签要素

· GHS卷标元素 本产品根据化学物质分类及标记全球协调制度(GHS)进行了分类及标记。

· 象形图



GHS07 GHS08

· 警示词 危险

· 危险性说明

造成严重眼刺激

可能导致皮肤过敏反应

对器官造成损害

长期或反复接触会对器官造成伤害

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(在 1 页继续)

- **防范说明**
- **预防措施**
 - 不要吸入粉尘/烟/气体/烟雾/蒸气/喷雾
 - 戴防护手套/防护眼罩/防护面具
- **事故响应**
 - 如进入眼睛:用水小心冲洗几分钟。如戴隐形眼镜并可方便地取出,取出隐形眼镜。继续冲洗
 - 如发生皮肤刺激或皮疹:求医/就诊
- **安全储存**
 - 存放处须加锁
- **废弃处置**
 - 处置内装物/容器按照地方/区域/国家/国际规章
- **其他有害性**
- **PBT(残留性、生物浓缩性、毒性物质) 及 vPvB(高残留性、高生物浓缩性物质)评价结果**
- **PBT(残留性、生物浓缩性、毒性物质) 不适用的**
- **vPvB(高残留性、高生物浓缩性物质): 不适用的**

3 成分/组成信息

- **混合物**
- **描述:** 由以下含有无害添加剂的成分组成的混合物

- **危险的成分:**

112-15-2	乙酸-2-(2-乙氧基乙氧基)乙酯 2-(2-ethoxyethoxy)ethyl acetate	 严重眼损伤/眼刺激 类别2A, H319	>10-≤25%
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4 急救措施

- **应急措施要领**
- **总说明:** 中毒的症状可能会在几个小时以后才出现;因此在发生事故之后起码要有 48 小时的医疗观察。
- **吸入:**
 - 供给新鲜空气并且确保会叫医生。
 - 万一病人不清醒时,请让病人侧躺以便移动。
- **皮肤接触:** 马上用水和肥皂进行彻底的冲洗。
- **眼睛接触:** 张开眼睛在流水下冲洗数分钟。如果症状仍然持续,请咨询医生。
- **食入:** 如果症状仍然持续,请咨询医生。
- **给医生的资料:**
- **最重要的急慢性症状及其影响** 无相关详细资料。
- **需要及时的医疗处理及特别处理的症状** 无相关详细资料。

5 消防措施

- **灭火方法**
- **灭火的方法和灭火剂:** 使用适合四周环境的灭火措施。
- **特别危险性** 无相关详细资料。
- **特殊灭火方法**
- **消防人员特殊的防护装备:** 没有要求特别的措施。

6 泄漏应急处理

- **保护措施** 没有要求。

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(在 2 页继续)

- **环境保护措施:**
用大量的水进行稀释。
切勿让其进入下水道/水面或地下水。
- **密封及净化方法和材料:**
吸收液体粘合原料 (沙粒、硅藻土、酸性粘合剂、通用粘合剂、锯屑)。
根据第 13 条条款弃置受污染物。
确保有足够的通风装置。
- **参照其他部分**
有关安全处理的资料请参阅第 7 节。
有关个人防护装备的资料请参阅第 8 节。
有关弃置的资料请参阅第 13 节。

7 操作处置与储存

- **操作处置**
- **储存**
确保工作间有良好的通风/排气装置。
防止气溶胶的形成。
- **有关火灾及防止爆炸的资料:** 不需特别的措施。
- **混合危险性等安全储存条件**
- **储存:**
· **储存库和容器须要达到的要求:** 没有特别的要求。
· **有关使用一个普通的储存设施来储存的资料:** 不需要。
· **有关储存条件的更多资料:** 将容器密封。
· **具体的最终用户** 无相关详细资料。

8 接触控制和个体防护

- **工程控制方法:** 没有进一步数据;见第 7 项。
- **控制变数**
- **在工作场需要监控的限值成分** 该产品不含任何必须在工作间受到监视的重要价值的材料。
- **额外的资料:** 制作期间有效的清单将作为基础来使用。
- **泄漏控制**
- **个人防护设备:**
- **一般保护和卫生措施:**
远离食品、饮料和饲料。
立即除去所有的不洁的和被污染的衣服。
在休息之前和工作完毕后请清洗双手。
避免和眼睛接触。
避免和眼睛及皮肤接触。
- **呼吸系统防护:**
如果曾短暂接触或在低污染的情况下, 请使用呼吸过滤装置。
如果曾深入或较长时间接触, 请使用独立的呼吸保护装置。
- **手防护:**



保护手套

手套的物料必须是不渗透性的, 且能抵抗该产品/物质/添加剂。
基于缺乏测试, 对于产品/制剂/化学混合物, 并不会提供手套材料的建议

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(在 3 页继续)

选择手套材料时, 请注意材料的渗透时间, 渗透率和降解参数

· 手套材料

选择合适的手套不单取决于材料, 亦取决于质量特征, 以及来自哪一间生产厂家, 因为该产品是由很多材料配制而成, 手套材料的抵抗力并不可预计, 所以, 必须在使用之前进行检查

· 渗入手套材料的时间 请向劳保手套生产厂家获取准确的破裂时间并观察实际的破裂时间

· 眼睛防护:



密封的护目镜

9 理化特性

· 有关基本物理及化学特性的信息

· 一般说明

· 外观:

· 形状:	液体
· 颜色:	银色的
· 气味:	有特性的
· 嗅觉阈限	未决定.

· pH值: 未决定.

· 条件的更改

· 熔点:	未确定的
· 沸点/初沸点和沸程:	217.4 °C

· 闪点: 110 °C

· 可燃性 (固体、气体): 不适用的

· 点火温度: 310 °C

· 分解温度: 未决定.

· 自燃温度: 该产品是不自燃的

· 爆炸的危险性: 该产品并没有爆炸的危险

· 爆炸极限:

· 较低:	未决定.
· 较高:	未决定.

· 蒸气压 在 20 °C: 0.4 hPa

· 密度 在 20 °C: 2.589 g/cm³

· 相对密度 未决定.

· 蒸气密度 未决定.

· 蒸发速率 未决定.

· 溶解性

· 水: 完全可拌和的

· n-辛醇/水分配系数: 未决定.

· 黏性:

· 动态 在 20 °C:	20,000 mPas
· 运动学的:	未决定.

(在 5 页继续)

-CN

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(在 4 页继续)

· 溶剂成份:

· 固体成份: 75.0 %

· 其他信息 无相关详细资料。

10 稳定性和反应性

- 反应性 无相关详细资料。
- 稳定性
- 热分解/要避免的情况: 如果遵照规格使用则不会分解。
- 有害反应可能性 未有已知的危险反应。
- 应避免的条件 无相关详细资料。
- 不相容的物质: 无相关详细资料。
- 危险的分解产物: 未知有危险的分解产品。

11 毒理学信息

- 对毒性学影响的信息
 - 急性毒性:
 - 主要的刺激性影响:
 - 皮肤: 没有刺激性影响。
 - 在眼睛上面: 刺激的影响。
 - 致敏作用: 通过皮肤接触可能造成敏化作用。
 - 更多毒物的资料:
- 根据有关配制的一般欧盟分类指南的计算方法(刊印在最新版本),该产品显示以下的危险:
刺激性的

12 生态学信息

- 生态毒性
 - 水生毒性: 无相关详细资料。
 - 持久性和降解性 无相关详细资料。
 - 环境系统习性:
 - 潜在的生物累积性 无相关详细资料。
 - 土壤内移动性 无相关详细资料。
 - 额外的生态学资料:
 - 总括注解:
- 水危害级别 1(德国规例)(通过名单进行自我评估): 对水是稍微危害的
不要让未稀释或大量的产品接触地下水、水道或者污水系统。
- PBT(残留性、生物浓缩性、毒性物质) 及 vPvB(高残留性、高生物浓缩性物质)评价结果
 - PBT(残留性、生物浓缩性、毒性物质) 不适用的
 - vPvB(高残留性、高生物浓缩性物质): 不适用的
 - 其他副作用 无相关详细资料。

13 废弃处置

- 废弃处置方法
- 建议: 不能将该产品和家居垃圾一起丢弃. 不要让该产品接触污水系统。

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(在 5 页继续)

- 受污染的容器和包装:
- 建议: 必须根据官方的规章来丢弃.
- 建议的清洗剂: 如有必要请使用水及清洁剂进行清洁.

14 运输信息

· 联合国危险货物编号(UN号)	
· ADR, IMDG, IATA	无效
· UN适当装船名	
· ADR, IMDG, IATA	无效
· 运输危险等级	
· ADR, ADN, IMDG, IATA	
· 级别	无效
· 包装组别	
· ADR, IMDG, IATA	无效
· 环境危害	不适用的
· 用户特别预防措施	不适用的
· MARPOL73/78(针对船舶引起的海洋污染预防协议)附件书2及根据IBC Code(国际装船货物编码)的大量运送	不适用的
· UN "标准规定":	无效

15 法规信息

- 对相应纯物质或者混合物的安全、保健及环境法规/法律 无相关详细资料。
- 危险化学品安全管理条例

· 危险化学品目录

没有列出成份

- 化学品首次进口及有毒化学品进出口环境管理规定
- 新化学物质环境管理办法

· 中国现有化学物质名录

列出所有成分

- GHS卷标元素 本产品根据化学物质分类及标记全球协调制度(GHS)进行了分类及标记。
- 象形图



GHS07 GHS08

- 警示词 危险
- 危险性说明
- 造成严重眼刺激
- 可能导致皮肤过敏反应
- 对器官造成损害

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长期或反复接触会对器官造成伤害

· **防范说明**

· **预防措施**

不要吸入粉尘/烟/气体/烟雾/蒸气/喷雾

戴防护手套/防护眼罩/防护面具

· **事故响应**

如进入眼睛:用水小心冲洗几分钟。如戴隐形眼镜并可方便地取出,取出隐形眼镜。继续冲洗

如发生皮肤刺激或皮疹:求医/就诊

· **安全储存**

存放处须加锁

· **废弃处置**

处置内装物/容器按照地方/区域/国家/国际规章

· **化学物质安全性评价:** 尚未进行化学物质安全性评价

16 其他信息

该资料是基于我们目前的知识

然而,这并不构成对任何特定产品特性的担保并且不建立一个法律上有效的合同关系。

· **联络:**

· **缩写:**

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

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)

PBT: 持久性生物累积性有毒物质

vPvB: very Persistent and very Bioaccumulative

严重眼损伤/眼刺激 类别2A: Serious eye damage/eye irritation – Category 2A

敏化(皮肤) 第1类: Skin sensitisation – Category 1

特定靶器官系统毒性(单次接触) 第1类: Specific target organ toxicity (single exposure) – Category 1

特定靶器官系统毒性(重复接触) 第1类: Specific target organ toxicity (repeated exposure) – Category 1

CN

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ODDÍL 1: Identifikace látky/směsi a společnosti/podniku

- **1.1 Identifikátor výrobku**
- **Obchodní označení:** SILVER CONDUCTIVE ADHESIVE 478SS
- **Číslo výrobku:** 12685-15
- **UFI:** QTU1-T097-500M-0SST
- **1.2 Příslušná určená použití látky nebo směsi a nedoporučená použití**
Další relevantní informace nejsou k dispozici.
- **Použití látky / přípravku** Laboratorní chemikálie
- **1.3 Podrobné údaje o dodavateli bezpečnostního listu**
- **Identifikace výrobce/dovozce:**
Electron Microscopy Sciences
1560 Industry Road
USA-Hatfield, PA 19440
Tel: 215-412-8400 Fax: 215-412-8450
email: sgkceck@aol.com
www.emsdiasum.com
- **Obor poskytující informace:** Product safety department
- **1.4 Telefonní číslo pro naléhavé situace:**
ChemTrec 1-800-424-9300 Contract CCN7661
1-703-527-3887

ODDÍL 2: Identifikace nebezpečnosti

- **2.1 Klasifikace látky nebo směsi**
- **Klasifikace v souladu s nařízením (ES) č. 1272/2008**



GHS08 nebezpečnost pro zdraví

STOT SE 1 H370 Způsobuje poškození orgánů.

STOT RE 1 H372 Způsobuje poškození orgánů při prodloužené nebo opakované expozici.



GHS07

Eye Irrit. 2 H319 Způsobuje vážné podráždění očí.

Skin Sens. 1 H317 Může vyvolat alergickou kožní reakci.

- **2.2 Prvky označení**
- **Označování v souladu s nařízením (ES) č. 1272/2008** Produkt je klasifikován a označen podle nařízení CLP.
- **Výstražné symboly nebezpečnosti**



GHS07



GHS08

- **Signální slovo** Nebezpečí
- **Standardní věty o nebezpečnosti**
H319 Způsobuje vážné podráždění očí.
H317 Může vyvolat alergickou kožní reakci.
H370 Způsobuje poškození orgánů.
H372 Způsobuje poškození orgánů při prodloužené nebo opakované expozici.

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(pokračování strany 1)

- **Pokyny pro bezpečné zacházení**
- P260 Nevdechujte prach/dým/plyn/mlhu/páry/aerosoly.
- P280 Používejte ochranné rukavice / ochranné brýle / obličejový štít.
- P305+P351+P338 **PŘI ZASAŽENÍ OČÍ:** Několik minut opatrně vyplachujte vodou. Vyjměte kontaktní čočky, jsou-li nasazeny a pokud je lze vyjmout snadno. Pokračujte ve vyplachování.
- P333+P313 Při podráždění kůže nebo vyrážce: Vyhledejte lékařskou pomoc/ošetření.
- P405 Skladujte uzamčené.
- P501 Obsah/nádobu likvidujte v souladu s místními/regionálními/národními/mezinárodními předpisy.
- **2.3 Další nebezpečnost**
- **Výsledky posouzení PBT a vPvB**
- **PBT:** Nedá se použít.
- **vPvB:** Nedá se použít.

ODDÍL 3: Složení/informace o složkách

- **3.2 Chemická charakteristika: Směsi**
- **Popis:** Směs obsahuje následné látky bez nebezpečných příměsí.

· **Výrobek obsahuje tyto nebezpečné látky:**

CAS: 112-15-2	2-(2-ethoxyethoxy)ethyl acetate	⚠ Eye Irrit. 2, H319	>10-≤25%
EINECS: 203-940-1			

- **Dodatečná upozornění:** Znění uvedených údajů o nebezpečnosti látky je uvedeno v kapitole 16.

ODDÍL 4: Pokyny pro první pomoc

- **4.1 Popis první pomoci**
- **Všeobecné pokyny:**
Příznaky otravy se mohou projevit až po mnoha hodinách, proto je nutný lékařský dohled nejméně 48 hodin po nehodě.
- **Při nadýchání:**
Bohatý přívod čerstvého vzduchu a pro jistotu vyhledat lékaře.
Při bezvědomí uložit a přepravit ve stabilní poloze na boku.
- **Při styku s kůží:** Ihned omýt vodou a mýdlem a dobře opláchnout.
- **Při zasažení očí:**
Oči s otevřenými víčky vyplachovat po více minut proudem tekoucí vody. Při přetrvávajících potížích se poradit s lékařem.
- **Při požití:** Při přetrvávajících potížích konzultovat s lékařem.
- **4.2 Nejdůležitější akutní a opožděné symptomy a účinky** Další relevantní informace nejsou k dispozici.
- **4.3 Pokyn týkající se okamžité lékařské pomoci a zvláštního ošetření**
Další relevantní informace nejsou k dispozici.

ODDÍL 5: Opatření pro hašení požáru

- **5.1 Hasiva**
- **Vhodná hasiva:** Způsob hašení přizpůsobit podmínkám v okolí.
- **5.2 Zvláštní nebezpečnost vyplývající z látky nebo směsi** Další relevantní informace nejsou k dispozici.
- **5.3 Pokyny pro hasiče**
- **Zvláštní ochranné prostředky pro hasiče:** Nejsou nutná žádná zvláštní opatření.

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(pokračování na straně 3)

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ODDÍL 6: Opatření v případě náhodného úniku

- **6.1 Opatření na ochranu osob, ochranné prostředky a nouzové postupy** *Není nutné.*
- **6.2 Opatření na ochranu životního prostředí:**
*Zředit velkým množstvím vody.
Nenechat proniknout do kanalizace/povrchových vod/podzemních vod.*
- **6.3 Metody a materiál pro omezení úniku a pro čištění:**
*Sebrat s materiály, vázícími kapaliny (písek, šterkový písek, pojidla kyselin, universální pojidla, piliny).
Kontaminovaný materiál odstranit jako odpad podle bodu 13.
Zajistit dostatečné větrání.*
- **6.4 Odkaz na jiné oddíly**
*Informace o bezpečnému zacházení viz kapitola 7.
Informace o osobní ochranné výstroji viz kapitola 8.
Informace k odstranění viz kapitola 13.*

ODDÍL 7: Zacházení a skladování

- **7.1 Opatření pro bezpečné zacházení**
*Na pracovišti zabezpečit dobré větrání a odsávání.
Zamezit vytváření aerosolů.*
- **Upozornění k ochraně před ohněm a explozí:** *Nejsou nutná žádná zvláštní opatření.*
- **7.2 Podmínky pro bezpečné skladování látek a směsí včetně neslučitelných látek a směsí**
- **Pokyny pro skladování:**
- **Požadavky na skladovací prostory a nádoby:** *Žádné zvláštní požadavky.*
- **Upozornění k hromadnému skladování:** *Není nutné.*
- **Další údaje k podmínkám skladování:** *Nádrž držet neprodyšně uzavřenou.*
- **7.3 Specifické konečné / specifická konečná použití** *Další relevantní informace nejsou k dispozici.*

ODDÍL 8: Omezování expozice / osobní ochranné prostředky

- **8.1 Kontrolní parametry**
- **Technická opatření:** *Žádné další údaje, viz bod 7.*
- **Kontrolní parametry:**
Produkt neobsahuje žádná relevantní množství látek, u kterých se musí kontrolovat hraniční hodnoty na pracovišti.
- **Další upozornění:** *Jako podklad sloužily při zhotovení platné listiny.*
- **8.2 Omezování expozice**
- **Osobní ochranné prostředky:**
- **Všeobecná ochranná a hygienická opatření:**
*Zdržovat od potravin, nápojů a krmiv.
Zašpiněné, nasáknuté šaty ihned vysvléci.
Před přestávkami a po práci umýt ruce.
Zamezit styku se zrakem.
Zamezit styku s pokožkou a zrakem.*
- **Ochrana dýchacích orgánů:**
Při krátkodobém nebo nízkém zatížení použít dýchací přístroj s filtrem, při intenzivním nebo delším zatížení se musí použít dýchací přístroj nezávislý na okolním vzduchu.

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· Ochrana rukou:



Ochranné rukavice

Materiál rukavic musí být nepropustný a odolný proti produktu / látce / směsi.

Vzhledem k tomu, že chybí testy, není možné doporučit materiál rukavic pro produkt / přípravek / chemickou směs.

Výběr materiálu rukavic proveďte podle času průniku, permeability a degradace.

· Materiál rukavic

Správný výběr rukavic nezávisí jen na materiálu, ale také na dalších kritériích, která se liší podle výrobce. Protože je výrobek směs více látek, nelze materiál rukavic předem vypočítat a je nutno udělat před použitím zkoušku.

· Doba průniku materiálem rukavic

Je nutno u výrobce rukavic zjistit a dodržovat přesné časy průniku materiálem ochranných rukavic.

· Ochrana očí:



Uzavřené ochranné brýle

ODDÍL 9: Fyzikální a chemické vlastnosti

· 9.1 Informace o základních fyzikálních a chemických vlastnostech

· Všeobecné údaje

· Vzhled:

Skupenství:	Tekutina
Barva:	Stříbrná
Zápach:	Charakteristický
Prahová hodnota zápachu:	Není určeno.

· Hodnota pH: Není určeno.

· Změna stavu

Bod tání/bod tuhnutí:	Není určeno.
Počáteční bod varu a rozmezí bodu varu:	217,4 °C

· Bod vzplanutí: 110 °C

· Hořlavost (pevné látky, plyny): Nedá se použít.

· Zápalná teplota: 310 °C

· Teplota rozkladu: Není určeno.

· Teplota samovznícení: Produkt není samozápalný.

· Výbušné vlastnosti: U produktu nehrozí nebezpečí exploze.

· Meze výbušnosti:

Dolní mez:	Není určeno.
Horní mez:	Není určeno.

· Tlak páry při 20 °C: 0,4 hPa

· Hustota při 20 °C: 2,589 g/cm³

· Relativní hustota: Není určeno.

· Hustota páry: Není určeno.

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· Rychlost odpařování	Není určeno.
· Rozpustnost ve / smísitelnost s vodě:	Úplně mísitelná.
· Rozdělovací koeficient: n-oktanol/voda:	Není určeno.
· Viskozita: Dynamicky při 20 °C: Kinematicky:	20.000 mPas Není určeno.
· Obsah ředidel: VOC (EC)	0,00 %
· Obsah netěkavých složek:	75,0 %
· 9.2 Další informace	Další relevantní informace nejsou k dispozici.

ODDÍL 10: Stálost a reaktivita

- **10.1 Reaktivita** Další relevantní informace nejsou k dispozici.
- **10.2 Chemická stabilita**
- **Termický rozklad / Podmínky, kterých je nutno se vyvarovat:**
Nedochází k rozkladu při doporučeném způsobu použití.
- **10.3 Možnost nebezpečných reakcí** Žádné nebezpečné reakce nejsou známy.
- **10.4 Podmínky, kterým je třeba zabránit** Další relevantní informace nejsou k dispozici.
- **10.5 Neslučitelné materiály:** Další relevantní informace nejsou k dispozici.
- **10.6 Nebezpečné produkty rozkladu:** Nejsou známy žádné nebezpečné produkty při rozkladu.

ODDÍL 11: Toxikologické informace

- **11.1 Informace o toxikologických účincích**
- **Akutní toxicita** Na základě dostupných údajů nejsou kritéria pro klasifikaci splněna.
- **Primární dráždivé účinky:**
- **Žíravost/dráždivost pro kůži** Na základě dostupných údajů nejsou kritéria pro klasifikaci splněna.
- **Vážné poškození očí / podráždění očí**
Způsobuje vážné podráždění očí.
- **Senzibilizace dýchacích cest / senzibilizace kůže**
Může vyvolat alergickou kožní reakci.
- **Doplňující toxikologická upozornění:**
- **Účinky CMR (karcinogenita, mutagenita a toxicita pro reprodukci)**
- **Mutagenita v zárodečných buňkách** Na základě dostupných údajů nejsou kritéria pro klasifikaci splněna.
- **Karcinogenita** Na základě dostupných údajů nejsou kritéria pro klasifikaci splněna.
- **Toxicita pro reprodukci** Na základě dostupných údajů nejsou kritéria pro klasifikaci splněna.
- **Toxicita pro specifické cílové orgány – jednorázová expozice**
Způsobuje poškození orgánů.
- **Toxicita pro specifické cílové orgány – opakovaná expozice**
Způsobuje poškození orgánů při prodloužené nebo opakované expozici.
- **Nebezpečnost při vdechnutí** Na základě dostupných údajů nejsou kritéria pro klasifikaci splněna.

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ODDÍL 12: Ekologické informace

- **12.1 Toxicita**
- **Aquatická toxicita:** Další relevantní informace nejsou k dispozici.
- **12.2 Perzistence a rozložitelnost** Další relevantní informace nejsou k dispozici.
- **12.3 Bioakumulační potenciál** Další relevantní informace nejsou k dispozici.
- **12.4 Mobilita v půdě** Další relevantní informace nejsou k dispozici.
- **Další ekologické údaje:**
- **Všeobecná upozornění:**
Třída ohrožení vody 1 (Samozařazení): slabé ohrožení vody
Nesmí se dostat nezředitý nebo ve větším množství do spodní vody, povodí nebo kanalizace.
- **12.5 Výsledky posouzení PBT a vPvB**
- **PBT:** Nedá se použít.
- **vPvB:** Nedá se použít.
- **12.6 Jiné nepříznivé účinky** Další relevantní informace nejsou k dispozici.

ODDÍL 13: Pokyny pro odstraňování

- **13.1 Metody nakládání s odpady**
- **Doporučení:** Nesmí se odstraňovat společně s odpady z domácnosti. Nepřipustit únik do kanalizace.
- **Kontaminované obaly:**
- **Doporučení:** Odstranění podle příslušných předpisů.
- **Doporučený čisticí prostředek:** Voda, případně s přísadami čisticích prostředků.

ODDÍL 14: Informace pro přepravu

- | | |
|---|-----------------|
| · 14.1 UN číslo | |
| · ADR, IMDG, IATA | odpadá |
| · 14.2 Oficiální (OSN) pojmenování pro přepravu | |
| · ADR, IMDG, IATA | odpadá |
| · 14.3 Třída/třídy nebezpečnosti pro přepravu | |
| · ADR, ADN, IMDG, IATA | |
| · třída | odpadá |
| · 14.4 Obalová skupina | |
| · ADR, IMDG, IATA | odpadá |
| · 14.5 Nebezpečnost pro životní prostředí: | Nedá se použít. |
| · 14.6 Zvláštní bezpečnostní opatření pro uživatele | Nedá se použít. |
| · 14.7 Hromadná přeprava podle přílohy II úmluvy MARPOL a předpisu IBC | Nedá se použít. |
| · UN "Model Regulation": | odpadá |

CZ

(pokračování na straně 7)

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(pokračování strany 6)

ODDÍL 15: Informace o předpisech

- **15.1 Předpisy týkající se bezpečnosti, zdraví a životního prostředí/specifické právní předpisy týkající se látky nebo směsi**
- **Rady 2012/18/EU**
- **Nebezpečné látky jmenovitě uvedené - PŘÍLOHA I** Žádná z obsažených látek není na seznamu.
- **Kategorie Seveso H3 TOXICITA PRO SPECIFICKÉ CÍLOVÉ ORGÁNY – JEDNORÁZOVÁ EXPOZICE**
- **Kvalifikační množství (v tunách) při uplatnění požadavků pro podlimitní množství 50 t**
- **Kvalifikační množství (v tunách) při uplatnění požadavků pro nadlimitní množství 200 t**
- **Rady (ES) č. 1907/2006 PŘÍLOHA XVII** Omezující podmínky: 3
- **Směrnice 2011/65/EU o omezení používání některých nebezpečných látek v elektrických a elektronických zařízeních - Příloha II**
- Žádná z obsažených látek není na seznamu.
- **NAŘÍZENÍ (EU) 2019/1148**
- **Příloha I - PREKURZORY VÝBUŠNIN PODLÉHAJÍCÍ OMEZENÍ (Horní mezní hodnota pro účely povolení podle čl. 5 odst. 3)**
- Žádná z obsažených látek není na seznamu.
- **Příloha II - PREKURZORY VÝBUŠNIN PODLÉHAJÍCÍ OZNAMOVÁNÍ**
- Žádná z obsažených látek není na seznamu.
- **Nariadení (ES) č. 273/2004 o prekursorech drog**
- Žádná z obsažených látek není na seznamu.
- **Nariadení (ES) č. 111/2005 kterým se stanoví pravidla pro sledování obchodu s prekursory drog mezi Společenstvím a třetími zeměmi**
- Žádná z obsažených látek není na seznamu.
- **15.2 Posouzení chemické bezpečnosti:** Posouzení chemické bezpečnosti nebylo provedeno.

ODDÍL 16: Další informace

Údaje se opírají o dnešní stav našich vědomostí, nepředstavují však záruku vlastností produktu a nevznikají tak žádné smluvní právní vztahy.

- **Relevantní věty**
- **H319** Způsobuje vážné podráždění očí.
- **Zkratky a akronymy:**
- **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)
- **PBT:** Persistent, Bioaccumulative and Toxic
- **vPvB:** very Persistent and very Bioaccumulative
- **Eye Irrit. 2:** Vážné poškození očí / podráždění očí – Kategorie 2
- **Skin Sens. 1:** Senzibilizace kůže – Kategorie 1
- **STOT SE 1:** Toxicita pro specifické cílové orgány (jednorázová expozice) – Kategorie 1
- **STOT RE 1:** Toxicita pro specifické cílové orgány (opakovaná expozice) – Kategorie 1

Veiligheidsinformatieblad

volgens 1907/2006/EG, Artikel 31

datum van de druk: 17.05.2022

Herziening van: 17.05.2022

RUBRIEK 1: Identificatie van de stof of het mengsel en van de vennootschap/onderneming

- **1.1 Productidentificatie**
- **Handelsnaam:** SILVER CONDUCTIVE ADHESIVE 478SS
- **Artikelnummer:** 12685-15
- **UFI:** QTU1-T097-500M-0SST
- **1.2 Relevant geïdentificeerd gebruik van de stof of het mengsel en ontraden gebruik**
Geen verdere relevante informatie verkrijgbaar.
- **Toepassing van de stof / van de bereiding** Laboratoriumchemicaliën
- **1.3 Details betreffende de verstrekker van het veiligheidsinformatieblad**
- **Fabrikant/leverancier:**
Electron Microscopy Sciences
1560 Industry Road
USA-Hatfield, PA 19440
Tel: 215-412-8400 Fax: 215-412-8450
email: sgkcck@aol.com
www.emsdiasum.com
- **Aurion**
Binnenhaven 5
6709 PD Wageningen
The Netherlands
Tel: 31 317 415094
Fax: 31 317 415955
email: info@aurion.nl
- **Inlichtingengevende sector:** Product safety department
- **1.4 Telefoonnummer voor noodgevallen:**
ChemTrec 1-800-424-9300 Contract CCN7661
1-703-527-3887

RUBRIEK 2: Identificatie van de gevaren

- **2.1 Indeling van de stof of het mengsel**
- **Indeling overeenkomstig Verordening (EG) nr. 1272/2008**



GHS08 gezondheidsgevaar

STOT SE 1 H370 Veroorzaakt schade aan organen.

STOT RE 1 H372 Veroorzaakt schade aan organen bij langdurige of herhaalde blootstelling.



GHS07

Eye Irrit. 2 H319 Veroorzaakt ernstige oogirritatie.

Skin Sens. 1 H317 Kan een allergische huidreactie veroorzaken.

- **2.2 Etiketteringselementen**
- **Etikettering overeenkomstig Verordening (EG) nr. 1272/2008**
Het product is geïdentificeerd en geëtiketteerd volgens de CLP-verordening.

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· **Gevarenpictogrammen**

GHS07 GHS08

· **Signaalwoord** Gevaar· **Gevarenaanduidingen**

H319 Veroorzaakt ernstige oogirritatie.

H317 Kan een allergische huidreactie veroorzaken.

H370 Veroorzaakt schade aan organen.

H372 Veroorzaakt schade aan organen bij langdurige of herhaalde blootstelling.

· **Veiligheidsaanbevelingen**

P260 Stof/rook/gas/nevel/damp/spuitnevel niet inademen.

P280 Draag beschermende handschoenen/oogbescherming/gelaatsbescherming.

P305+P351+P338 BIJ CONTACT MET DE OGEN: voorzichtig afspoelen met water gedurende een aantal minuten; contactlenzen verwijderen, indien mogelijk; blijven spoelen.

P333+P313 Bij huidirritatie of uitslag: een arts raadplegen.

P405 Achter slot bewaren.

P501 De inhoud en de verpakking verwerken volgens de plaatselijke/regionale/nationale/internationale voorschriften.

· **2.3 Andere gevaren**· **Resultaten van PBT- en zPzB-beoordeling**· **PBT:** Niet bruikbaar.· **zPzB:** Niet bruikbaar.

RUBRIEK 3: Samenstelling en informatie over de bestanddelen

· **3.2 Chemische karakterisering: Mengsels**· **Beschrijving:** Mengsel van na elkaar aangevoerde stoffen met ongevaarlijke bijmengingen.· **Gevaarlijke inhoudstoffen:**

CAS: 112-15-2	2-(2-ethoxyethoxy)ethylacetaat	Eye Irrit. 2, H319	>10-≤25%
EINECS: 203-940-1			

· **Aanvullende gegevens:**

De woordelijke inhoud van de opgegeven aanwijzingen inzake de mogelijke gevaren is te vinden in hoofdstuk 16.

RUBRIEK 4: Eerstehulpmaatregelen

· **4.1 Beschrijving van de eerstehulpmaatregelen**· **Algemene informatie:**

Het is mogelijk dat vergiftigingssymptomen pas na vele uren optreden. Om deze reden is medische controle gedurende minstens 48 uur na een ongeval noodzakelijk.

· **Na het inademen:**

Veel verse lucht toedienen en voor alle zekerheid een arts raadplegen.

Bij bewusteloosheid ligging en vervoer in stabiele zijligging.

· **Na huidcontact:** Onmiddellijk met water en zeep afwassen en goed naspoelen.· **Na oogcontact:**

De ogen gedurende verscheidene minuten onder stromend water afspoelen terwijl de oogspleet geopend blijft. Bij aanhoudende klachten een dokter raadplegen.

· **Na inslikken:** Als de klachten niet minderen, een arts raadplegen· **4.2 Belangrijkste acute en uitgestelde symptomen en effecten** Geen verdere relevante informatie verkrijgbaar.

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- **4.3 Vermelding van de vereiste onmiddellijke medische verzorging en speciale behandeling**
Geen verdere relevante informatie verkrijgbaar.

RUBRIEK 5: Brandbestrijdingsmaatregelen

- **5.1 Blusmiddelen**
- **Geschikte blusmiddelen:** Brandblusmaatregelen op omgeving afstemmen.
- **5.2 Speciale gevaren die door de stof of het mengsel worden veroorzaakt**
Geen verdere relevante informatie verkrijgbaar.
- **5.3 Advies voor brandweerlieden**
- **Speciale beschermende kleding:** Geen bijzondere maatregelen nodig.

RUBRIEK 6: Maatregelen bij het accidenteel vrijkomen van de stof of het mengsel

- **6.1 Persoonlijke voorzorgsmaatregelen, beschermingsmiddelen en noodprocedures** Niet nodig.
- **6.2 Milieuvoorzorgsmaatregelen:**
Met veel water verdunnen.
Niet in de riolering/het oppervlaktewater/het grondwater laten terechtkomen.
- **6.3 InsluTINGS- en reinigingsmethoden en -materiaal:**
Met vloeistofbindend materiaal (zand, bergmeel, zuurbinder, universele binder, zaagmeel) opnemen.
Besmet materiaal zoals afval volgens punt 13 verwijderen.
Voor voldoende ventilatie zorgen.
- **6.4 Verwijzing naar andere rubrieken**
Informatie inzake veilig gebruik - zie hoofdstuk 7.
Informatie inzake persoonlijke beschermingsuitrusting - zie hoofdstuk 8.
Informatie inzake berging - zie hoofdstuk 13.

RUBRIEK 7: Hantering en opslag

- **7.1 Voorzorgsmaatregelen voor het veilig hanteren van de stof of het mengsel**
Voor goede ventilatie/afzuiging op de werkplaatsen zorgen.
Aërosolvorming vermijden.
- **Informatie m.b.t. brand- en ontploffingsgevaar:** Geen bijzondere maatregelen noodzakelijk.
- **7.2 Voorwaarden voor een veilige opslag, met inbegrip van incompatibele producten**
- **Opslag:**
- **Eisen ten opzichte van opslagruimte en tanks:** Geen bijzondere eisen.
- **Informatie m.b.t. gezamenlijke opslag:** Niet noodzakelijk.
- **Verdere inlichtingen over eisen m.b.t. de opslag:** Tanks ondoordringbaar gesloten houden.
- **7.3 Specifiek eindgebruik** Geen verdere relevante informatie verkrijgbaar.

RUBRIEK 8: Maatregelen ter beheersing van blootstelling/persoonlijke bescherming

- **8.1 Controleparameters**
- **Aanvullende gegevens m.b.t. de inrichting van technische installaties:** Geen aanvullende gegevens. Zie 7.
- **Bestanddelen met grenswaarden die m.b.t. de werkruimte in acht genomen moeten worden:**

112-15-2 2-(2-ethoxyethoxy)ethylacetaat

WGW	Korte termijn waarde: 220 mg/m ³ Lange termijn waarde: 110 mg/m ³
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- **Aanvullende gegevens:** Als basis dienden lijsten die bij opstelling geldig waren.

(Vervolg op blz. 4)

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- **8.2 Maatregelen ter beheersing van blootstelling**
- **Persoonlijke beschermingsvoorzieningen:**
- **Algemene beschermings- en gezondheidsmaatregelen:**
Verwijderd houden van eet- en drinkwaren.
Verontreinigde kleding onmiddellijk uittrekken.
Vóór de pauze en aan het einde van werktijd handen wassen.
Aanraking met de ogen vermijden.
Aanraking met de ogen en de huid vermijden.
- **Ademhalingsbescherming:**
Bij korte of geringe belasting ademfiltertoestel; bij intensieve resp. langdurige expositie een van de omringende lucht onafhankelijk ademhalingsstoestel gebruiken.
- **Handbescherming:**


Veiligheidshandschoenen

Het handschoenmateriaal moet ondoorlatend en bestand zijn tegen het product / de stof / de bereiding.
Op grond van falende testen kan geen aanbeveling voor handschoenmateriaal voor het product / de bereiding / het chemicaliënmengsel afgegeven worden.
Kies handschoenmateriaal rekening houdend met de penetratietijden, de permeatiegraden en de degradatie.

- **Handschoenmateriaal**
De keuze van een geschikte handschoen is niet alleen afhankelijk van het materiaal, maar ook van andere kwaliteitskenmerken en verschilt van fabrikant tot fabrikant. Aangezien het product uit meerdere stoffen is samengesteld, is de duurzaamheid van de handschoenmaterialen niet vooraf berekenbaar en moet derhalve vóór het gebruik worden getest.
- **Doordringingstijd van het handschoenmateriaal**
De precieze penetratietijd kunt u te weten komen bij de handschoenfabrikant; houd er rekening mee.
- **Oogbescherming:**


Nauw aansluitende veiligheidsbril

RUBRIEK 9: Fysische en chemische eigenschappen

- **9.1 Informatie over fysische en chemische basiseigenschappen**
- **Algemene gegevens**
- **Voorkomen:**

Vorm:	Vloeistof
Kleur:	Zilverkleurig
Geur:	Karakteristiek
Geurdrempelwaarde:	Niet bepaald.
- **pH-waarde:** Niet bepaald.
- **Toestandsverandering**

Smelt-/vriespunt:	Niet bepaald.
Beginkookpunt en kooktraject:	217,4 °C
- **Vlampunt:** 110 °C
- **Ontvlambaarheid (vast, gas):** Niet bruikbaar.

(Vervolg op blz. 5)

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· Ontstekingstemperatuur:	310 °C
· Ontledingstemperatuur:	Niet bepaald.
· Zelfontbrandingstemperatuur:	Het produkt ontbrandt niet uit zichzelf.
· Ontploffingseigenschappen:	Het produkt is niet ontploffingsgevaarlijk.
· Ontploffingsgrenzen:	
Onderste:	Niet bepaald.
Bovenste:	Niet bepaald.
· Dampspanning bij 20 °C:	0,4 hPa
· Dichtheid bij 20 °C:	2,589 g/cm ³
· Relatieve dichtheid	Niet bepaald.
· Dampdichtheid	Niet bepaald.
· Verdampingssnelheid	Niet bepaald.
· Oplosbaarheid in/mengbaarheid met Water:	Volledig mengbaar.
· Verdelingscoëfficiënt: n-octanol/water:	Niet bepaald.
· Viscositeit	
Dynamisch bij 20 °C:	20.000 mPas
Kinematisch:	Niet bepaald.
· Oplosmiddelgehalte:	
VOC (EG)	0,00 %
Gehalte aan vaste bestanddelen:	75,0 %
· 9.2 Overige informatie	Geen verdere relevante informatie verkrijgbaar.

RUBRIEK 10: Stabiliteit en reactiviteit

- **10.1 Reactiviteit** Geen verdere relevante informatie verkrijgbaar.
- **10.2 Chemische stabiliteit**
- **Thermische afbraak / te vermijden omstandigheden:** Geen afbraak bij gebruik volgens voorschrift.
- **10.3 Mogelijke gevaarlijke reacties** Geen gevaarlijke reacties bekend.
- **10.4 Te vermijden omstandigheden** Geen verdere relevante informatie verkrijgbaar.
- **10.5 Chemisch op elkaar inwerkende materialen:** Geen verdere relevante informatie verkrijgbaar.
- **10.6 Gevaarlijke ontledingsproducten:** Geen gevaarlijke ontbindingsproducten bekend.

RUBRIEK 11: Toxicologische informatie

- **11.1 Informatie over toxicologische effecten**
- **Acute toxiciteit** Gebaseerd op beschikbare gegevens; aan de indelingscriteria is niet voldaan.
- **Primaire aandoening:**
- **Huidcorrosie/-irritatie** Gebaseerd op beschikbare gegevens; aan de indelingscriteria is niet voldaan.
- **Ernstig oogletsel/oogirritatie**
Veroorzaakt ernstige oogirritatie.
- **Sensibilisatie van de luchtwegen/de huid**
Kan een allergische huidreactie veroorzaken.

(Vervolg op blz. 6)

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- **Aanvullende toxicologische informatie:**
- **CMR-effecten (kankerverwekkendheid, mutageniteit en giftigheid voor de voortplanting)**
- **Mutageniteit in geslachtscellen** Gebaseerd op beschikbare gegevens; aan de indelingscriteria is niet voldaan.
- **Kankerverwekkendheid** Gebaseerd op beschikbare gegevens; aan de indelingscriteria is niet voldaan.
- **Giftigheid voor de voortplanting** Gebaseerd op beschikbare gegevens; aan de indelingscriteria is niet voldaan.
- **STOT bij eenmalige blootstelling**
Veroorzaakt schade aan organen.
- **STOT bij herhaalde blootstelling**
Veroorzaakt schade aan organen bij langdurige of herhaalde blootstelling.
- **Gevaar bij inademing** Gebaseerd op beschikbare gegevens; aan de indelingscriteria is niet voldaan.

RUBRIEK 12: Ecologische informatie

- **12.1 Toxiciteit**
- **Aquatische toxiciteit:** Geen verdere relevante informatie verkrijgbaar.
- **12.2 Persistentie en afbreekbaarheid** Geen verdere relevante informatie verkrijgbaar.
- **12.3 Bioaccumulatie** Geen verdere relevante informatie verkrijgbaar.
- **12.4 Mobiliteit in de bodem** Geen verdere relevante informatie verkrijgbaar.
- **Verdere ecologische informatie:**
- **Algemene informatie:**
Waterbezwaarlijkheid (NL): A(4) Weinig schadelijk voor in water levende organismen kan in het aquatische milieu op lange termijn schadelijke effecten veroorzaken
Gevaar voor water klasse 1 (D) (Zelfclassificatie): gevaar voor water klein
Niet onverdund of in grote hoeveelheden lozen in grondwater, in oppervlaktewater of in de riolering.
- **12.5 Resultaten van PBT- en zPzB-beoordeling**
- **PBT:** Niet bruikbaar.
- **zPzB:** Niet bruikbaar.
- **12.6 Andere schadelijke effecten** Geen verdere relevante informatie verkrijgbaar.

RUBRIEK 13: Instructies voor verwijdering

- **13.1 Afvalverwerkingsmethoden**
- **Aanbeveling:** Mag niet tesamen met huisvuil gestort worden of in de riolering terechtkomen.
- **Niet gereinigde verpakkingen:**
- **Aanbeveling:** Afvalverwijdering volgens overheidsbepalingen.
- **Aanbevolen reinigingsmiddel:** Water, eventueel met toevoeging van reinigingsmiddelen.

RUBRIEK 14: Informatie met betrekking tot het vervoer

- **14.1 VN-nummer**
- **ADR, IMDG, IATA** Niet van toepassing
- **14.2 Juiste ladingnaam overeenkomstig de modelreglementen van de VN**
- **ADR, IMDG, IATA** Niet van toepassing
- **14.3 Transportgevarenklasse(n)**
- **ADR, ADN, IMDG, IATA**
- **klasse** Niet van toepassing

(Vervolg op blz. 7)

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- | | |
|---|---------------------|
| · 14.4 Verpakkingsgroep:
· ADR, IMDG, IATA | Niet van toepassing |
| · 14.5 Milieugevaren: | Niet bruikbaar. |
| · 14.6 Bijzondere voorzorgen voor de gebruiker | Niet bruikbaar. |
| · 14.7 Vervoer in bulk overeenkomstig bijlage II bij Marpol en de IBC-code | Niet bruikbaar. |
| · VN "Model Regulation": | Niet van toepassing |

RUBRIEK 15: Regelgeving

- **15.1 Specifieke veiligheids-, gezondheids- en milieureglementen en -wetgeving voor de stof of het mengsel**

- **SZW-lijst van kankerverwekkende stoffen**

geen der bestanddelen staat op de lijst.

- **SZW-lijst van mutagene stoffen**

geen der bestanddelen staat op de lijst.

- **NIET-limitatieve lijst van voor de voortplanting giftige stoffen - Vruchtbaarheid**

geen der bestanddelen staat op de lijst.

- **NIET-limitatieve lijst van voor de voortplanting giftige stoffen - Ontwikkeling**

geen der bestanddelen staat op de lijst.

- **NIET-limitatieve lijst van voor de voortplanting giftige stoffen - Borstvoeding**

geen der bestanddelen staat op de lijst.

- **Lijst Zeer Zorgwekkende Stoffen (ZZS)**

geen der bestanddelen staat op de lijst.

- **Richtlijn 2012/18/EU**

- **Gevaarlijke stoffen die met naam genoemd worden - BIJLAGE I** geen der bestanddelen staat op de lijst.

- **Seveso-categorie**

H3 SPECIFIEKE DOELORGAANTOXICITEIT (SPECIFIC TARGET ORGAN TOXICITY, STOT) - EENMALIGE BLOOTSTELLING

- **Drempelwaarde (ton) voor toepassing van voorschriften voor lagedrempelinrichtingen 50 t**

- **Drempelwaarde (ton) voor toepassing van voorschriften voor hogedrempelinrichtingen 200 t**

- **Verordening (EG) nr. 1907/2006 BIJLAGE XVII Beperkingsvoorwaarden: 3**

- **Richtlijn 2011/65/EU betreffende beperking van het gebruik van bepaalde gevaarlijke stoffen in elektrische en elektronische apparatuur - Bijlage II**

geen der bestanddelen staat op de lijst.

- **VERORDENING (EU) 2019/1148**

- **Bijlage I - PRECURSOREN VOOR EXPLOSIEVEN WAARVOOR EEN BEPERKING GELDT (Bovengrenswaarde ten behoeve van vergunningverlening op grond van artikel 5, lid 3)**

geen der bestanddelen staat op de lijst.

- **Bijlage II - PRECURSOREN VOOR EXPLOSIEVEN DIE MOETEN WORDEN GEMELD**

geen der bestanddelen staat op de lijst.

- **Verordening (EG) nr. 273/2004 inzake drugsprecursoren**

geen der bestanddelen staat op de lijst.

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· **Verordening (EG) Nr. 111/2005 houdende voorschriften voor het toezicht op de handel tussen de Gemeenschap en derde landen in drugsprecursoren**

geen der bestanddelen staat op de lijst.

· **Nationale voorschriften:**

· **Gevaarklasse v. water:**

Waterbezwaarlijkheid (NL): A(4) Weinig schadelijk voor in water levende organismen kan in het aquatische milieu op lange termijn schadelijke effecten veroorzaken

· **15.2 Chemischeveiligheidsbeoordeling:** Een chemische veiligheidsbeoordeling is niet uitgevoerd.

RUBRIEK 16: Overige informatie

Deze gegevens zijn gebaseerd op de huidige stand van onze kennis. Zij beschrijven echter geen garantie van produkteigenschappen en vestigen geen contractuele rechtsbetrekking.

· **Relevante zinnen**

H319 Veroorzaakt ernstige oogirritatie.

· **Afkortingen en acroniemen:**

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)

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

Eye Irrit. 2: Ernstig oogletsel/oogirritatie – Categorie 2

Skin Sens. 1: Sensibilisatie van de huid – Categorie 1

STOT SE 1: Specifieke doelorgaantoxiciteit bij eenmalige blootstelling – Categorie 1

STOT RE 1: Specifieke doelorgaantoxiciteit bij herhaalde blootstelling – Categorie 1

Fiche de données de sécurité

selon 1907/2006/CE, Article 31

Date d'impression : 17.05.2022

Révision: 17.05.2022

RUBRIQUE 1: Identification de la substance/du mélange et de la société/l'entreprise

- **1.1 Identificateur de produit**
- **Nom du produit:** SILVER CONDUCTIVE ADHESIVE 478SS
- **Code du produit:** 12685-15
- **UFI:** QTU1-T097-500M-0SST
- **1.2 Utilisations identifiées pertinentes de la substance ou du mélange et utilisations déconseillées**
Pas d'autres informations importantes disponibles.
- **Emploi de la substance / de la préparation** Produits chimiques pour laboratoires
- **1.3 Renseignements concernant le fournisseur de la fiche de données de sécurité**
- **Producteur/fournisseur:**
Electron Microscopy Sciences
1560 Industry Road
USA-Hatfield, PA 19440
Tel: 215-412-8400 Fax: 215-412-8450
email: sgkck@aol.com
www.emsdiasum.com
- **Service chargé des renseignements:** Product safety department
- **1.4 Numéro d'appel d'urgence:**
ChemTrec 1-800-424-9300 Contract CCN7661
1-703-527-3887

RUBRIQUE 2: Identification des dangers

- **2.1 Classification de la substance ou du mélange**
- **Classification selon le règlement (CE) n° 1272/2008**



GHS08 danger pour la santé

STOT SE 1 H370 Risque avéré d'effets graves pour les organes.

STOT RE 1 H372 Risque avéré d'effets graves pour les organes à la suite d'expositions répétées ou d'une exposition prolongée.



GHS07

Eye Irrit. 2 H319 Provoque une sévère irritation des yeux.

Skin Sens. 1 H317 Peut provoquer une allergie cutanée.

- **2.2 Éléments d'étiquetage**
- **Étiquetage selon le règlement (CE) n° 1272/2008** Le produit est classifié et étiqueté selon le règlement CLP.
- **Pictogrammes de danger**



GHS07



GHS08

- **Mention d'avertissement** Danger
- **Mentions de danger**
H319 Provoque une sévère irritation des yeux.
H317 Peut provoquer une allergie cutanée.
H370 Risque avéré d'effets graves pour les organes.

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H372 Risque avéré d'effets graves pour les organes à la suite d'expositions répétées ou d'une exposition prolongée.

· **Conseils de prudence**

- P260 Ne pas respirer les poussières/fumées/gaz/brouillards/vapeurs/aérosols.
 P280 Porter des gants de protection / un équipement de protection des yeux / un équipement de protection du visage.
 P305+P351+P338 EN CAS DE CONTACT AVEC LES YEUX: Rincer avec précaution à l'eau pendant plusieurs minutes. Enlever les lentilles de contact si la victime en porte et si elles peuvent être facilement enlevées. Continuer à rincer.
 P333+P313 En cas d'irritation ou d'éruption cutanée: consulter un médecin.
 P405 Garder sous clef.
 P501 Éliminer le contenu/réceptacle conformément à la réglementation locale/régionale/nationale/internationale.

· **2.3 Autres dangers**

· **Résultats des évaluations PBT et vPvB**

- **PBT:** Non applicable.
 · **vPvB:** Non applicable.

RUBRIQUE 3: Composition/informations sur les composants

· **3.2 Caractérisation chimique: Mélanges**

· **Description:** Mélange des substances mentionnées à la suite avec des additifs non dangereux.

· **Composants dangereux:**

CAS: 112-15-2	acétate de 2-(2-éthoxyéthoxy)éthyle	Eye Irrit. 2, H319	>10-≤25%
EINECS: 203-940-1			

· **Indications complémentaires:** Pour le libellé des phrases de risque citées, se référer au chapitre 16.

RUBRIQUE 4: Premiers secours

· **4.1 Description des premiers secours**

· **Remarques générales:**

Les symptômes d'intoxication peuvent apparaître après de nombreuses heures seulement; une surveillance médicale est donc nécessaire au moins 48 heures après un accident.

· **Après inhalation:**

Donner de l'air frais en abondance et consulter un médecin pour plus de sécurité.

En cas d'inconscience, coucher et transporter la personne en position latérale stable.

· **Après contact avec la peau:** Laver immédiatement à l'eau et au savon et bien rincer.

· **Après contact avec les yeux:**

Rincer les yeux, pendant plusieurs minutes, sous l'eau courante en écartant bien les paupières. Si les troubles persistent, consulter un médecin.

· **Après ingestion:** Si les troubles persistent, consulter un médecin.

· **4.2 Principaux symptômes et effets, aigus et différés** Pas d'autres informations importantes disponibles.

· **4.3 Indication des éventuels soins médicaux immédiats et traitements particuliers nécessaires**

Pas d'autres informations importantes disponibles.

RUBRIQUE 5: Mesures de lutte contre l'incendie

· **5.1 Moyens d'extinction**

· **Moyens d'extinction:** Adapter les mesures d'extinction d'incendie à l'environnement.

· **5.2 Dangers particuliers résultant de la substance ou du mélange**

Pas d'autres informations importantes disponibles.

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- **5.3 Conseils aux pompiers**
- **Équipement spécial de sécurité:** Aucune mesure particulière n'est requise.

RUBRIQUE 6: Mesures à prendre en cas de dispersion accidentelle

- **6.1 Précautions individuelles, équipement de protection et procédures d'urgence** Pas nécessaire.
- **6.2 Précautions pour la protection de l'environnement:**
Diluer avec beaucoup d'eau.
Ne pas rejeter dans les canalisations, dans les eaux de surface et dans les nappes d'eau souterraines.
- **6.3 Méthodes et matériel de confinement et de nettoyage:**
Recueillir les liquides à l'aide d'un produit absorbant (sable, kieselguhr, neutralisant d'acide, liant universel, sciure).
Évacuer les matériaux contaminés en tant que déchets conformément au point 13.
Assurer une aération suffisante.
- **6.4 Référence à d'autres rubriques**
Afin d'obtenir des informations pour une manipulation sûre, consulter le chapitre 7.
Afin d'obtenir des informations sur les équipements de protection personnels, consulter le chapitre 8.
Afin d'obtenir des informations sur l'élimination, consulter le chapitre 13.

RUBRIQUE 7: Manipulation et stockage

- **7.1 Précautions à prendre pour une manipulation sans danger**
Veiller à une bonne ventilation/aspiration du poste de travail.
Éviter la formation d'aérosols.
- **Préventions des incendies et des explosions:** Aucune mesure particulière n'est requise.
- **7.2 Conditions d'un stockage sûr, y compris d'éventuelles incompatibilités**
- **Stockage:**
- **Exigences concernant les lieux et conteneurs de stockage:** Aucune exigence particulière.
- **Indications concernant le stockage commun:** Pas nécessaire.
- **Autres indications sur les conditions de stockage:** Tenir les emballages hermétiquement fermés.
- **7.3 Utilisation(s) finale(s) particulière(s)** Pas d'autres informations importantes disponibles.

RUBRIQUE 8: Contrôles de l'exposition/protection individuelle

- **8.1 Paramètres de contrôle**
- **Indications complémentaires pour l'agencement des installations techniques:**
Sans autre indication, voir point 7.
- **Composants présentant des valeurs-seuil à surveiller par poste de travail:**
Le produit ne contient pas en quantité significative des substances présentant des valeurs-seuil à surveiller par poste de travail.
- **Remarques supplémentaires:**
Le présent document s'appuie sur les listes en vigueur au moment de son élaboration.
- **8.2 Contrôles de l'exposition**
- **Équipement de protection individuel:**
- **Mesures générales de protection et d'hygiène:**
Tenir à l'écart des produits alimentaires, des boissons et de la nourriture pour animaux.
Retirer immédiatement les vêtements souillés ou humectés.
Se laver les mains avant les pauses et en fin de travail.
Éviter tout contact avec les yeux.
Éviter tout contact avec les yeux et avec la peau.

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· **Protection respiratoire:**

En cas d'exposition faible ou de courte durée, utiliser un filtre respiratoire; en cas d'exposition intense ou durable, utiliser un appareil de respiration indépendant de l'air ambiant.

· **Protection des mains:**



Gants de protection

Le matériau des gants doit être imperméable et résistant au produit / à la substance / à la préparation.

À cause du manque de tests, aucune recommandation pour un matériau de gants pour le produit / la préparation / le mélange de produits chimiques ne peut être donnée.

Choix du matériau des gants en fonction des temps de pénétration, du taux de perméabilité et de la dégradation.

· **Matériau des gants**

Le choix de gants appropriés dépend non seulement du matériau, mais aussi d'autres critères de qualité qui peuvent varier d'un fabricant à l'autre. Puisque le produit représente une préparation composée de plusieurs substances, la résistance des matériaux des gants ne peut pas être calculée à l'avance et doit, alors, être contrôlée avant l'utilisation.

· **Temps de pénétration du matériau des gants**

Le temps de pénétration exact est à déterminer par le fabricant des gants de protection et à respecter.

· **Protection des yeux:**



Lunettes de protection hermétiques

RUBRIQUE 9: Propriétés physiques et chimiques

· **9.1 Informations sur les propriétés physiques et chimiques essentielles**

· **Indications générales**

· **Aspect:**

Forme: Liquide

Couleur: Argenté

· **Odeur:** Caractéristique

· **Seuil olfactif:** Non déterminé.

· **valeur du pH:** Non déterminé.

· **Changement d'état**

Point de fusion/point de congélation: Non déterminé.

Point initial d'ébullition et intervalle d'ébullition: 217,4 °C

· **Point d'éclair** 110 °C

· **Inflammabilité (solide, gaz):** Non applicable.

· **Température d'inflammation:** 310 °C

· **Température de décomposition:** Non déterminé.

· **Température d'auto-inflammabilité:** Le produit ne s'enflamme pas spontanément.

· **Propriétés explosives:** Le produit n'est pas explosif.

· **Limites d'explosion:**

Inférieure: Non déterminé.

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Supérieure:	Non déterminé.
· Pression de vapeur à 20 °C:	0,4 hPa
· Densité à 20 °C:	2,589 g/cm ³
· Densité relative	Non déterminé.
· Densité de vapeur:	Non déterminé.
· Taux d'évaporation:	Non déterminé.
· Solubilité dans/miscibilité avec l'eau:	Entièrement miscible
· Coefficient de partage: n-octanol/eau:	Non déterminé.
· Viscosité:	
Dynamique à 20 °C:	20.000 mPas
Cinématique:	Non déterminé.
· Teneur en solvants:	
VOC (CE)	0,00 %
Teneur en substances solides:	75,0 %
· 9.2 Autres informations	Pas d'autres informations importantes disponibles.

RUBRIQUE 10: Stabilité et réactivité

- **10.1 Réactivité** Pas d'autres informations importantes disponibles.
- **10.2 Stabilité chimique**
- **Décomposition thermique/conditions à éviter:** Pas de décomposition en cas d'usage conforme.
- **10.3 Possibilité de réactions dangereuses** Aucune réaction dangereuse connue.
- **10.4 Conditions à éviter** Pas d'autres informations importantes disponibles.
- **10.5 Matières incompatibles:** Pas d'autres informations importantes disponibles.
- **10.6 Produits de décomposition dangereux:** Pas de produits de décomposition dangereux connus

RUBRIQUE 11: Informations toxicologiques

- **11.1 Informations sur les effets toxicologiques**
- **Toxicité aiguë** Compte tenu des données disponibles, les critères de classification ne sont pas remplis.
- **Effet primaire d'irritation:**
- **Corrosion cutanée/irritation cutanée**
Compte tenu des données disponibles, les critères de classification ne sont pas remplis.
- **Lésions oculaires graves/irritation oculaire**
Provoque une sévère irritation des yeux.
- **Sensibilisation respiratoire ou cutanée**
Peut provoquer une allergie cutanée.
- **Indications toxicologiques complémentaires:**
- **Effets CMR (cancérogène, mutagène et toxique pour la reproduction)**
- **Mutagenicité sur les cellules germinales**
Compte tenu des données disponibles, les critères de classification ne sont pas remplis.
- **Cancérogénicité** Compte tenu des données disponibles, les critères de classification ne sont pas remplis.
- **Toxicité pour la reproduction**
Compte tenu des données disponibles, les critères de classification ne sont pas remplis.
- **Toxicité spécifique pour certains organes cibles - exposition unique**
Risque avéré d'effets graves pour les organes.

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- **Toxicité spécifique pour certains organes cibles - exposition répétée**
Risque avéré d'effets graves pour les organes à la suite d'expositions répétées ou d'une exposition prolongée.
- **Danger par aspiration** Compte tenu des données disponibles, les critères de classification ne sont pas remplis.

RUBRIQUE 12: Informations écologiques

- **12.1 Toxicité**
- **Toxicité aquatique:** Pas d'autres informations importantes disponibles.
- **12.2 Persistance et dégradabilité** Pas d'autres informations importantes disponibles.
- **12.3 Potentiel de bioaccumulation** Pas d'autres informations importantes disponibles.
- **12.4 Mobilité dans le sol** Pas d'autres informations importantes disponibles.
- **Autres indications écologiques:**
- **Indications générales:**
Catégorie de pollution des eaux 1 (D) (Classification propre): peu polluant
Ne pas laisser le produit, non dilué ou en grande quantité, pénétrer la nappe phréatique, les eaux ou les canalisations.
- **12.5 Résultats des évaluations PBT et VPVB**
- **PBT:** Non applicable.
- **vPvB:** Non applicable.
- **12.6 Autres effets néfastes** Pas d'autres informations importantes disponibles.

RUBRIQUE 13: Considérations relatives à l'élimination

- **13.1 Méthodes de traitement des déchets**
- **Recommandation:** Ne doit pas être évacué avec les ordures ménagères. Ne pas laisser pénétrer dans les égouts.
- **Emballages non nettoyés:**
- **Recommandation:** Evacuation conformément aux prescriptions légales.
- **Produit de nettoyage recommandé:** Eau, éventuellement avec des produits de nettoyage

RUBRIQUE 14: Informations relatives au transport

- | | |
|--|-----------------|
| · 14.1 Numéro ONU | |
| · ADR, IMDG, IATA | néant |
| · 14.2 Désignation officielle de transport de l'ONU | |
| · ADR, IMDG, IATA | néant |
| · 14.3 Classe(s) de danger pour le transport | |
| · ADR, ADN, IMDG, IATA | |
| · Classe | néant |
| · 14.4 Groupe d'emballage | |
| · ADR, IMDG, IATA | néant |
| · 14.5 Dangers pour l'environnement: | Non applicable. |
| · 14.6 Précautions particulières à prendre par l'utilisateur | Non applicable. |
| · 14.7 Transport en vrac conformément à l'annexe II de la convention Marpol et au recueil IBC | Non applicable. |

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· "Règlement type" de l'ONU: néant

RUBRIQUE 15: Informations relatives à la réglementation

· **15.1 Réglementations/législation particulières à la substance ou au mélange en matière de sécurité, de santé et d'environnement**

· **Directive 2012/18/UE**

· **Substances dangereuses désignées - ANNEXE I** Aucun des composants n'est compris.

· **Catégorie SEVESO**

H3 TOXICITÉ SPÉCIFIQUE POUR CERTAINS ORGANES CIBLES (STOT) – EXPOSITION UNIQUE

· **Quantité seuil (tonnes) pour l'application des exigences relatives au seuil bas 50 t**

· **Quantité seuil (tonnes) pour l'application des exigences relatives au seuil haut 200 t**

· **RÈGLEMENT (CE) N° 1907/2006 ANNEXE XVII** Conditions de limitation: 3

· **Directive 2011/65/UE relative à la limitation de l'utilisation de certaines substances dangereuses dans les équipements électriques et électroniques – Annexe II**

Aucun des composants n'est compris.

· **RÈGLEMENT (UE) 2019/1148**

· **Annexe I - PRÉCURSEURS D'EXPLOSIFS FAISANT L'OBJET DE RESTRICTIONS (Valeur limite maximale aux fins de l'octroi d'une licence en vertu de l'article 5, paragraphe 3)**

Aucun des composants n'est compris.

· **Annexe II - PRÉCURSEURS D'EXPLOSIFS DEVANT FAIRE L'OBJET D'UN SIGNALLEMENT**

Aucun des composants n'est compris.

· **Règlement (CE) n° 273/2004 relatif aux précurseurs de drogues**

Aucun des composants n'est compris.

· **Règlement (CE) n° 111/2005 fixant des règles pour la surveillance du commerce des précurseurs des drogues entre la Communauté et les pays tiers**

Aucun des composants n'est compris.

· **15.2 Évaluation de la sécurité chimique:** Une évaluation de la sécurité chimique n'a pas été réalisée.

RUBRIQUE 16: Autres informations

Ces indications sont fondées sur l'état actuel de nos connaissances, mais ne constituent pas une garantie quant aux propriétés du produit et ne donnent pas lieu à un rapport juridique contractuel.

· **Phrases importantes**

H319 Provoque une sévère irritation des yeux.

· **Acronymes et abréviations:**

ADR: Accord relatif au transport international des marchandises dangereuses par route

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)

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

Eye Irrit. 2: Lésions oculaires graves/irritation oculaire – Catégorie 2

Skin Sens. 1: Sensibilisation cutanée – Catégorie 1

STOT SE 1: Toxicité spécifique pour certains organes cibles (exposition unique) – Catégorie 1

STOT RE 1: Toxicité spécifique pour certains organes cibles (exposition répétée) – Catégorie 1

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ABSCHNITT 1: Bezeichnung des Stoffs beziehungsweise des Gemischs und des Unternehmens

- **1.1 Produktidentifikator**
- **Handelsname:** SILVER CONDUCTIVE ADHESIVE 478SS
- **Artikelnummer:** 12685-15
- **UFI:** QTU1-T097-500M-0SST
- **1.2 Relevante identifizierte Verwendungen des Stoffs oder Gemischs und Verwendungen, von denen abgeraten wird**
Keine weiteren relevanten Informationen verfügbar.
- **Verwendung des Stoffes / des Gemisches** Laborchemikalien
- **1.3 Einzelheiten zum Lieferanten, der das Sicherheitsdatenblatt bereitstellt**
- **Hersteller/Lieferant:**
Electron Microscopy Sciences
1560 Industry Road
USA-Hatfield, PA 19440
Tel: 215-412-8400 Fax: 215-412-8450
email: sgkcck@aol.com
www.emsdiasum.com

Science Services GmbH
Unterhachinger Str. 75
81737 München Germany

Tel: +49(0)89 18 93 668-0
safety@scienceservices.de

Deutschland: +49 (0)89 19240, 24h Giftnotruf Munchen, www.toxinfo.org
Osterreich: +43 1406 43 43, Gesundheit Osterreich GmbH, 24 h
- **Auskunftgebender Bereich:** Product safety department
- **1.4 Notrufnummer:**
ChemTrec 1-800-424-9300 Contract CCN7661
1-703-527-3887

ABSCHNITT 2: Mögliche Gefahren

- **2.1 Einstufung des Stoffs oder Gemischs**
- **Einstufung gemäß Verordnung (EG) Nr. 1272/2008**



GHS08 Gesundheitsgefahr

STOT SE 1 H370 Schädigt die Organe.

STOT RE 1 H372 Schädigt die Organe bei längerer oder wiederholter Exposition.



GHS07

Eye Irrit. 2 H319 Verursacht schwere Augenreizung.

Skin Sens. 1 H317 Kann allergische Hautreaktionen verursachen.

- **2.2 Kennzeichnungselemente**
- **Kennzeichnung gemäß Verordnung (EG) Nr. 1272/2008**
Das Produkt ist gemäß CLP-Verordnung eingestuft und gekennzeichnet.

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Gefahrenpiktogramme


GHS07 GHS08

Signalwort Gefahr
Gefahrenhinweise
H319 Verursacht schwere Augenreizung.
H317 Kann allergische Hautreaktionen verursachen.
H370 Schädigt die Organe.
H372 Schädigt die Organe bei längerer oder wiederholter Exposition.
Sicherheitshinweise
P260 Staub/Rauch/Gas/Nebel/Dampf/Aerosol nicht einatmen.
P280 Schutzhandschuhe / Augenschutz / Gesichtsschutz tragen.
P305+P351+P338 BEI KONTAKT MIT DEN AUGEN: Einige Minuten lang behutsam mit Wasser spülen. Eventuell vorhandene Kontaktlinsen nach Möglichkeit entfernen. Weiter spülen.
P333+P313 Bei Hautreizung oder -ausschlag: Ärztlichen Rat einholen/ärztliche Hilfe hinzuziehen.
P405 Unter Verschluss aufbewahren.
P501 Entsorgung des Inhalts / des Behälters gemäß den örtlichen / regionalen / nationalen / internationalen Vorschriften.
2.3 Sonstige Gefahren
Ergebnisse der PBT- und vPvB-Beurteilung
PBT: Nicht anwendbar.

vPvB: Nicht anwendbar.

ABSCHNITT 3: Zusammensetzung/Angaben zu Bestandteilen

3.2 Chemische Charakterisierung: Gemische
Beschreibung: Gemisch aus nachfolgend angeführten Stoffen mit ungefährlichen Beimengungen.

Gefährliche Inhaltsstoffe:

CAS: 112-15-2	Carbitolacetat	☠ Eye Irrit. 2, H319	>10-≤25%
EINECS: 203-940-1			

Zusätzliche Hinweise: Der Wortlaut der angeführten Gefahrenhinweise ist dem Abschnitt 16 zu entnehmen.

ABSCHNITT 4: Erste-Hilfe-Maßnahmen

4.1 Beschreibung der Erste-Hilfe-Maßnahmen
Allgemeine Hinweise:
Vergiftungssymptome können erst nach vielen Stunden auftreten, deshalb ärztliche Überwachung mindestens 48 Stunden nach einem Unfall.
Nach Einatmen:
Reichlich Frischluftzufuhr und sicherheitshalber Arzt aufsuchen.
Bei Bewusstlosigkeit Lagerung und Transport in stabiler Seitenlage.
Nach Hautkontakt: Sofort mit Wasser und Seife abwaschen und gut nachspülen.

Nach Augenkontakt:
Augen mehrere Minuten bei geöffnetem Lidspalt unter fließendem Wasser spülen. Bei anhaltenden Beschwerden Arzt konsultieren.
Nach Verschlucken: Bei anhaltenden Beschwerden Arzt konsultieren.

4.2 Wichtigste akute und verzögert auftretende Symptome und Wirkungen
Keine weiteren relevanten Informationen verfügbar.

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- **4.3 Hinweise auf ärztliche Soforthilfe oder Spezialbehandlung**
Keine weiteren relevanten Informationen verfügbar.

ABSCHNITT 5: Maßnahmen zur Brandbekämpfung

- **5.1 Löschmittel**
- **Geeignete Löschmittel:** Feuerlöschmaßnahmen auf die Umgebung abstimmen.
- **5.2 Besondere vom Stoff oder Gemisch ausgehende Gefahren**
Keine weiteren relevanten Informationen verfügbar.
- **5.3 Hinweise für die Brandbekämpfung**
- **Besondere Schutzausrüstung:** Keine besonderen Maßnahmen erforderlich.

ABSCHNITT 6: Maßnahmen bei unbeabsichtigter Freisetzung

- **6.1 Personenbezogene Vorsichtsmaßnahmen, Schutzausrüstungen und in Notfällen anzuwendende Verfahren**
Nicht erforderlich.
- **6.2 Umweltschutzmaßnahmen:**
Mit viel Wasser verdünnen.
Nicht in die Kanalisation/Oberflächenwasser/Grundwasser gelangen lassen.
- **6.3 Methoden und Material für Rückhaltung und Reinigung:**
Mit flüssigkeitsbindendem Material (Sand, Kieselgur, Säurebinder, Universalbinder, Sägemehl) aufnehmen.
Kontaminiertes Material als Abfall nach Abschnitt 13 entsorgen.
Für ausreichende Lüftung sorgen.
- **6.4 Verweis auf andere Abschnitte**
Informationen zur sicheren Handhabung siehe Abschnitt 7.
Informationen zur persönlichen Schutzausrüstung siehe Abschnitt 8.
Informationen zur Entsorgung siehe Abschnitt 13.

ABSCHNITT 7: Handhabung und Lagerung

- **7.1 Schutzmaßnahmen zur sicheren Handhabung**
Für gute Belüftung/Absaugung am Arbeitsplatz sorgen.
Aerosolbildung vermeiden.
- **Hinweise zum Brand- und Explosionsschutz:** Keine besonderen Maßnahmen erforderlich.
- **7.2 Bedingungen zur sicheren Lagerung unter Berücksichtigung von Unverträglichkeiten**
- **Lagerung:**
- **Anforderung an Lagerräume und Behälter:** Keine besonderen Anforderungen.
- **Zusammenlagerungshinweise:** Nicht erforderlich.
- **Weitere Angaben zu den Lagerbedingungen:** Behälter dicht geschlossen halten.
- **Lagerklasse:**
- **Klassifizierung nach Betriebssicherheitsverordnung (BetrSichV):** -
- **7.3 Spezifische Endanwendungen** Keine weiteren relevanten Informationen verfügbar.

ABSCHNITT 8: Begrenzung und Überwachung der Exposition/Persönliche Schutzausrüstungen

- **8.1 Zu überwachende Parameter**
- **Zusätzliche Hinweise zur Gestaltung technischer Anlagen:** Keine weiteren Angaben, siehe Abschnitt 7.

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- **Bestandteile mit arbeitsplatzbezogenen, zu überwachenden Grenzwerten:**
Das Produkt enthält keine relevanten Mengen von Stoffen mit arbeitsplatzbezogenen, zu überwachenden Grenzwerten.
- **Zusätzliche Hinweise:** Als Grundlage dienen die bei der Erstellung gültigen Listen.
- **8.2 Begrenzung und Überwachung der Exposition**
- **Persönliche Schutzausrüstung:**
- **Allgemeine Schutz- und Hygienemaßnahmen:**
Von Nahrungsmitteln, Getränken und Futtermitteln fernhalten.
Beschmutzte, getränkte Kleidung sofort ausziehen.
Vor den Pausen und bei Arbeitsende Hände waschen.
Berührung mit den Augen vermeiden.
Berührung mit den Augen und der Haut vermeiden.
- **Atemschutz:**
Bei kurzzeitiger oder geringer Belastung Atemfiltergerät; bei intensiver bzw. längerer Exposition umluftunabhängiges Atemschutzgerät verwenden.
- **Handschutz:**



Schutzhandschuhe

Das Handschuhmaterial muss undurchlässig und beständig gegen das Produkt / den Stoff / die Zubereitung sein. Aufgrund fehlender Tests kann keine Empfehlung zum Handschuhmaterial für das Produkt / die Zubereitung / das Chemikaliengemisch abgegeben werden.

Auswahl des Handschuhmaterials unter Beachtung der Durchbruchzeiten, Permeationsraten und der Degradation.

- **Handschuhmaterial**
Die Auswahl eines geeigneten Handschuhs ist nicht nur vom Material, sondern auch von weiteren Qualitätsmerkmalen abhängig und von Hersteller zu Hersteller unterschiedlich. Da das Produkt eine Zubereitung aus mehreren Stoffen darstellt, ist die Beständigkeit von Handschuhmaterialien nicht vorausberechenbar und muß deshalb vor dem Einsatz überprüft werden.
- **Durchdringungszeit des Handschuhmaterials**
Die genaue Durchbruchzeit ist beim Schutzhandschuhhersteller zu erfahren und einzuhalten.
- **Augenschutz:**



Dichtschließende Schutzbrille

ABSCHNITT 9: Physikalische und chemische Eigenschaften

- **9.1 Angaben zu den grundlegenden physikalischen und chemischen Eigenschaften**
- **Allgemeine Angaben**
- **Aussehen:**

Form:	Flüssigkeit
Farbe:	Silberfarben
- **Geruch:** Charakteristisch
- **Geruchsschwelle:** Nicht bestimmt.
- **pH-Wert:** Nicht bestimmt.
- **Zustandsänderung**

Schmelzpunkt/Gefrierpunkt:	Nicht bestimmt.
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Siedebeginn und Siedebereich:	217,4 °C
· Flammpunkt:	110 °C
· Entzündbarkeit (fest, gasförmig):	Nicht anwendbar.
· Zündtemperatur:	310 °C
· Zersetzungstemperatur:	Nicht bestimmt.
· Selbstentzündungstemperatur:	Das Produkt ist nicht selbstentzündlich.
· Explosive Eigenschaften:	Das Produkt ist nicht explosionsgefährlich.
· Explosionsgrenzen:	
Untere:	Nicht bestimmt.
Obere:	Nicht bestimmt.
· Dampfdruck bei 20 °C:	0,4 hPa
· Dichte bei 20 °C:	2,589 g/cm ³
· Relative Dichte	Nicht bestimmt.
· Dampfdichte	Nicht bestimmt.
· Verdampfungsgeschwindigkeit	Nicht bestimmt.
· Löslichkeit in / Mischbarkeit mit Wasser:	Vollständig mischbar.
· Verteilungskoeffizient: n-Octanol/Wasser:	Nicht bestimmt.
· Viskosität:	
Dynamisch bei 20 °C:	20.000 mPas
Kinematisch:	Nicht bestimmt.
· Lösemittelgehalt:	
VOC (EU)	0,00 %
Festkörpergehalt:	75,0 %
· 9.2 Sonstige Angaben	Keine weiteren relevanten Informationen verfügbar.

ABSCHNITT 10: Stabilität und Reaktivität

- **10.1 Reaktivität** Keine weiteren relevanten Informationen verfügbar.
- **10.2 Chemische Stabilität**
- **Thermische Zersetzung / zu vermeidende Bedingungen:**
Keine Zersetzung bei bestimmungsgemäßer Verwendung.
- **10.3 Möglichkeit gefährlicher Reaktionen** Keine gefährlichen Reaktionen bekannt.
- **10.4 Zu vermeidende Bedingungen** Keine weiteren relevanten Informationen verfügbar.
- **10.5 Unverträgliche Materialien:** Keine weiteren relevanten Informationen verfügbar.
- **10.6 Gefährliche Zersetzungsprodukte:** Keine gefährlichen Zersetzungsprodukte bekannt.

ABSCHNITT 11: Toxikologische Angaben

- **11.1 Angaben zu toxikologischen Wirkungen**
- **Akute Toxizität** Aufgrund der verfügbaren Daten sind die Einstufungskriterien nicht erfüllt.
- **Primäre Reizwirkung:**
- **Ätz-/Reizwirkung auf die Haut** Aufgrund der verfügbaren Daten sind die Einstufungskriterien nicht erfüllt.

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- **Schwere Augenschädigung/-reizung**
Verursacht schwere Augenreizung.
- **Sensibilisierung der Atemwege/Haut**
Kann allergische Hautreaktionen verursachen.
- **Zusätzliche toxikologische Hinweise:**
- **CMR-Wirkungen (krebserzeugende, erbgutverändernde und fortpflanzungsgefährdende Wirkung)**
- **Keimzell-Mutagenität** Aufgrund der verfügbaren Daten sind die Einstufungskriterien nicht erfüllt.
- **Karzinogenität** Aufgrund der verfügbaren Daten sind die Einstufungskriterien nicht erfüllt.
- **Reproduktionstoxizität** Aufgrund der verfügbaren Daten sind die Einstufungskriterien nicht erfüllt.
- **Spezifische Zielorgan-Toxizität bei einmaliger Exposition**
Schädigt die Organe.
- **Spezifische Zielorgan-Toxizität bei wiederholter Exposition**
Schädigt die Organe bei längerer oder wiederholter Exposition.
- **Aspirationsgefahr** Aufgrund der verfügbaren Daten sind die Einstufungskriterien nicht erfüllt.

ABSCHNITT 12: Umweltbezogene Angaben

- **12.1 Toxizität**
- **Aquatische Toxizität:** Keine weiteren relevanten Informationen verfügbar.
- **12.2 Persistenz und Abbaubarkeit** Keine weiteren relevanten Informationen verfügbar.
- **12.3 Bioakkumulationspotenzial** Keine weiteren relevanten Informationen verfügbar.
- **12.4 Mobilität im Boden** Keine weiteren relevanten Informationen verfügbar.
- **Weitere ökologische Hinweise:**
- **Allgemeine Hinweise:**
Wassergefährdungsklasse 1 (Selbsteinstufung): schwach wassergefährdend
Nicht unverdünnt bzw. in größeren Mengen in das Grundwasser, in Gewässer oder in die Kanalisation gelangen lassen.
- **12.5 Ergebnisse der PBT- und vPvB-Beurteilung**
- **PBT:** Nicht anwendbar.
- **vPvB:** Nicht anwendbar.
- **12.6 Andere schädliche Wirkungen** Keine weiteren relevanten Informationen verfügbar.

ABSCHNITT 13: Hinweise zur Entsorgung

- **13.1 Verfahren der Abfallbehandlung**
- **Empfehlung:** Darf nicht zusammen mit Hausmüll entsorgt werden. Nicht in die Kanalisation gelangen lassen.
- **Ungereinigte Verpackungen:**
- **Empfehlung:** Entsorgung gemäß den behördlichen Vorschriften.
- **Empfohlenes Reinigungsmittel:** Wasser, gegebenenfalls mit Zusatz von Reinigungsmitteln.

ABSCHNITT 14: Angaben zum Transport

- | | |
|--|----------|
| · 14.1 UN-Nummer | |
| · ADR, IMDG, IATA | entfällt |
| · 14.2 Ordnungsgemäße UN-Versandbezeichnung | |
| · ADR, IMDG, IATA | entfällt |

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- | | |
|---|------------------|
| · 14.3 Transportgefahrenklassen | |
| · ADR, ADN, IMDG, IATA | |
| · Klasse | entfällt |
| · 14.4 Verpackungsgruppe | |
| · ADR, IMDG, IATA | entfällt |
| · 14.5 Umweltgefahren: | Nicht anwendbar. |
| · 14.6 Besondere Vorsichtsmaßnahmen für den Verwender | Nicht anwendbar. |
| · 14.7 Massengutbeförderung gemäß Anhang II des MARPOL-Übereinkommens und gemäß IBC-Code | Nicht anwendbar. |
| · UN "Model Regulation": | entfällt |

ABSCHNITT 15: Rechtsvorschriften

- **15.1 Vorschriften zu Sicherheit, Gesundheits- und Umweltschutz/spezifische Rechtsvorschriften für den Stoff oder das Gemisch**
- Richtlinie 2012/18/EU
- **Namentlich aufgeführte gefährliche Stoffe - ANHANG I** Keiner der Inhaltsstoffe ist enthalten.
- **Seveso-Kategorie H3 STOT SPEZIFISCHE ZIELORGAN-TOXIZITÄT - EINMALIGE EXPOSITION**
- **Mengenschwelle (in Tonnen) für die Anwendung in Betrieben der unteren Klasse 50 t**
- **Mengenschwelle (in Tonnen) für die Anwendung in Betrieben der oberen Klasse 200 t**
- **VERORDNUNG (EG) Nr. 1907/2006 ANHANG XVII** Beschränkungsbedingungen: 3
- **Richtlinie 2011/65/EU zur Beschränkung der Verwendung bestimmter gefährlicher Stoffe in Elektro- und Elektronikgeräten – Anhang II**
- Keiner der Inhaltsstoffe ist enthalten.
- **VERORDNUNG (EU) 2019/1148**
- **Anhang I - BESCHRÄNKTE AUSGANGSSTOFFE FÜR EXPLOSIVSTOFFE (Oberer Konzentrationsgrenzwert für eine Genehmigung nach Artikel 5 Absatz 3)**
- Keiner der Inhaltsstoffe ist enthalten.
- **Anhang II - MELDEPFLICHTIGE AUSGANGSSTOFFE FÜR EXPLOSIVSTOFFE**
- Keiner der Inhaltsstoffe ist enthalten.
- **Verordnung (EG) Nr. 273/2004 betreffend Drogenausgangsstoffe**
- Keiner der Inhaltsstoffe ist enthalten.
- **Verordnung (EG) Nr. 111/2005 zur Festlegung von Vorschriften für die Überwachung des Handels mit Drogenaustauschstoffen zwischen der Gemeinschaft und Drittländern**
- Keiner der Inhaltsstoffe ist enthalten.
- **Nationale Vorschriften:**
- **Wassergefährdungsklasse: WGK 1 (Selbsteinstufung):** schwach wassergefährdend.
- **Sonstige Vorschriften, Beschränkungen und Verbotsverordnungen**
Das Produkt unterliegt der Anlage 2 der Chemikalienverbotsverordnung (ChemVerbotsV) - Anforderungen in Bezug auf die Abgabe

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· **15.2 Stoffsicherheitsbeurteilung:** Eine Stoffsicherheitsbeurteilung wurde nicht durchgeführt.

ABSCHNITT 16: Sonstige Angaben

Die Angaben stützen sich auf den heutigen Stand unserer Kenntnisse, sie stellen jedoch keine Zusicherung von Produkteigenschaften dar und begründen kein vertragliches Rechtsverhältnis.

· **Relevante Sätze**

H319 Verursacht schwere Augenreizung.

· **Abkürzungen und Akronyme:**

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)

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

Eye Irrit. 2: Schwere Augenschädigung/Augenreizung – Kategorie 2

Skin Sens. 1: Sensibilisierung der Haut – Kategorie 1

STOT SE 1: Spezifische Zielorgan-Toxizität (einmalige Exposition) – Kategorie 1

STOT RE 1: Spezifische Zielorgan-Toxizität (wiederholte Exposition) – Kategorie 1

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SEZIONE 1: Identificazione della sostanza o della miscela e della società/impresa

- **1.1 Identificatore del prodotto**
- **Denominazione commerciale:** SILVER CONDUCTIVE ADHESIVE 478SS
- **Articolo numero:** 12685-15
- **UFI:** QTU1-T097-500M-0SST
- **1.2 Usi identificati pertinenti della sostanza o della miscela e usi sconsigliati**
Non sono disponibili altre informazioni.
- **Utilizzazione della Sostanza / del Preparato** Prodotti chimici per laboratorio
- **1.3 Informazioni sul fornitore della scheda di dati di sicurezza**
- **Produttore/fornitore:**
Electron Microscopy Sciences
1560 Industry Road
USA-Hatfield, PA 19440
Tel: 215-412-8400 Fax: 215-412-8450
email: sgkceck@aol.com
www.emsdiasum.com
- **Società Italiana Chimici**
Via Rio Nell Ellba 140
00138 Rome, Italy
Tel: 39 06 8800211
Fax: 39 30 06 8815313
Web: www.sichim.com
- **Informazioni fornite da:** Product safety department
- **1.4 Numero telefonico di emergenza:**
ChemTrec 1-800-424-9300 Contract CCN7661
1-703-527-3887

SEZIONE 2: Identificazione dei pericoli

- **2.1 Classificazione della sostanza o della miscela**
- **Classificazione secondo il regolamento (CE) n. 1272/2008**



GHS08 pericolo per la salute

STOT SE 1 H370 Provoca danni agli organi.

STOT RE 1 H372 Provoca danni agli organi in caso di esposizione prolungata o ripetuta.



GHS07

Eye Irrit. 2 H319 Provoca grave irritazione oculare.

Skin Sens. 1 H317 Può provocare una reazione allergica cutanea.

- **2.2 Elementi dell'etichetta**
- **Etichettatura secondo il regolamento (CE) n. 1272/2008**
Il prodotto è classificato ed etichettato conformemente al regolamento CLP.

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Pittogrammi di pericolo


GHS07 GHS08

Avvertenza Pericolo
Indicazioni di pericolo

H319 Provoca grave irritazione oculare.

H317 Può provocare una reazione allergica cutanea.

H370 Provoca danni agli organi.

H372 Provoca danni agli organi in caso di esposizione prolungata o ripetuta.

Consigli di prudenza

P260 Non respirare la polvere/i fumi/i gas/la nebbia/i vapori/gli aerosol.

P280 Indossare guanti / occhiali di protezione / protezione per il viso.

P305+P351+P338 **IN CASO DI CONTATTO CON GLI OCCHI:** sciacquare accuratamente per parecchi minuti. Togliere le eventuali lenti a contatto se è agevole farlo. Continuare a sciacquare.

P333+P313 In caso di irritazione o eruzione della pelle: consultare un medico.

P405 Conservare sotto chiave.

P501 Smaltire il prodotto/recipiente in conformità con le disposizioni locali / regionali / nazionali / internazionali.

2.3 Altri pericoli
Risultati della valutazione PBT e vPvB

· **PBT:** Non applicabile.

· **vPvB:** Non applicabile.

SEZIONE 3: Composizione/informazioni sugli ingredienti

3.2 Caratteristiche chimiche: Miscela

· **Descrizione:** Miscela delle seguenti sostanze con additivi non pericolosi.

Sostanze pericolose:

CAS: 112-15-2	acetato di 2-(2-etossietossi)etile	⚠ Eye Irrit. 2, H319	>10-≤25%
EINECS: 203-940-1			

· **Ulteriori indicazioni:** Il testo dell'avvertenza dei pericoli citati può essere appreso dal capitolo 16

SEZIONE 4: Misure di primo soccorso

4.1 Descrizione delle misure di primo soccorso
Indicazioni generali:

I sintomi di avvelenamento possono comparire dopo molte ore, per tale motivo è necessaria la sorveglianza di un medico nelle 48 ore successive all'incidente.

Inalazione:

Portare il soggetto in zona molto ben areata e per sicurezza consultare un medico.

Se il soggetto è svenuto provvedere a tenerlo durante il trasporto in posizione stabile su un fianco.

· **Contatto con la pelle:** Lavare immediatamente con acqua e sapone sciacquando accuratamente.

Contatto con gli occhi:

Lavare con acqua corrente per diversi minuti tenendo le palpebre ben aperte. Se persiste il dolore consultare il medico.

· **Ingestione:** Se il dolore persiste consultare il medico.

· **4.2 Principali sintomi ed effetti, sia acuti che ritardati** Non sono disponibili altre informazioni.

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- **4.3 Indicazione dell'eventuale necessità di consultare immediatamente un medico e di trattamenti speciali**
Non sono disponibili altre informazioni.

SEZIONE 5: Misure antincendio

- **5.1 Mezzi di estinzione**
- **Mezzi di estinzione idonei:** Adottare provvedimenti antiincendio nei dintorni della zona colpita.
- **5.2 Pericoli speciali derivanti dalla sostanza o dalla miscela** Non sono disponibili altre informazioni.
- **5.3 Raccomandazioni per gli addetti all'estinzione degli incendi**
- **Mezzi protettivi specifici:** Non sono richiesti provvedimenti particolari.

SEZIONE 6: Misure in caso di rilascio accidentale

- **6.1 Precauzioni personali, dispositivi di protezione e procedure in caso di emergenza** Non necessario.
- **6.2 Precauzioni ambientali:**
Diluire abbondantemente con acqua.
Impedire infiltrazioni nella fognatura/nelle acque superficiali/nelle acque freatiche.
- **6.3 Metodi e materiali per il contenimento e per la bonifica:**
Raccogliere il liquido con materiale assorbente (sabbia, tripoli, legante di acidi, legante universale, segatura).
Smaltimento del materiale contaminato conformemente al punto 13.
Provvedere ad una sufficiente areazione.
- **6.4 Riferimento ad altre sezioni**
Per informazioni relative ad un manipolazione sicura, vedere capitolo 7.
Per informazioni relative all'equipaggiamento protettivo ad uso personale vedere Capitolo 8.
Per informazioni relative allo smaltimento vedere Capitolo 13.

SEZIONE 7: Manipolazione e immagazzinamento

- **7.1 Precauzioni per la manipolazione sicura**
Accurata ventilazione/aspirazione nei luoghi di lavoro.
Evitare la formazione di aerosol.
- **Indicazioni in caso di incendio ed esplosione:** Non sono richiesti provvedimenti particolari.
- **7.2 Condizioni per lo stoccaggio sicuro, comprese eventuali incompatibilità**
- **Stoccaggio:**
- **Requisiti dei magazzini e dei recipienti:** Non sono richiesti requisiti particolari.
- **Indicazioni sullo stoccaggio misto:** Non necessario.
- **Ulteriori indicazioni relative alle condizioni di immagazzinamento:** Mantenere i recipienti ermeticamente chiusi.
- **7.3 Usi finali particolari** Non sono disponibili altre informazioni.

SEZIONE 8: Controllo dell'esposizione/protezione individuale

- **8.1 Parametri di controllo**
- **Ulteriori indicazioni sulla struttura di impianti tecnici:** Nessun dato ulteriore, vedere punto 7.
- **Componenti i cui valori limite devono essere tenuti sotto controllo negli ambienti di lavoro:**
Il prodotto non contiene quantità rilevanti di sostanze i cui valori limite devono essere tenuti sotto controllo negli ambienti di lavoro.
- **Ulteriori indicazioni:** Le liste valide alla data di compilazione sono state usate come base.

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- **8.2 Controlli dell'esposizione**
- **Mezzi protettivi individuali:**
- **Norme generali protettive e di igiene del lavoro:**
Tenere lontano da cibo, bevande e foraggi.
Togliere immediatamente gli abiti contaminati.
Lavarsi le mani prima dell'intervallo o a lavoro terminato.
Evitare il contatto con gli occhi.
Evitare il contatto con gli occhi e la pelle.
- **Maschera protettiva:**
Nelle esposizioni brevi e minime utilizzare la maschera; nelle esposizioni più intense e durature indossare l'autorespiratore.
- **Guanti protettivi:**



Guanti protettivi

Il materiale dei guanti deve essere impermeabile e stabile contro il prodotto/ la sostanza/ la formulazione. A causa della mancanza di tests non può essere consigliato alcun tipo di materiale per i guanti con cui manipolare il prodotto / la formulazione / la miscela di sostanze chimiche. Scelta del materiale dei guanti in considerazione dei tempi di passaggio, dei tassi di permeazione e della degradazione.

- **Materiale dei guanti**
La scelta dei guanti adatti non dipende soltanto dal materiale bensì anche da altre caratteristiche di qualità variabili da un produttore a un altro. Poiché il prodotto rappresenta una formulazione di più sostanze, la stabilità dei materiali dei guanti non è calcolabile in anticipo e deve essere testata prima dell'impiego
- **Tempo di permeazione del materiale dei guanti**
Richiedere dal fornitore dei guanti il tempo di passaggio preciso il quale deve essere rispettato.
- **Occhiali protettivi:**



Occhiali protettivi a tenuta

SEZIONE 9: Proprietà fisiche e chimiche

· 9.1 Informazioni sulle proprietà fisiche e chimiche fondamentali

· Indicazioni generali

· Aspetto:

· Forma:	Liquido
· Colore:	Color argento
· Odore:	Caratteristico
· Soglia olfattiva:	Non definito.

· **valori di pH:** Non definito.

· Cambiamento di stato

· Punto di fusione/punto di congelamento:	Non definito.
· Punto di ebollizione iniziale e intervallo di ebollizione:	217,4 °C

· **Punto di infiammabilità:** 110 °C

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· Infiammabilità (solidi, gas):	Non applicabile.
· Temperatura di accensione:	310 °C
· Temperatura di decomposizione:	Non definito.
· Temperatura di autoaccensione:	Prodotto non autoinfiammabile.
· Proprietà esplosive:	Prodotto non esplosivo.
· Limiti di infiammabilità:	
· Inferiore:	Non definito.
· Superiore:	Non definito.
· Tensione di vapore a 20 °C:	0,4 hPa
· Densità a 20 °C:	2,589 g/cm ³
· Densità relativa	Non definito.
· Densità di vapore:	Non definito.
· Velocità di evaporazione	Non definito.
· Solubilità in/Miscibilità con acqua:	Completamente miscibile.
· Coefficiente di ripartizione: n-ottanolo/acqua:	Non definito.
· Viscosità:	
· Dinamica a 20 °C:	20.000 mPas
· Cinematica:	Non definito.
· Tenore del solvente:	
· VOC (CE)	0,00 %
· Contenuto solido:	75,0 %
· 9.2 Altre informazioni	Non sono disponibili altre informazioni.

SEZIONE 10: Stabilità e reattività

- **10.1 Reattività** Non sono disponibili altre informazioni.
- **10.2 Stabilità chimica**
- **Decomposizione termica/ condizioni da evitare:** Il prodotto non si decompone se utilizzato secondo le norme.
- **10.3 Possibilità di reazioni pericolose** Non sono note reazioni pericolose.
- **10.4 Condizioni da evitare** Non sono disponibili altre informazioni.
- **10.5 Materiali incompatibili:** Non sono disponibili altre informazioni.
- **10.6 Prodotti di decomposizione pericolosi:** Non sono noti prodotti di decomposizione pericolosi.

SEZIONE 11: Informazioni tossicologiche

- **11.1 Informazioni sugli effetti tossicologici**
- **Tossicità acuta** Basandosi sui dati disponibili i criteri di classificazione non sono soddisfatti.
- **Irritabilità primaria:**
- **Corrosione/irritazione cutanea** Basandosi sui dati disponibili i criteri di classificazione non sono soddisfatti.
- **Lesioni oculari gravi/irritazioni oculari gravi**
Provoca grave irritazione oculare.
- **Sensibilizzazione respiratoria o cutanea**
Può provocare una reazione allergica cutanea.

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- **Ulteriori dati tossicologici:**
- **Effetti CMR (cancerogenicità, mutagenicità e tossicità per la riproduzione)**
- **Mutagenicità delle cellule germinali**
Basandosi sui dati disponibili i criteri di classificazione non sono soddisfatti.
- **Cancerogenicità** *Basandosi sui dati disponibili i criteri di classificazione non sono soddisfatti.*
- **Tossicità per la riproduzione** *Basandosi sui dati disponibili i criteri di classificazione non sono soddisfatti.*
- **Tossicità specifica per organi bersaglio (STOT) - esposizione singola**
Provoca danni agli organi.
- **Tossicità specifica per organi bersaglio (STOT) - esposizione ripetuta**
Provoca danni agli organi in caso di esposizione prolungata o ripetuta.
- **Pericolo in caso di aspirazione** *Basandosi sui dati disponibili i criteri di classificazione non sono soddisfatti.*

SEZIONE 12: Informazioni ecologiche

- **12.1 Tossicità**
- **Tossicità acquatica:** *Non sono disponibili altre informazioni.*
- **12.2 Persistenza e degradabilità** *Non sono disponibili altre informazioni.*
- **12.3 Potenziale di bioaccumulo** *Non sono disponibili altre informazioni.*
- **12.4 Mobilità nel suolo** *Non sono disponibili altre informazioni.*
- **Ulteriori indicazioni in materia ambientale:**
- **Ulteriori indicazioni:**
Pericolosità per le acque classe 1 (D) (Autoclassificazione): poco pericoloso
Non immettere nelle acque freatiche, nei corsi d'acqua o nelle fognature non diluito o in grandi quantità.
- **12.5 Risultati della valutazione PBT e vPvB**
- **PBT:** *Non applicabile.*
- **vPvB:** *Non applicabile.*
- **12.6 Altri effetti avversi** *Non sono disponibili altre informazioni.*

SEZIONE 13: Considerazioni sullo smaltimento

- **13.1 Metodi di trattamento dei rifiuti**
- **Consigli:** *Non smaltire il prodotto insieme ai rifiuti domestici Non immettere nelle fognature.*
- **Imballaggi non puliti:**
- **Consigli:** *Smaltimento in conformità con le disposizioni amministrative.*
- **Detergente consigliato:** *Acqua eventualmente con l'aggiunta di detersivi.*

SEZIONE 14: Informazioni sul trasporto

- | | |
|--|------------------------|
| · 14.1 Numero ONU | |
| · ADR, IMDG, IATA | <i>non applicabile</i> |
| · 14.2 Nome di spedizione dell'ONU | |
| · ADR, IMDG, IATA | <i>non applicabile</i> |
| · 14.3 Classi di pericolo connesso al trasporto | |
| · ADR, ADN, IMDG, IATA | |
| · Classe | <i>non applicabile</i> |
| · 14.4 Gruppo di imballaggio | |
| · ADR, IMDG, IATA | <i>non applicabile</i> |

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- | | |
|---|------------------|
| · 14.5 Pericoli per l'ambiente: | Non applicabile. |
| · 14.6 Precauzioni speciali per gli utilizzatori | Non applicabile. |
| · 14.7 Trasporto di rinfuse secondo l'allegato II di MARPOL ed il codice IBC | Non applicabile. |
| · UN "Model Regulation": | non applicabile |

SEZIONE 15: Informazioni sulla regolamentazione

- **15.1 Disposizioni legislative e regolamentari su salute, sicurezza e ambiente specifiche per la sostanza o la miscela**

- **Direttiva 2012/18/UE**
- **Sostanze pericolose specificate - ALLEGATO I** Nessuno dei componenti è contenuto.
- **Categoria Seveso H3 TOSSICITÀ SPECIFICA PER ORGANI BERSAGLIO (STOT) - ESPOSIZIONE SINGOLA**
- **Quantità limite (tonnellate) ai fini dell'applicazione dei requisiti di soglia inferiore 50 t**
- **Quantità limite (tonnellate) ai fini dell'applicazione dei requisiti di soglia superiore 200 t**
- **REGOLAMENTO (CE) n. 1907/2006 ALLEGATO XVII** Restrizioni: 3

- **Direttiva 2011/65/UE sulla restrizione dell'uso di determinate sostanze pericolose nelle apparecchiature elettriche ed elettroniche - Allegato II**

Nessuno dei componenti è contenuto.

- **REGOLAMENTO (UE) 2019/1148**

- **Allegato I - PRECURSORI DI ESPLOSIVI SOGGETTI A RESTRIZIONI (Valore limite superiore ai fini della concessione di licenze a norma dell'articolo 5, paragrafo 3)**

Nessuno dei componenti è contenuto.

- **Allegato II - PRECURSORI DI ESPLOSIVI SOGGETTI A SEGNALAZIONE**

Nessuno dei componenti è contenuto.

- **Regolamento (CE) n. 273/2004 relativo ai precursori di droghe**

Nessuno dei componenti è contenuto.

- **Regolamento (CE) N. 111/2005 recante norme per il controllo del commercio dei precursori di droghe tra la Comunità e i paesi terzi**

Nessuno dei componenti è contenuto.

- **15.2 Valutazione della sicurezza chimica:** Una valutazione della sicurezza chimica non è stata effettuata.

SEZIONE 16: Altre informazioni

I dati sono riportati sulla base delle nostre conoscenze attuali, non rappresentano tuttavia alcuna garanzia delle caratteristiche del prodotto e non motivano alcun rapporto giuridico contrattuale.

- **Fraasi rilevanti**

H319 Provoca grave irritazione oculare.

- **Abbreviazioni e acronimi:**

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)

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PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

Eye Irrit. 2: Gravi lesioni oculari/irritazione oculare – Categoria 2

Skin Sens. 1: Sensibilizzazione della pelle – Categoria 1

STOT SE 1: Tossicità specifica per organi bersaglio (esposizione singola) – Categoria 1

STOT RE 1: Tossicità specifica per organi bersaglio (esposizione ripetuta) – Categoria 1

IT

물질안전보건자료 GHS에 따라

인쇄일자: 2022.05.17

개정: 2022.05.17

1 화학제품과 회사에 관한 정보

- 제품 식별자
- 제품명: **SILVER CONDUCTIVE ADHESIVE 478SS**
- 상품번호: 12685-15
- 해당 순물질이나 혼합물의 관련 하위용도 및 사용금지용도
- 제품의 권고 용도와 사용상의 제한: SILVER CONDUCTIVE ADHESIVE 478SS
- 제품의 권고 용도와 사용상의 제한: 실험실 화학품
- 안전데이터표(Safety Data Sheet)내 공급업체 관련 상세 정보
- 제조자/수입자/유통업자 정보:
Electron Microscopy Sciences
1560 Industry Road
USA-Hatfield, PA 19440
Tel: 215-412-8400 Fax: 215-412-8450
email: sgkcck@aol.com
www.emsdiasum.com
- Samchang Commercial Co., Ltd.
Yeo Eui Do
PO Box 1110
Seoul, Korea
Tel: 82 2 703 3040
Fax: 82 2 717 3298

- Daedok Science, Co. Ltd.
34141 E10 Korea Advanced Institute of Science
Guseong-Dong, Yuseong-gu, Daejeon,
Korea
Phone: 82 42 710 2091
Fax: 82 42 367 0005
Website: www.labsmro.com
- 추가적인 정보 획득 가능: Product safety department
- 비상연락 전화번호:
ChemTrec 1-800-424-9300 Contract CCN7661
1-703-527-3887

2 유해성·위험성

- 순물질 또는 혼합물의 분류



건강에 위험

특정표적장기 독성 - 1회 노출 - 구분1 H370 장기에 손상을 일으킴

특정표적장기 독성 - 반복 노출 - 구분1 H372 장기간 또는 반복노출 되면 장기에 손상을 일으킴



심한 눈 손상성/눈 자극성 - 구분 2 H319 눈에 심한 자극을 일으킴

피부 과민성은 - 구분1 H317 알레르기성 피부 반응을 일으킬 수 있음

- 라벨표기 요소

· **GHS 라벨 요소** 본 제품은 화학물질의 분류 및 표기에 관한 국제조화시스템(GHS)에 따라 분류 및 표기되었습니다.

(2 쪽에 계속)

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· **GHS 그림문자**



GHS07 GHS08

- **신호어 위험**
- **유해·위험문구**
 눈에 심한 자극을 일으킴
 알레르기성 피부 반응을 일으킬 수 있음
 장기에 손상을 일으킴
 장기간 또는 반복노출 되면 장기에 손상을 일으킴
- **예방조치문구**
 분진·흙·가스·미스트·증기·스프레이를 흡입하지 마시오.
 보호장갑 / 눈 보호대 / 안면 보호구 착용.
 눈에 묻으면 몇 분간 물로 조심해서 씻으시오. 가능하면 콘택트렌즈를 제거하십시오. 계속 씻으시오.
 피부자극성 또는 홍반이 나타나면 의학적인 조언·주의를 받으시오.
 밀봉하여 저장하십시오.
 (지방/지역/국가/국제 규정에 따라) 에 내용물/용기를 폐기하십시오.
- **기타 유해성**
- **PBT(잔류성, 생물농축성, 독성 물질) 및 vPvB(고 잔류성, 고 생물농축성 물질) 평가 결과**
- **PBT(잔류성, 생물농축성, 독성 물질):** 해당사항 없음.
- **vPvB(고 잔류성, 고 생물농축성 물질):** 해당사항 없음.

3 구성성분의 명칭 및 함유량

- **화 학 적 특 성:** 혼합물
- **설 명:** 무해한 첨 가 물 이 함유된 아래에 열 거 된 물 질 로 만 들 어 진 혼 합 물.

· **위 험 요 소:**

112-15-2	2-(2-ethoxyethoxy)ethyl acetate	⚠ 심한 눈 손상성/눈 자극성 – 구분 2, H319	>10-≤25%
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4 응급조치 요령

- **응급조치요령 내용**
- **일 반 적 정 보:**
 중 독 증 상 은 몇 시 간 이 지 난 뒤 에 발 생 할 수 있 다. 따 라 서 사 고 가 발 생 한 후 에 적 어 도 48 시 간 동 안 은 의 료 진 의 관 찰 을 받 아 야 한 다.
- **흡입했을 때:**
 신 선 한 공 기 를 쐬 고 나 서 반 드 시 의 료 진 의 도 움 을 구 한 다.
 환 자 가 의 식 을 잃 었 을 경 우 에 는 안 전 한 자 세 에 서 환 자 를 운 반 한 다.
- **피부에 접촉했을 때:** 즉시 물과 비누로 씻고 잘 행군다.
- **눈에 들어갔을 때:** 흐르는 물에 눈을 몇 분 동안 씻어내고 나서, 증상이 지속될 경우에는 의사와 상담한다
- **먹었을 때:** 증상이 지속될 경우에는 의사와 상담한다.
- **기타 의사의 주의사항:**
- **가장 중요한 급·만성 증상 및 영향** 추가적인 정보가 존재하지 않습니다.
- **즉각적인 의료처치 및 특별치료가 필요함을 시사하는 징후** 추가적인 정보가 존재하지 않습니다.

KR

(3 쪽에계속)

물질안전보건자료

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5 폭발·화재시 대처방법

- 소화제
- 적절한 소화제: 주 변 환 경에 맞는 화 재 진 화방 방법을 사용한다.
- 본 화학물질이나 혼합물에서 발생하는 특별 유해성 추가적인 정보가 존재하지 않습니다.
- 소방관에 대한 권고사항
- 화재 진압 시 착용할 보호구 및 예방조치: 특 별 한 조 치 가 필요없음.

6 누출 사고 시 대처방법

- 개인적 예방조치, 보호장비 및 응급처치 절차 필요없음.
- 환경 관련 예방조치:
많은 물로 희석 시킨다.
하수도망/해수면위물/지하수로도달리지않게한다.
- 밀폐 및 정화 방법과 소재:
액체가 혼합된 물질 (모래, 규조토, 산성 결합물, 일반 결합물, 톱밥)에 흡입되도록 한다.
항목 13에 따라 오염된 물질을 쓰레기로 처분한다.
충분한 환기가 되도록 한다.
- 타 섹션 참조
안전 관리에 대한 정보는 제7 장 을 참고하시오.
개인 보호 장비에 대한 정보는 제8 장 을 참고하시오.
쓰레기 처리에 대한 정보는 제13 장 을 참고하시오.

7 취급 및 저장방법

- 취급:
- 안전 취급을 위한 예방조치
작업장에서는통풍이잘되고/습기제거가잘되게주의한다.
연무질이형성되는것을피한다.
- 화재 및 폭발 사고 예방대책에 관한 정보: 특 별 한 조 치 가 필요없음.
- 혼합위험성 등 안전 저장 조건
- 보관:
- 안전한 저장 방법: 특 별 한 요구사항이 없음.
- 하나의 공동 보관 시설에 대한 보관 관련 정보: 필 없었음
- 보관 조건에 관한 추가적인 정보: 용기를새지않게밀폐한채보관한다.
- 구체적 최종 사용자 추가적인 정보가 존재하지 않습니다.

8 노출방지 및 개인보호구

- 첨단시설 디자인에 대한 추가정보: 더 이 상 의 자료는 없음. 항 목 7 을 참고하시오.
- 통제 변수
- 화학물질의 노출기준, 생물학적 노출기준 등:
본 제품에는 작업장에서 감시가 필요한 주요한 가치의 어떤 해당 재료의 양을 함유하고 있지 않다.
- 추가 정보: 제조 할 당시에 유효 한 목 록을 기초로 사용했다.
- 노출 통제
- 개인 보호구
- 일반적보호조치및위생조치:
식품, 음료수와 사료로부터 멀리 떨어 뜨려 놓는다.
더러워지거나음료수가 묻은옷은 즉시 탈의한다.

(4 쪽에 계속)

물질안전보건자료 GHS에 따라

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(3 쪽부터 계속)

휴식 전 이 나 작업이 끝날때마다 손을 씻는다.
눈과의 접촉을 피한다.
눈과 피부와의 접촉은 피한다.

· 호흡기 보호:

단 시간 또는 경미한 오염의 경우에는 호흡여과기를 사용한다. 심각한 또는 장기간 노출시에는 호흡보호장비를 사용한다.

· 손 보호:



보호용 장갑

장갑재질은제품 / 원료 / 조제를투과시키지않아야하고, 내구성이있어야한다.
테스트를하지 않았기 때문에 제품 / 조제 / 화학 혼합물에 적합한 장갑재질에 대한 추천이 없다.
투과 시간, 침투율과저하를 고려해서 장갑 재료를 선택한다.

· 장갑의 재료

적합한장갑의선택은재질차이뿐아니라품질기준의차이도고려하여이루어져야하고제조업종에따라서도다르게선택되어야한다 .
제품은다양한재료로부터의조제로이루어지는것이기때문에 , 장갑재질의안정성은사전에예측되어질수있는것이아니고 ,
반드시사용전에 (그안전성이) 체크되어야한다.

· 장갑 재료의 투과 시간 정확한관통시간은보호장갑제조자에의하여인지되고, 준수되어야한다.

· 눈 보호:



꼭조이는보안경

9 물리화학적 특성

· 기본 물리 및 화학적 특성에 대한 정보

· 일반정보

· 외형

물리적 상태: 액체
색: 은색
냄새: 특색있는
후각역치: 알맞지않다.

· pH: 알맞지않다.

· 상태변화

녹는점/어는점: 맞지않는
초기 끓는점과 끓는점 범위: 217.4 °C

· 인화점: 110 °C

· 인화성(고체, 기체): 해당사항 없음.

· 점화온도: 310 °C

· 분해 온도: 알맞지않다.

· 자기점화: 이제품은자연발화성이없다.

· 폭발위험: 이제품은폭발위험성이없다

**· 인화 또는 폭발 범위의 상한/하한
아래로:** 알맞지않다.

(5 쪽에 계속)

물질안전보건자료 GHS에 따라

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(4 쪽부터계속)

· 위로:	알맞지않다.
· 증기압 의경우 20 °C:	0.4 hPa
· 밀도 의경우 20 °C:	2.589 g/cm ³
· 비중:	알맞지않다.
· 증기밀도:	알맞지않다.
· 증발 속도:	알맞지않다.
· 용해도:	
· 물:	완전히혼합할수있는
· n 옥탄올/물 분배계수:	알맞지않다.
· 점도:	
· 역학적 의경우 20 °C:	20,000 mPas
· 동점성:	알맞지않다.
· 용매내용물 VOC (EU)	0.00 %
· 고체의 함량:	75.0 %
· 기타 정보	추가적인 정보가 존재하지 않습니다.

10 안정성 및 반응성

- 반응성 추가적인 정보가 존재하지 않습니다.
- 화학적 안정성
- 화학적 안정성 및 유해 반응의 가능성 / 피해야 할 조건: 규정에따라사용할경우해체는없다
- 유해반응 가능성 위험한반응으로는알려지지않았다.
- 피해야 할 조건 추가적인 정보가 존재하지 않습니다.
- 혼합 금지 물질: 추가적인 정보가 존재하지 않습니다.
- 유해분해물질: 위험성있는분해물들은알려지지않았다.

11 독성에 관한 정보

- 독성학적 영향에 대한 정보
- 급성 독성:
- 일차적 자극 효과:
- 피부 부식성 또는 자극성: 무자극
- 심한 눈 손상 또는 자극성: 자극
- 감각화: 피부접촉을통하여감각화가가능성있다.
- 추 가 적 인 독성 에 관 한 정보:
이제품은유럽공동체의공동분류원칙의합법적인절차에근거하여최근에발효된원고에서아래위험들의사전준비에대하여제시하고있다.
자극적인

12 환경에 미치는 영향

- 독성
- 수생독성: 추가적인 정보가 존재하지 않습니다.
- 지속성 및 분해성 추가적인 정보가 존재하지 않습니다.

(6 쪽에계속)

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- 환 경 시스템에서의 행 동:
- 생물농축 잠재성 추가적인 정보가 존재하지 않습니다.
- 토양내 이동성 추가적인 정보가 존재하지 않습니다.
- 추가적인 생태학 정보:
- 일반 특징:
 - 수질오염등급 1 (자체등급분류): 약하게수질오염이된
 - 희석시키지않은채대량으로지하수나, 하천으로그리고하수도망에도달하지않게한다.
- PBT(잔류성, 생물농축성, 독성 물질) 및 vPvB(고 잔류성, 고 생물농축성 물질) 평가 결과
- PBT(잔류성, 생물농축성, 독성 물질): 해당사항 없음.
- vPvB(고 잔류성, 고 생물농축성 물질): 해당사항 없음.
- 기타 부작용 추가적인 정보가 존재하지 않습니다.

13 폐기시 주의사항

- 폐기물 처리 방법
- 권고: 생활쓰레기와함께처리되어서는안된다. 하수도망으로유입되어서는안된다.
- 비위생적 포장:
- 권고: 당국의지침에입각한쓰레기처리.
- 추 천 세정제: 경우에따라서세제가첨가된물

14 운송에 필요한 정보

· 유엔 번호	
· ADR, IMDG, IATA	누락되다
· UN 적정 선적명	
· ADR, IMDG, IATA	누락되다
· 교통 위험 클래스	
· ADR, ADN, IMDG, IATA	
· 등급	누락되다
· 용기등급	
· ADR, IMDG, IATA	누락되다
· 환경적 유해물질:	해당사항 없음.
· 이용자 특별 예방조치	해당사항 없음.
· MARPOL73/78(선박으로부터의 해양오염방지협약) 부속서2 및 IBC Code(국제선적화물코드)에 따른 벌크(bulk) 운송	해당사항 없음.
· UN "모범 규제":	누락되다

15 법적 규제현황

· 산업안전보건법에 의한 규제:

· 제조 등 금지물질:	
어떠한내용물도목록화되어있지않다	

(7 쪽에계속)

물질안전보건자료
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(6 쪽부터계속)

· 허가대상물질:		
어떠한내용물도목록화되어있지않다		
· 관리대상유해물질:		
7440-22-4	silver	
· 작업환경측정 대상 유해인자		
7440-22-4	silver	1B14
· 특수건강진단 대상 유해인자		
어떠한내용물도목록화되어있지않다		
· 해당 순물질 또는 혼합물에 대한 안전, 보건 및 환경 규제/법을 추가적인 정보가 존재하지 않습니다.		
· Korean Existing Chemical Inventory		
7440-22-4	silver	KE-31261
112-15-2	2-(2-ethoxyethoxy)ethyl acetate	KE-10468
· 화학물질관리법		
· 사고대비물질		
어떠한내용물도목록화되어있지않다		
· 금지물질		
어떠한내용물도목록화되어있지않다		
· 제한물질		
어떠한내용물도목록화되어있지않다		
· 유독물질		
어떠한내용물도목록화되어있지않다		
· 허가물질		
어떠한내용물도목록화되어있지않다		
· 위험물안전관리법 (위험물 및 지정수량) 제 4: 4,000 리터		
· 등록 또는 신고 면제대상 화학물질		
어떠한내용물도목록화되어있지않다		
· '21년까지 등록하여야 할 압, 돌연변이, 생식능력 이상을 일으키거나 일으킬 우려가 있는 기존화학물질		
어떠한내용물도목록화되어있지않다		
· 중점관리물질의 지정		
· 표1 중점관리물질(제2조 관련)		
어떠한내용물도목록화되어있지않다		
· 표2 중점관리물질(제2조 관련)		
어떠한내용물도목록화되어있지않다		

- GHS 라벨 요소 본 제품은 화학물질의 분류 및 표기에 관한 국제조화시스템(GHS)에 따라 분류 및 표기되었습니다.
- GHS 그림문자



GHS07 GHS08

- 신호어 위험
- 유해·위험문구
 눈에 심한 자극을 일으킴
 알레르기성 피부 반응을 일으킬 수 있음
 장기에 손상을 일으킴

(8 쪽에계속)

물질안전보건자료

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(7 쪽부터계속)

장기간 또는 반복노출 되면 장기에 손상을 일으킴

· 예방조치문구

분진·흙·가스·미스트·증기·스프레이를 흡입하지 마시오.

보호장갑 / 눈 보호대 / 안면 보호구 착용.

눈에 묻으면 몇 분간 물로 조심해서 씻으시오. 가능하면 콘택트렌즈를 제거하십시오. 계속 씻으시오.

피부자극성 또는 홍반이 나타나면 의학적인 조언·주의를 받으시오.

밀봉하여 저장하십시오.

(지방/지역/국가/국제 규정에 따라) 에 내용물/용기를 폐기하십시오.

· 화학물질 안전성 평가: 화학물질 안전성 평가가 수행되지 않음

16 그 밖의 참고사항

이 보고는 우리 지식에 대한 오늘날의 상태에 대하여 평가하고 있다

하지만 이 보고서는 생산 특성에 관한 보증은 기술하지 않았으며 계약적인 법률 관계에 기반을 두고 있지 않다

· 담당자:

· 최초 작성일자: 2022.05.17

· 개정 횟수 및 최종 개정일자: 1 / 2022.05.17

· 약어와 두문자어:

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

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)

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

KR

Helaian Data Keselamatan menurut P.U.(A) 310/2013

Tarikh cetak 17.05.2022

Disemak semula pada 17.05.2022

1 Pengenalan bahan kimia berbahaya dan pembekal

- **Pengenal pasti produk**
- **Nama dagang:** SILVER CONDUCTIVE ADHESIVE 478SS
- **Nombor artikel:** 12685-15
- **Kegunaan yang disarankan bagi bahan dan sekatan penggunaan** Tiada maklumat lanjut yang diperoleh.
- **Penggunaan bahan/sediaan** Bahan kimia makmal
- **Perincian pembekal risalah data keselamatan**
- **Pengilang/Pembekal:**
Electron Microscopy Sciences
1560 Industry Road
USA-Hatfield, PA 19440
Tel: 215-412-8400 Fax: 215-412-8450
email: sgkcck@aol.com
www.emsdiasum.com
- **Maklumat lanjut dapat diperoleh daripada:** Product safety department
- **Nombor telefon kecemasan:**
ChemTrec 1-800-424-9300 Contract CCN7661
1-703-527-3887

2 Pengenalan bahaya

- **Pengelasan bahan atau campuran**



Bahaya kesihatan

STOT SE 1 H370 Menyebabkan kerosakan organ.

STOT RE 1 H372 Menyebabkan kerosakan organ melalui pendedahan berpanjangan atau berulang.



Kreng. Mata 2 H319 Menyebabkan kerengsaan mata yang serius.

Pem. Kulit 1 H317 Boleh menyebabkan tindak balas alahan kulit.

- **Melabelkan unsur**
- **Unsur label GHS** Produk ini dikelaskan dan dilabelkan menurut Sistem Terharmoni Global (GHS).
- **Piktogram bahaya**



GHS07 GHS08

- **Kata isyarat** Bahaya
- **Pernyataan Bahaya**
Menyebabkan kerengsaan mata yang serius.
Boleh menyebabkan tindak balas alahan kulit.
Menyebabkan kerosakan organ.
Menyebabkan kerosakan organ melalui pendedahan berpanjangan atau berulang.
- **Pernyataan Berjaga-jaga**
Jangan sedut habuk/wasap/gas/ kabus/wap/semburan.
Pakai sarung tangan pelindung / perlindungan mata / perlindungan muka.

(Bersambung ke halaman 2)

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(Sambungan halaman 1)

JIKA TERKENA MATA: Bilas berhati-hati dengan air selama beberapa minit. Tanggalkan kanta lekap, jika ada dan dapat dilakukan dengan mudah. Teruskan membilas.

JIKA terdedah: Hubungi PUSAT RACUN atau doktor/pakar perubatan.

Simpan di tempat berkunci.

Lupuskan kandungan/bekas menurut peraturan tempatan/wilayah/kebangsaan/antarabangsa.

- **Bahaya lain**
- **Keputusan penilaian PBT dan vPvB**
- **PBT:** Tidak berkenaan
- **vPvB:** Tidak berkenaan

3 Komposisi dan maklumat mengenai ramuan bahan kimia berbahaya

- **Ciri kimia:** Campuran
- **Keterangan:** Campuran bahan disenaraikan di bawah bersama dengan bahan tambah tidak berbahaya.

· **Komponen berbahaya :**

112-15-2	2-(2-ethoxyethoxy)ethyl acetate	⚠ Kreg. Mata 2, H319	>10-≤25%
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4 Langkah-langkah pertolongan cemas

- **Keterangan langkah pertolongan cemas**
- **Maklumat am:**
Gejala keracunan boleh berlaku selepas beberapa jam, maka rawatan perubatan hendaklah diberikan sekurang-kurangnya 48 jam selepas kemalangan.
- **Jika tersedut:**
Berikan udara bersih dan pastikan rawatan doktor diperoleh.
Jika mangsa tidak sedarkan diri, letakkan pesakit dengan stabil dalam kedudukan mengiring untuk diangkat.
- **Jika terkena kulit:** Segera basuh dengan air dan sabun serta bilas bersih-bersih.
- **Jika terkena mata:**
Bilas mata sambil membukanya di bawah air yang mengalir selama beberapa minit. Jika gejala berterusan, hubungi doktor.
- **Jika tertelan:** Jika gejala berterusan, hubungi doktor.
- **Maklumat untuk doktor:**
- **Gejala dan kesan paling penting, akut dan lewat** Tiada maklumat lanjut yang diperoleh.
- **Arahan bagi apa-apa rawatan perubatan dan rawatan khas yang diperlukan**
Tiada maklumat lanjut yang diperoleh.

5 Langkah-langkah pemadaman kebakaran

- **Bahan pemadam api**
- **Agan pemadam yang sesuai:** Gunakan kaedah pemadaman kebakaran yang sesuai dengan keadaan sekeliling.
- **Bahaya khusus yang timbul daripada bahan atau campuran** Tiada maklumat lanjut yang diperoleh.
- **Panduan kepada pemadam kebakaran**
- **Kelengkapan perlindungan:** Tiada langkah khusus diperlukan.

6 Langkah-langkah pelepasan tidak sengaja

- **Langkah perlindungan diri, kelengkapan pelindung dan prosedur kecemasan** Tidak diperlukan.
- **Langkah perlindungan alam sekitar:**
Cairkan dengan air yang banyak.
Jangan biarkannya memasuki pembentung/air permukaan atau tanah.

(Bersambung ke halaman 3)

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(Sambungan halaman 2)

- **Kaedah dan bahan untuk pembendungan dan pembersihan:**
Serap dengan bahan cecair pengikat (pasir, diatomit, pengikat asid, pengikat semesta, habuk papan)
Lupuskan bahan tercemar sebagai sisa mengikut perkara 13.
Pastikan pengalihudaraan mencukupi.
- **Rujukan ke bahagian lain**
Lihat Bahagian 7 untuk maklumat pengendalian yang selamat.
Lihat Bahagian 8 untuk maklumat kelengkapan perlindungan diri.
Lihat Bahagian 13 untuk maklumat pelupusan.

7 Pengendalian dan penyimpanan

- **Pengendalian:**
- **Langkah perlindungan untuk pengendalian selamat**
Pastikan pengalihudaraan/ekzos yang mencukupi di tempat kerja.
Elakkan pembentukan aerosol.
- **Maklumat kebakaran dan perlindungan daripada letupan:** Tiada langkah berjaga-jaga yang khusus diperlukan.
- **Keadaan untuk penyimpanan selamat, termasuk apa-apa ketakserasian**
- **Penyimpanan:**
- **Keperluan yang mesti dipenuhi oleh bilik stor dan ruang simpanan.** Tiada keperluan khusus.
- **Maklumat penyimpanan di dalam satu tempat penyimpanan yang biasa:** Tidak diperlukan.
- **Maklumat lanjut tentang syarat penyimpanan:** Pastikan bekas sentiasa bertutup rapat.
- **Kegunaan akhir yang khusus** Tiada maklumat lanjut yang diperolehi.

8 Kawalan pendedahan dan perlindungan diri

- **Maklumat tambahan tentang reka bentuk kemudahan teknikal:** Tiada maklumat lanjut, lihat perkara 7.
- **Parameter kawalan**
- **Ramuan dengan nilai had yang memerlukan pemantauan di tempat kerja:**
Produk tidak mengandungi sebarang kuantiti bahan yang berkaitan dengan nilai kritikal yang perlu dipantau di tempat kerja.
- **Maklumat tambahan:** Senarai yang sah semasa pembuatan digunakan sebagai asas.
- **Kawalan pendedahan**
- **Kelengkapan perlindungan diri:**
- **Langkah perlindungan dan kebersihan am:**
Jauhkan daripada makanan, minuman dan makanan haiwan.
Segera tanggalkan semua pakaian yang tercemar dan kotor.
Basuh tangan sebelum berhenti rehat dan apabila kerja selesai.
Elakkan daripada terkena mata.
Elakkan daripada terkena mata dan kulit.
- **Perlindungan pernafasan:**
Jika berlaku pendedahan sekejap atau sedikit pencemaran, gunakan alat penapis pernafasan. Jika berlaku pendedahan yang intensif atau berpanjangan, gunakan alat pernafasan perlindungan serba lengkap.
- **Perlindungan tangan:**



Sarung tangan pelindung.

Bahan sarung tangan hendaklah telus dan kalis terhadap produk/bahan/sediaan.

Oleh sebab tiada ujian yang dijalankan, maka tiada syor bagi bahan sarung tangan yang boleh diberikan untuk produk/sediaan/campuran kimia.

(Bersambung ke halaman 4)

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(Sambungan halaman 3)

Pemilihan bahan sarung tangan berdasarkan waktu penembusan, kadar pembauran dan degradasi.

· **Bahan sarung tangan**

Pemilihan sarung tangan yang sesuai bukan hanya bergantung pada bahannya, tetapi juga tanda kualiti lainnya serta perbezaannya daripada satu pengeluar dengan pengeluar yang lain. Memandangkan produk merupakan suatu sediaan daripada beberapa bahan, ketahanan bahan sarung tangan tidak boleh dipastikan terlebih dahulu, oleh itu sarung tangan hendaklah diperiksa sebelum digunakan.

· **Jangka masa penyerapan bahan sarung tangan**

Waktu kemunculan yang tepat hendaklah diperoleh pengeluar sarung tangan pelindung dan hendaklah dipatuhi.

· **Perlindungan mata:**



Gogal bertutup rapat

9 Sifat fizikal dan kimia

· Maklumat tentang ciri fizik dan kimia	
· Maklumat Am	
· Rupa:	
· Bentuk:	Cecair
· Warna:	Berwarna perak
· Bau:	Ciri
· Ambang bau	Tidak ditentukan.
· Nilai pH:	Tidak ditentukan.
· Perubahan pada keadaan	
· Takat lebur/takat beku	Tidak ditentukan.
· Takat didih awal dan julat didih	217.4 °C
· Takat kilat:	110 °C
· Kemudahbakaran (pepejal, gas)	Tidak berkenaan
· Suhu pencucuhan:	310 °C
· Suhu penguraian:	Tidak ditentukan.
· Suhu pengautocucuhan	Produk tidak tercucuh sendiri
· Bahaya letupan:	Produk tidak ada bahaya letupan.
· Had letupan :	
· Bawah:	Tidak ditentukan.
· Atas:	Tidak ditentukan.
· Tekanan wap pada 20 °C:	0.4 hPa
· Ketumpatan pada 20 °C:	2.589 g/cm ³
· Ketumpatan bandingan	Tidak ditentukan.
· Ketumpatan wap	Tidak ditentukan.
· Kadar penyejatan	Tidak ditentukan.
· Keterlarutan dalam / Keterlarutcampuran dengan	
· Air:	Terlarut campur sepenuhnya.
· Pekali sekatan: n-oktanol/air	Tidak ditentukan.

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(Sambungan halaman 4)

· Kelikatan:	
Dinamik pada 20 °C:	20,000 mPas
Kinematik:	Tidak ditentukan.
· Kandungan pelarut:	
Kandungan pepejal:	75.0 %
· Maklumat lain	Tiada maklumat lanjut yang diperoleh.

10 Kestabilan dan kereaktifan

- **Kereaktifan** Tiada maklumat lanjut yang diperoleh.
- **Kestabilan kimia**
- **Penguraian terma/keadaan yang perlu dielakkan:** Tiada penguraian jika digunakan mengikut spesifikasi.
- **Kemungkinan tindak balas berbahaya** Tiada tindak balas berbahaya yang diketahui.
- **Keadaan yang perlu dielakkan** Tiada maklumat lanjut yang diperoleh.
- **Bahan tidak serasi:** Tiada maklumat lanjut yang diperoleh.
- **Produk penguraian yang berbahaya:** Tiada produk penguraian berbahaya yang diketahui.

11 Maklumat toksikologi

- **Maklumat tentang kesan toksikologi**
- **Ketoksikan akut:**
- **Kesan kerengsaan primer:**
- **Kakisan atau kerengsaan kulit** Tiada kesan merengsa.
- **Kerosakan atau kerengsaan mata yang serius** Kesan merengsa.
- **Pemekaan pernafasan / kulit** Pemekaan mungkin berlaku jika terkena kulit.
- **Maklumat tambahan toksikologi:**
Produk menunjukkan bahaya berikut mengikut kaedah pengiraan Garis Panduan Pengelasan Am EU bagi Sediaan seperti yang dikeluarkan dalam versi terbaru:
Perengsa

12 Maklumat ekologi

- **Ketoksikan**
- **Ketoksikan akuatik:** Tiada maklumat lanjut yang diperoleh.
- **Keterusan dan keterdegradasikan** Tiada maklumat lanjut yang diperoleh.
- **Kelakuan dalam sistem alam sekitar:**
- **Potensi bioakumulatif** Tiada maklumat lanjut yang diperoleh.
- **Mobiliiti di dalam tanah** Tiada maklumat lanjut yang diperoleh.
- **Maklumat tambahan ekologi:**
- **Nota am:**
Bahaya air kelas 1 (Peraturan Jerman) (Penilaian sendiri): sedikit berbahaya kepada air
Jangan biarkan produk yang tidak dicairkan atau dalam kuantiti yang banyak memasuki air tanah, saluran air atau sistem pembedungan.
- **Keputusan penilaian PBT dan vPvB**
- **PBT:** Tidak berkenaan
- **vPvB:** Tidak berkenaan

(Bersambung ke halaman 6)

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(Sambungan halaman 5)

· **Kesan buruk yang lain** Tiada maklumat lanjut yang diperoleh.

13 Maklumat pelupusan

- **Kaedah rawatan sisa**
- **Syor:**
Tidak boleh dilupuskan bersama dengan sampah isi rumah. Jangan biarkan produk memasuki sistem pembentukan.
- **Pembungkusan yang tidak bersih:**
- **Syor:** Pelupusan mestilah dijalankan menurut peraturan rasmi
- **Agen pencuci yang disyorkan:** Air, jika perlu, digunakan bersama dengan agen pencuci.

14 Maklumat pengangkutan

· Nombor UN · ADR, IMDG, IATA	Tidak sah
· Nama penghantaran UN yang betul · ADR, IMDG, IATA	Tidak sah
· pengangkutan kelas bahaya · ADR, ADN, IMDG, IATA · Kelas	Tidak sah
· Kumpulan pembungkusan · ADR, IMDG, IATA	Tidak sah
· Hazard persekitaran:	Tidak berkenaan
· Langkah perlindungan khas untuk pengguna	Tidak berkenaan
· Pengangkutan dalam pukat menurut Lampiran II MARPOL 73/78 dan Kod IBC	Tidak berkenaan
· "Peraturan Model" UN:	Tidak sah

15 Maklumat pengawalseliaan

- **Peraturan/undang-undang keselamatan, kesihatan dan persekitaran khusus untuk bahan atau campuran tersebut**
Tiada maklumat lanjut yang diperoleh.

· **Senarai Rujukan Bahan Berbahaya Alam Sekitar**

Tiada ramuan yang disenaraikan.

- **Unsur label GHS** Produk ini dikelaskan dan dilabelkan menurut Sistem Terharmoni Global (GHS).
- **Piktogram hazard**



GHS07 GHS08

- **Perkataan isyarat Bahaya**

(Bersambung ke halaman 7)

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(Sambungan halaman 6)

· **Pernyataan hazard**

- Menyebabkan kerengsaan mata yang serius.
- Boleh menyebabkan tindak balas alahan kulit.
- Menyebabkan kerosakan organ.
- Menyebabkan kerosakan organ melalui pendedahan berpanjangan atau berulang.

· **Pernyataan langkah perlindungan**

- Jangan sedut habuk/wasap/gas/ kabus/wap/semburan.
- Pakai sarung tangan pelindung / perlindungan mata / perlindungan muka.
- **JIKA TERKENA MATA:** Bilas berhati-hati dengan air selama beberapa minit. Tanggalkan kanta lekap, jika ada dan dapat dilakukan dengan mudah. Teruskan membilas.
- **JIKA terdedah:** Hubungi PUSAT RACUN atau doktor/pakar perubatan.
- Simpan di tempat berkunci.
- Lupuskan kandungan/bekas menurut peraturan tempatan/wilayah/kebangsaan/antarabangsa.

- **Penilaian keselamatan bahan kimia:** Penilaian Keselamatan Bahan Kimia belum dilakukan.

16 Maklumat lain

Maklumat ini berdasarkan maklumat kami yang terkini. Walau bagaimanapun, ini tidak akan menjadi jaminan bagi apa-apa ciri produk yang khusus dan tidak akan mewujudkan hubungan kontraktual yang sah dari segi undang-undang.

· **Hubungi:**

· **Singkatan dan akronim:**

- 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
- 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)
- PBT: Persistent, Bioaccumulative and Toxic
- vPvB: very Persistent and very Bioaccumulative
- Kreng. Mata 2: Kerosakan mata atau kerengsaan mata yang serius – Kategori 2
- Pem. Kulit 1: Pemekaan kulit – Kategori 1
- STOT SE 1: Ketoksikan organ sasaran khusus (pendedahan tunggal) – Kategori 1
- STOT RE 1: Ketoksikan organ sasaran khusus (pendedahan berulang) – Kategori 1

MY

Sikkerhetsdatablad

iflg. forordning (EF) nr. 1907/2006, Artikkel 31

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Avsnitt 1: Identifikasjon av stoffet/stoffblandingen og av selskapet/foretaket

- **1.1 Produktidentifikator**
- **Handelsnavn:** SILVER CONDUCTIVE ADHESIVE 478SS
- **Artikkelnummer:** 12685-15
- **UFI:** QTU1-T097-500M-0SST
- **1.2 Relevante identifiserte bruksområder for stoffet eller stoffblandingen og bruk som frarådes**
Ikke noe mer relevant informasjon tilgjengelig.
- **Bruk av stoffet/ tilberedning** laboratoriekjemikalier
- **1.3 Opplysninger om leverandøren av sikkerhetsdatabladet**
- **Produsent/leverandør:**
Electron Microscopy Sciences
1560 Industry Road
USA-Hatfield, PA 19440
Tel: 215-412-8400 Fax: 215-412-8450
email: sgkceck@aol.com
www.emsdiasum.com
- **Avdeling for nærmere informasjon:** Product safety department
- **1.4 Nødtelefonnummer**
ChemTrec 1-800-424-9300 Contract CCN7661
1-703-527-3887

Avsnitt 2: Fareidentifikasjon

- **2.1 Klassifisering av stoffet eller stoffblandingen**
- **Klassifisering i henhold til EC-forskrift nr.1272/2008**



GHS08 Helsefare

STOT SE 1 H370 Forårsaker organskader.

STOT RE 1 H372 Forårsaker organskader ved langvarig eller gjentatt eksponering.



GHS07

Eye Irrit. 2 H319 Gir alvorlig øyeirritasjon.

Skin Sens. 1 H317 Kan utløse en allergisk hudreaksjon.

- **2.2 Merkingselementer**
- **Merking iht. bestemmelse (EC) Nr. 1272/2008**
Produktet er klassifisert og merket i henhold til CLP-forordningen.
- **Farepiktogrammer**



GHS07 GHS08

- **Varselord Fare**
- **Faresetninger**
H319 Gir alvorlig øyeirritasjon.
H317 Kan utløse en allergisk hudreaksjon.
H370 Forårsaker organskader.
H372 Forårsaker organskader ved langvarig eller gjentatt eksponering.

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(fortsatt fra side 1)

· Sikkerhetssetninger

- P260 Ikke innånd støv/røyk/gass/tåke/damp/aerosoler.
 P280 Benytt vernehansker/øyevern/ansiktsvern.
 P305+P351+P338 VED KONTAKT MED ØYNENE: Skyll forsiktig med vann i flere minutter. Fjern eventuelle kontaktlinser dersom dette enkelt lar seg gjøre. Fortsett skyllingen.
 P333+P313 Ved hudirritasjon eller utslett: Søk legehjelp.
 P405 Oppbevares innelåst.
 P501 Innholdet / emballasjen skal avhendes i henhold til de lokale / regionale / nasjonale / internasjonale forskrifter.

· 2.3 Andre farer**· Resultater av PBT- og vPvB-vurdering**

- **PBT:** Ikke brukbar.
- **vPvB:** Ikke brukbar.

Avsnitt 3: Sammensetning/opplysninger om bestanddeler**· 3.2 Kjemisk karakterisering: Stoffblandinger**

- **Beskrivelse:** Blanding av nedenstående oppførte stoffer med ufarlige tilsetninger.

· Farlige innholdsstoffer:

CAS: 112-15-2	2-(2-ethoxyethoxy)ethyl acetate	Eye Irrit. 2, H319	>10-≤25%
EINECS: 203-940-1			

- **Ytterligere informasjon:** Teksten til de fareangivelsene som er inkludert her, kan konsulteres i kapittel 16.

Avsnitt 4: Førstehjelpstiltak**· 4.1 Beskrivelse av førstehjelpstiltak****· Generelle informasjon:**

Forgiftningssymptomer kan også oppstå etter mange timer. Personer må derfor ha legetilsyn i minst 48 timer etter en ulykke.

· Etter innånding:

Rikelig frisklufetilførsel, søk legehjelp for sikkerhets skyld.

Ved bevisstløshet lagring og transport i stabil sidestilling.

· Etter hudkontakt: Vask straks med vann og sepe og skyll godt etterpå.**· Etter øyekontakt:**

Skyll øynene med åpne øyenlokk i flere minutter under rennende vann. Ved fortsatt besvær tilkall lege.

· Etter svelging: Ved fortsatt besvær må lege konsulteres.**· 4.2 De viktigste symptomene og virkningene, både akutte og forsinkede**

Ikke noe mer relevant informasjon tilgjengelig.

· 4.3 Angivelse av om umiddelbar legehjelp og spesialbehandling er nødvendig

Ikke noe mer relevant informasjon tilgjengelig.

Avsnitt 5: Brannsløkkingstiltak**· 5.1 Sløkkingsmidler****· Egnede slukningsmidler:** Brannslukningstiltak tilpasses omgivelsene.**· 5.2 Særlige farer knyttet til stoffet eller stoffblandingen** Ikke noe mer relevant informasjon tilgjengelig.**· 5.3 Råd til brannmannskaper****· Spesielt verneutstyr:** Ingen spesielle tiltak nødvendig.

NO

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Avsnitt 6: Tiltak ved utilsiktede utslipp

- **6.1 Personlige forsiktighetsregler, personlig verneutstyr og nødrutiner** Ikke nødvendig.
- **6.2 Forsiktighetsregler med hensyn til miljø**
Fortynn med rikelig med vann.
La ikke produktet komme ned i kloakk/overflatevann/grunnvann.
- **6.3 Metoder og materialer for oppsamling og rensing**
Ta opp stoffet med væskebindende materiale (sand, kiselgur, syrebindemiddel, universalbindemiddel, sagflis).
Bortskaff kontaminert matereriale som avfall i.h.t. punkt 13.
Sørg for tilstrekkelig ventilasjon.
- **6.4 Henvisning til andre avsnitt**
Informasjoner om sikker håndtering, se kapittel 7.
Informasjoner om personlig beskyttelsesutstyr, se kapittel 8.
Informasjoner om bortskaffelse/deponering, se kapittel 13.

Avsnitt 7: Håndtering og lagring

- **7.1 Forsiktighetsregler for sikker håndtering**
Sørg for god ventilasjon/avsugning på arbeidsplassen.
Unngå aerosoldannelse.
- **Henvisninger om brann- og eksplosjonsvern:** Ingen særlige tiltak nødvendig.
- **7.2 Vilkår for sikker lagring, herunder eventuelle uforenligheter**
· **Lagring:**
· **Krav til lagerrom og beholdere:** Ingen spesielle krav.
· **Informasjoner om felles lagring:** Ikke nødvendig.
· **Ytterligere informasjoner om lagervilkårene:** Hold beholderne tett tillukket.
- **7.3 Særlig(e) sluttanvendelse(r)** Ikke noe mer relevant informasjon tilgjengelig.

Avsnitt 8: Eksponeringskontroll / personlig verneutstyr

- **8.1 Kontrollparametere**
- **Ytterligere informasjoner om utforming av tekniske anlegg:** Ingen ytterligere informasjoner, se punkt 7.
- **Komponenter med grenseverdier for arbeidsplass som må overholdes:**
Produktet inneholder ingen relevante mengder av stoffer med arbeidsplassrelevante grenseverdier som må overvåkes.
- **Ytterligere informasjoner:** Basis: listene som var gyldige ved oppstillingen.
- **8.2 Eksponeringskontroll**
- **Personlig verneutstyr:**
- **Generelle verne- og hygienetiltak:**
Holdes adskilt fra næringsmidler, drikkevarer og fôrstoffer.
Fjern omgående forurensede, gjennomvætede klær.
Vask hendene før arbeidspauser og ved arbeidets slutt.
Unngå berøring med øynene.
Unngå berøring med øyne og hud.
- **Åndedrettsvern:**
Ved korttidig eller liten belastning åndedrettsfilterapparat; ved intensiv eller lengre utsetting: bruk omluft-uavhengig åndedrettsbeskyttelsesapparat.

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NO

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· Håndvern:

Beskyttelseshansker

Hanskematerialet må være ugjennomtrengelig og bestandig overfor produktet /stoffet /blandingen.

På grunn av manglende tester kan det ikke gis noen anbefaling om hanskemateriale for produktet / tilberedningsprosessen/kjemikalieblandingen.

Hanskematerialet velges under hensyntagen til holdbarhetstid, gjennomtrengelighet og degradering.

· hanskemateriale

Valget av egnet hanske er ikke bare avhengig av materiale, men også av andre kvalitetskjennetegn og er forskjellig fra produsent til produsent. Da produktet representerer en sammensetning av flere stoffer, kan holdbarheten av hanskematerialet ikke forhåndsberegnes, og denne må testes før bruk.

· gjennomtrengingstid for hanskemateriale

Den nøyaktige holdbarhetstiden må bringes på det rene hos hanskeprodusenten og overholdes.

· Øyevern:

Tettsittende vernebrille

Avsnitt 9: Fysiske og kjemiske egenskaper

· 9.1 Opplysninger om grunnleggende fysiske og kjemiske egenskaper**· alminnelige opplysninger****· Utseende:**

Form:	Væske
Farge:	Sølvfarget
Lukt:	Karakteristisk
Lukterskel:	Ikke bestemt.

· pH-verdi: Ikke bestemt.

· Tilstandsendring

Smeltepunkt/frysepunkt:	Ikke bestemt.
Startkokepunkt og kokeområde:	217,4 °C

· Flammepunkt: 110 °C

· Antennelighet (fast stoff, gass): Ikke brukbar.

· Antennelsestemperatur: 310 °C

· Nedbrytningstemperatur: Ikke bestemt.

· Selvantennelsestemperatur: Produktet er ikke selvantennelig.

· Eksplosive egenskaper: Produktet er ikke eksplosjonsfarlig.

· Eksplosjonsgrenser:

Nedre:	Ikke bestemt.
Øvre	Ikke bestemt.

· Damptrykk ved 20 °C: 0,4 hPa

· Tetthet ved 20 °C: 2,589 g/cm³

· Relativ tetthet: Ikke bestemt.

(fortsatt på side 5)

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· Damptetthet:	Ikke bestemt.
· Fordampingshastighet:	Ikke bestemt.
· Løslighet i / blandbarhet med vann:	Fullstendig blandbar.
· Fordelingskoeffisient; n-oktanol/vann:	Ikke bestemt.
· Viskositet:	
Dynamisk ved 20 °C:	20.000 mPas
Kinematisk:	Ikke bestemt.
· Løsningsmiddelandel:	
VOC (EF)	0,00 %
Andel faste stoffer:	75,0 %
· 9.2 Andre opplysninger	Ikke noe mer relevant informasjon tilgjengelig.

Avsnitt 10: Stabilitet og reaktivitet

- **10.1 Reaktivitet** Ikke noe mer relevant informasjon tilgjengelig.
- **10.2 Kjemisk stabilitet**
- **Termisk spaltning / vilkår som må unngås:** Ingen spaltning ved formålsriktig bruk.
- **10.3 Risiko for farlige reaksjoner** Det kjennes ingen farlige reaksjoner.
- **10.4 Forhold som skal unngås** Ikke noe mer relevant informasjon tilgjengelig.
- **10.5 Uforenlige materialer** Ikke noe mer relevant informasjon tilgjengelig.
- **10.6 Farlige nedbrytingsprodukter** Ingen farlige spaltningsprodukter kjente.

Avsnitt 11: Toksikologiske opplysninger

- **11.1 Opplysninger om toksikologiske virkninger**
- **Akutt giftighet** Basert på tilgjengelige data, klassifiseringskriteriene ikke oppfylt.
- **Primær irritasjonsvirkning:**
- **Hudetsing/hudirritasjon** Basert på tilgjengelige data, klassifiseringskriteriene ikke oppfylt.
- **Alvorlig øyeskade/øyeirritasjon**
Gir alvorlig øyeirritasjon.
- **Sensibilisering ved innånding eller hudkontakt**
Kan utløse en allergisk hudreaksjon.
- **Informasjon om følgende grupper med potensielle virkninger:**
- **CMR-virkninger (kreftfremkallende virkninger, arvestoffskadelige og reproduksjonsskadelige virkninger)**
- **Arvestoffskadelig virkning på kjønnseller** Basert på tilgjengelige data, klassifiseringskriteriene ikke oppfylt.
- **Kreftfremkallende egenskap** Basert på tilgjengelige data, klassifiseringskriteriene ikke oppfylt.
- **Reproduksjonstoksicitet** Basert på tilgjengelige data, klassifiseringskriteriene ikke oppfylt.
- **STOT – enkelteksponering**
Forårsaker organskader.
- **STOT – gjentatt eksponering**
Forårsaker organskader ved langvarig eller gjentatt eksponering.
- **Aspirasjonsfare** Basert på tilgjengelige data, klassifiseringskriteriene ikke oppfylt.

NO

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Avsnitt 12: Økologiske opplysninger

- **12.1 Giftighet**
- **Akvatisk toksisitet:** Ikke noe mer relevant informasjon tilgjengelig.
- **12.2 Persistens og nedbrytbarhet** Ikke noe mer relevant informasjon tilgjengelig.
- **12.3 Bioakkumuleringsevne** Ikke noe mer relevant informasjon tilgjengelig.
- **12.4 Mobilitet i jord** Ikke noe mer relevant informasjon tilgjengelig.
- **Ytterligere økologiske informasjoner:**
- **Generelle informasjoner:**
Vannfareklasse 1 (D) (Selvklassifisering): lett farlig for vann
Ikke la stoffet komme ufortynnet ned i grunnvannet, i vassdrag eller i kloakker.
- **12.5 Resultater av PBT- og vPvB-vurdering**
- **PBT:** Ikke brukbar.
- **vPvB:** Ikke brukbar.
- **12.6 Andre skadevirkninger** Ikke noe mer relevant informasjon tilgjengelig.

Avsnitt 13: Sluttbehandling

- **13.1 Avfallsbehandlingsmetoder**
- **Anbefaling:** Må ikke bortskaffes sammen med husholdningsavfall. Må ikke komme ned i kloakk.
- **Ikke rengjort emballasje:**
- **Anbefaling:** Deponering i henhold til myndighetenes forskrifter.
- **Anbefalt rengjøringsmiddel:** Vann, eventuelt med tilsetning av rengjøringsmidler.

Avsnitt 14: Transportopplysninger

- | | |
|--|---------------|
| · 14.1 FN-nummer
· ADR, IMDG, IATA | bortfaller |
| · 14.2 FN-forsendelsesnavn
· ADR, IMDG, IATA | bortfaller |
| · 14.3 Transportfareklasse(r)
· ADR, ADN, IMDG, IATA
· klasse | bortfaller |
| · 14.4 Emballasjegruppe
· ADR, IMDG, IATA | bortfaller |
| · 14.5 Miljøfarer | Ikke brukbar. |
| · 14.6 Særlige forsiktighetsregler ved bruk | Ikke brukbar. |
| · 14.7 Bulktransport i henhold til vedlegg II til MARPOL 73/78 og IBC-regelverket | Ikke brukbar. |
| · UN "Model Regulation": | bortfaller |

NO

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Avsnitt 15: Opplysninger om regelverk

· 15.1 Særlige bestemmelser / særskilt lovgivning om sikkerhet, helse og miljø for stoffet eller stoffblandingen

- Direktiv 2012/18/EU
- Spesifiserte farlige stoffer - VEDLEGG I ingen av innholdsstoffene er listet opp
- Seveso kategori H3
- Mengdegrense (i tonn) for anvendelsen av krav til virksomheter på lavere nivå 50 t
- Mengdegrense (i tonn) for anvendelsen av krav til virksomheter på høyere nivå 200 t
- Forordning (EF) nr. 1907/2006 VEDLEGG XVII Begrensninger: 3

· Direktiv 2011/65/EF om begrensning av bruken av visse farlige stoffer i elektrisk og elektronisk utstyr - Vedlegg II

ingen av innholdsstoffene er listet opp

· Forordning (EF) nr. 273/2004 om utgangsstoffer for narkotika

ingen av innholdsstoffene er listet opp

· Forordning (EF) nr. 111/2005 om fastsettelse av regler for overvåking av handelen med utgangsstoffer for narkotika mel-lom Fellesskapet og tredjestater

ingen av innholdsstoffene er listet opp

· 15.2 Vurdering av kjemikaliesikkerhet En kjemisk sikkerhetsvurdering er ikke utført.

Avsnitt 16: Andre opplysninger

Opplysningene er basert på vårt kjennskap i dag. De utgjør dog ingen forsikring om produktegenskaper og er ikke grunnlag for noe kontraktsmessig rettsforhold.

· Relevante satser

H319 Gir alvorlig øyeirritasjon.

· Forkortelser og akronymer:

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)

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

Eye Irrit. 2: Alvorlig øyeskade/øyeirritasjon – Kategori 2

Skin Sens. 1: Hudsensibilisering – Kategori 1

STOT SE 1: Giftvirkning på bestemte organer (enkelteksponering) – Kategori 1

STOT RE 1: Giftvirkning på bestemte organer (gjentatt eksponering) – Kategori 1

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SECÇÃO 1: Identificação da substância/mistura e da sociedade/empresa

- **1.1 Identificador do produto**
- **Nome comercial:** SILVER CONDUCTIVE ADHESIVE 478SS
- **Código do produto:** 12685-15
- **UFI:** QTU1-T097-500M-0SST
- **1.2 Utilizações identificadas relevantes da substância ou mistura e utilizações desaconselhadas**
Não existe mais nenhuma informação relevante disponível.
- **Utilização da substância / da preparação** Químicos de laboratório
- **1.3 Identificação do fornecedor da ficha de dados de segurança**
- **Fabricante/fornecedor:**
Electron Microscopy Sciences
1560 Industry Road
USA-Hatfield, PA 19440
Tel: 215-412-8400 Fax: 215-412-8450
email: sgkceck@aol.com
www.emsdiasum.com
- **Entidade para obtenção de informações adicionais:** Product safety department
- **1.4 Número de telefone de emergência:**
ChemTrec 1-800-424-9300 Contract CCN7661
1-703-527-3887

SECÇÃO 2: Identificação dos perigos

- **2.1 Classificação da substância ou mistura**
- **Classificação em conformidade com o Regulamento (CE) n.º 1272/2008**



GHS08 perigo para a saúde

STOT SE 1 H370 Afecta os órgãos.

STOT RE 1 H372 Afecta os órgãos após exposição prolongada ou repetida.



GHS07

Eye Irrit. 2 H319 Provoca irritação ocular grave.

Skin Sens. 1 H317 Pode provocar uma reacção alérgica cutânea.

- **2.2 Elementos do rótulo**
- **Rotulagem em conformidade com o Regulamento (CE) n.º 1272/2008**
O produto classificou-se e está etiquetado em conformidade com o regulamento CLP.
- **Pictogramas de perigo**



GHS07



GHS08

- **Palavra-sinal** Perigo
- **Advertências de perigo**
H319 Provoca irritação ocular grave.
H317 Pode provocar uma reacção alérgica cutânea.
H370 Afecta os órgãos.
H372 Afecta os órgãos após exposição prolongada ou repetida.

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· **Recomendações de prudência**

- P260 Não respirar as poeiras/fumos/gases/névoas/vapores/aerossóis.
- P280 Usar luvas de proteção / proteção ocular / proteção facial.
- P305+P351+P338 **SE ENTRAR EM CONTACTO COM OS OLHOS:** Enxaguar cuidadosamente com água durante vários minutos. Se usar lentes de contacto, retire-as, se tal lhe for possível. Continue a enxaguar.
- P333+P313 Em caso de irritação ou erupção cutânea: consulte um médico.
- P405 Armazenar em local fechado à chave.
- P501 Eliminar o conteúdo/recipiente de acordo com a legislação local/regional/nacional/internacional.

· **2.3 Outros perigos**

· **Resultados da avaliação PBT e mPmB**

- **PBT:** Não aplicável.
- **mPmB:** Não aplicável.

SECÇÃO 3: Composição/informação sobre os componentes

· **3.2 Caracterização química: Misturas**

- **Descrição:** Mistura das seguintes substâncias com aditivos não perigosos.

· **Substâncias perigosas:**

CAS: 112-15-2	acetato de 2-(2-etóxi)etilo	Eye Irrit. 2, H319	>10-≤25%
EINECS: 203-940-1			

- **Avisos adicionais:** O texto das indicações de perigo aqui incluído poderá ser consultado no capítulo 16.

SECÇÃO 4: Medidas de primeiros socorros

· **4.1 Descrição das medidas de primeiros socorros**

· **Indicações gerais:**

Os sintomas de envenenamento podem surgir apenas após várias horas, por isso é necessária vigilância médica pelo menos 48 horas após o acidente.

· **Em caso de inalação:**

Assegurar uma boa entrada de oxigénio e, por razões de segurança, procurar auxílio médico.

Se a vítima estiver inconsciente, posicioná-la e transportá-la com estabilidade, deitada lateralmente.

· **Em caso de contacto com a pele:** Lavar imediatamente com água e sabão e enxaguar abundantemente.

· **Em caso de contacto com os olhos:**

Enxaguar os olhos durante alguns minutos sob água corrente, mantendo as pálpebras abertas. Em caso de persistência dos sintomas, consultar o médico.

· **Em caso de ingestão:** Se os sintomas persistirem, consultar o médico.

· **4.2 Sintomas e efeitos mais importantes, tanto agudos como retardados**

Não existe mais nenhuma informação relevante disponível.

· **4.3 Indicações sobre cuidados médicos urgentes e tratamentos especiais necessários**

Não existe mais nenhuma informação relevante disponível.

SECÇÃO 5: Medidas de combate a incêndios

· **5.1 Meios de extinção**

- **Meios adequados de extinção:** Coordenar no local medidas para extinção do fogo.

· **5.2 Perigos especiais decorrentes da substância ou mistura**

Não existe mais nenhuma informação relevante disponível.

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- **5.3 Recomendações para o pessoal de combate a incêndios**
- **Equipamento especial de protecção:** Não são necessárias medidas especiais.

SECÇÃO 6: Medidas a tomar em caso de fugas acidentais

- **6.1 Precauções individuais, equipamento de protecção e procedimentos de emergência** Não necessário.
- **6.2 Precauções a nível ambiental:**
Diluir em bastante água.
Evitar que penetre na canalização / águas superficiais / águas subterrâneas.
- **6.3 Métodos e materiais de confinamento e limpeza:**
Recolher com produtos que absorvam líquidos (areia, seixos, absorventes universais, serradura).
Eliminar residualmente as substâncias contaminadas como um resíduo segundo o Ponto 13.
Assegurar uma ventilação adequada.
- **6.4 Remissão para outras secções**
Para informações sobre uma manipulação segura, ver o capítulo 7.
Para informações referentes ao equipamento de protecção individual, ver o capítulo 8.
Para informações referentes à eliminação residual, ver o capítulo 13.

SECÇÃO 7: Manuseamento e armazenagem

- **7.1 Precauções para um manuseamento seguro**
Assegurar uma boa ventilação / exaustão no local de trabalho.
Evitar a formação de aerossóis.
- **Precauções para prevenir incêndios e explosões:** Não são necessárias medidas especiais.
- **7.2 Condições de armazenagem segura, incluindo eventuais incompatibilidades**
- **Armazenagem:**
- **Requisitos para espaços ou contentores para armazenagem:** Sem requisitos especiais.
- **Avisos para armazenagem conjunta:** Não necessário.
- **Outros avisos sobre as condições de armazenagem:** Manter o recipiente hermeticamente fechado.
- **7.3 Utilização(ões) final(is) específica(s)** Não existe mais nenhuma informação relevante disponível.

SECÇÃO 8: Controlo da exposição/Protecção individual

- **8.1 Parâmetros de controlo**
- **Indicações adicionais para concepção de instalações técnicas:** Não existem outras informações, ver ponto 7.
- **Componentes cujo valor do limite de exposição no local de trabalho deve ser monitorizado:**
O produto não contém quantidades relevantes de substâncias cujo valor limite relacionado no local de trabalho tenha que ser monitorizado.
- **Indicações adicionais:** Foram utilizadas como base as listas válidas à data da elaboração.
- **8.2 Controlo da exposição**
- **Equipamento de protecção individual:**
- **Medidas gerais de protecção e higiene:**
Manter afastado de alimentos, bebidas e forragens.
Despir imediatamente a roupa contaminada e embebida.
Lavar as mãos antes das pausas e no fim do trabalho.
Evitar o contacto com os olhos.
Evitar o contacto com os olhos e com a pele.
- **Protecção respiratória:**
Utilizar uma máscara respiratória se a exposição for reduzida ou durante um curto espaço de tempo; se esta for mais prolongada ou mais intensa, utilizar uma máscara respiratória independente do ar ambiente.

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· **Protecção das mãos:**

Luvas de protecção

O material das luvas tem de ser impermeável e resistente ao produto / à substância / preparação.

Uma vez que não foram realizados testes nesta área, não podemos recomendar um determinado tipo de material para as luvas que seja adequado para o produto / a preparação / a mistura de químicos.

Escolher o material das luvas tendo em consideração a durabilidade, a permeabilidade e a degradação.

· **Material das luvas**

A escolha das luvas mais adequadas não depende apenas do material, mas também de outras características qualitativas e varia de fabricante para fabricante. O facto de o produto ser composto por uma variedade de materiais leva a que não seja possível prever a duração dos mesmos e, conseqüentemente, das luvas, sendo assim necessário proceder a uma verificação antes da sua utilização.

· **Tempo de penetração no material das luvas**

Deve informar-se sobre a validade exacta das suas luvas junto do fabricante e respeitá-la.

· **Protecção dos olhos:**

Óculos de protecção totalmente fechados

SECÇÃO 9: Propriedades físico-químicas

· **9.1 Informações sobre propriedades físicas e químicas de base**· **Informações gerais**· **Aspetto:**

Forma:	Líquido
Cor:	Prateado
Odor:	Característico
Limiar olfactivo:	Não determinado.

· **valor pH:** Não determinado.· **Mudança do estado:**

Ponto de fusão/ponto de congelação:	Não determinado.
Ponto de ebulição inicial e intervalo de ebulição:	217,4 °C

· **Ponto de inflamação:** 110 °C· **Inflamabilidade (sólido, gás):** Não aplicável.· **Temperatura de ignição:** 310 °C· **Temperatura de decomposição:** Não determinado.· **Temperatura de autoignição:** O produto não é auto-inflamável.· **Propriedades explosivas:** O produto não corre o risco de explosão.· **Limites de explosão:**

Inferior:	Não determinado.
Superior:	Não determinado.

· **Pressão de vapor em 20 °C:** 0,4 hPa· **Densidade em 20 °C:** 2,589 g/cm³

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· Densidade relativa	<i>Não determinado.</i>
· Densidade de vapor	<i>Não determinado.</i>
· Taxa de evaporação:	<i>Não determinado.</i>
· Solubilidade em / miscibilidade com água:	<i>Completamente misturável.</i>
· Coefficiente de partição: n-octanol/água	<i>Não determinado.</i>
· Viscosidade:	
Dinâmico em 20 °C:	<i>20.000 mPas</i>
Cinemático:	<i>Não determinado.</i>
· Percentagem de solvente:	
VOC (UE)	<i>0,00 %</i>
Percentagem de substâncias sólidas:	<i>75,0 %</i>
· 9.2 Outras informações	<i>Não existe mais nenhuma informação relevante disponível.</i>

SECÇÃO 10: Estabilidade e reactividade

- **10.1 Reactividade** *Não existe mais nenhuma informação relevante disponível.*
- **10.2 Estabilidade química**
- **Decomposição térmica / condições a evitar:** *Não existe decomposição se usado de acordo com as especificações.*
- **10.3 Possibilidade de reações perigosas** *Não se conhecem reações perigosas.*
- **10.4 Condições a evitar** *Não existe mais nenhuma informação relevante disponível.*
- **10.5 Materiais incompatíveis:** *Não existe mais nenhuma informação relevante disponível.*
- **10.6 Produtos de decomposição perigosos:** *Não se conhecem produtos de decomposição perigosos.*

SECÇÃO 11: Informação toxicológica

- **11.1 Informações sobre os efeitos toxicológicos**
- **Toxicidade aguda** *Com base nos dados disponíveis, os critérios de classificação não são preenchidos.*
- **Efeito de irritabilidade primário:**
- **Corrosão/irritação cutânea** *Com base nos dados disponíveis, os critérios de classificação não são preenchidos.*
- **Lesões oculares graves/irritação ocular**
Provoca irritação ocular grave.
- **Sensibilização respiratória ou cutânea**
Pode provocar uma reacção alérgica cutânea.
- **Avisos adicionais de toxicologia:**
- **Efeitos CMR (carcinogenicidade, mutagenicidade e efeitos tóxicos na reprodução)**
- **Mutagenicidade em células germinativas**
Com base nos dados disponíveis, os critérios de classificação não são preenchidos.
- **Carcinogenicidade** *Com base nos dados disponíveis, os critérios de classificação não são preenchidos.*
- **Toxicidade reprodutiva** *Com base nos dados disponíveis, os critérios de classificação não são preenchidos.*
- **Toxicidade para órgãos-alvo específicos (STOT) - exposição única**
Afecta os órgãos.
- **Toxicidade para órgãos-alvo específicos (STOT) - exposição repetida**
Afecta os órgãos após exposição prolongada ou repetida.
- **Perigo de aspiração** *Com base nos dados disponíveis, os critérios de classificação não são preenchidos.*

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SECÇÃO 12: Informação ecológica

- **12.1 Toxicidade**
- **Toxicidade aquática:** Não existe mais nenhuma informação relevante disponível.
- **12.2 Persistência e degradabilidade** Não existe mais nenhuma informação relevante disponível.
- **12.3 Potencial de bioacumulação** Não existe mais nenhuma informação relevante disponível.
- **12.4 Mobilidade no solo** Não existe mais nenhuma informação relevante disponível.
- **Outras indicações ecológicas:**
- **Indicações gerais:**
Classe de perigo para a água 1 (D) (auto-classificação): pouco perigoso para a água
Não deixar chegar substâncias concentradas, ou seja quantidades grandes, às águas subterrâneas, aos cursos de água ou à canalização.
- **12.5 Resultados da avaliação PBT e mPmB**
- **PBT:** Não aplicável.
- **mPmB:** Não aplicável.
- **12.6 Outros efeitos adversos** Não existe mais nenhuma informação relevante disponível.

SECÇÃO 13: Considerações relativas à eliminação

- **13.1 Métodos de tratamento de resíduos**
- **Recomendação:** Não se pode eliminar juntamente com o lixo doméstico. Não permita que chegue à canalização.
- **Embalagens contaminadas:**
- **Recomendação:** Eliminação residual conforme o regulamento dos serviços públicos.
- **Meio de limpeza recomendado:** Água, eventualmente com adição de produtos de limpeza

SECÇÃO 14: Informações relativas ao transporte

- | | |
|--|----------------|
| · 14.1 Número ONU
· ADR, IMDG, IATA | não aplicável |
| · 14.2 Designação oficial de transporte da ONU
· ADR, IMDG, IATA | não aplicável |
| · 14.3 Classes de perigo para efeitos de transporte
· ADR, ADN, IMDG, IATA
· Classe | não aplicável |
| · 14.4 Grupo de embalagem
· ADR, IMDG, IATA | não aplicável |
| · 14.5 Perigos para o ambiente: | Não aplicável. |
| · 14.6 Precauções especiais para o utilizador | Não aplicável. |
| · 14.7 Transporte a granel em conformidade com o anexo II da Convenção MARPOL e o Código IBC | Não aplicável. |
| · UN "Model Regulation": | não aplicável |

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SECÇÃO 15: Informação sobre regulamentação

· **15.1 Regulamentação/legislação específica para a substância ou mistura em matéria de saúde, segurança e ambiente**

· **Directiva 2012/18/UE**

· **Substâncias perigosas designadas - ANEXO I Nenhum dos componentes se encontra listado.**

· **Categoria “Seveso” H3 TOXICIDADE PARA ÓRGÃOS-ALVO ESPECÍFICOS – EXPOSIÇÃO ÚNICA**

· **Quantidades-limiar (em toneladas), para a aplicação de requisitos de nível inferior 50 t**

· **Quantidades-limiar (em toneladas), para a aplicação de requisitos de nível superior 200 t**

· **Regulamento (CE) n.º 1907/2006 ANEXO XVII Condições de limitação: 3**

· **Directiva 2011/65/UE relativa à restrição do uso de determinadas substâncias perigosas em equipamentos eléctricos e electrónicos - Anexo II**

Nenhum dos componentes se encontra listado.

· **REGULAMENTO (UE) 2019/1148**

· **Anexo I - PRECURSORES DE EXPLOSIVOS OBJETO DE RESTRIÇÕES (Valor-limite máximo para efeitos de licenciamento nos termos do artigo 5.o, n.o 3)**

Nenhum dos componentes se encontra listado.

· **Anexo II - PRECURSORES DE EXPLOSIVOS PASSÍVEIS DE PARTICIPAÇÃO**

Nenhum dos componentes se encontra listado.

· **Regulamento (CE) n.º 273/2004 relativo aos precursores de drogas**

Nenhum dos componentes se encontra listado.

· **Regulamento (CE) n.º 111/2005 que estabelece regras de controlo do comércio de precursores de drogas entre a Comunidade e países terceiros**

Nenhum dos componentes se encontra listado.

· **15.2 Avaliação da segurança química: Não foi realizada nenhuma Avaliação de Segurança Química.**

SECÇÃO 16: Outras informações

As informações fornecidas baseiam-se no estado actual dos nossos conhecimentos, embora não representem uma garantia das propriedades do produto e não fundamentam uma relação contratual.

· **Frases relevantes**

H319 Provoca irritação ocular grave.

· **Abreviaturas e acrónimos:**

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)

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

Eye Irrit. 2: Lesões oculares graves/irritação ocular – Categoria 2

Skin Sens. 1: Sensibilização cutânea – Categoria 1

STOT SE 1: Toxicidade para órgãos-alvo específicos (exposição única) – Categoria 1

STOT RE 1: Toxicidade para órgãos-alvo específicos (exposição repetida) – Categoria 1

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SECCIÓN 1: Identificación de la sustancia o la mezcla y de la sociedad o la empresa

- **1.1 Identificador del producto**
- **Nombre comercial:** SILVER CONDUCTIVE ADHESIVE 478SS
- **Número del artículo:** 12685-15
- **UFI:** QTU1-T097-500M-0SST
- **1.2 Usos pertinentes identificados de la sustancia o de la mezcla y usos desaconsejados**
No existen más datos relevantes disponibles.
- **Utilización del producto / de la elaboración** Sustancias químicas de laboratorio
- **1.3 Datos del proveedor de la ficha de datos de seguridad**
- **Fabricante/distribuidor:**
Electron Microscopy Sciences
1560 Industry Road
USA-Hatfield, PA 19440
Tel: 215-412-8400 Fax: 215-412-8450
email: sgkceck@aol.com
www.emsdiasum.com
- **Aname**
C/ Perez Galdos no. 2
28693 Quijorna
Madrid, Spain
Tel: +34.91.816.89.50
Fax: +34.91.816.85.94
email: ventas@aname.es
- **Área de información:** Product safety department
- **1.4 Teléfono de emergencia:**
ChemTrec 1-800-424-9300 Contract CCN7661
1-703-527-3887

SECCIÓN 2: Identificación de los peligros

- **2.1 Clasificación de la sustancia o de la mezcla**
- **Clasificación con arreglo al Reglamento (CE) n° 1272/2008**



GHS08 peligro para la salud

STOT SE 1 H370 Provoca daños en los órganos.

STOT RE 1 H372 Provoca daños en los órganos tras exposiciones prolongadas o repetidas.



GHS07

Eye Irrit. 2 H319 Provoca irritación ocular grave.

Skin Sens. 1 H317 Puede provocar una reacción alérgica en la piel.

- **2.2 Elementos de la etiqueta**
- **Etiquetado con arreglo al Reglamento (CE) n° 1272/2008**
El producto se ha clasificado y etiquetado de conformidad con el reglamento CLP.

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· Pictogramas de peligro



GHS07 GHS08

· Palabra de advertencia Peligro

· Indicaciones de peligro

H319 Provoca irritación ocular grave.

H317 Puede provocar una reacción alérgica en la piel.

H370 Provoca daños en los órganos.

H372 Provoca daños en los órganos tras exposiciones prolongadas o repetidas.

· Consejos de prudencia

P260 No respirar el polvo/el humo/el gas/la niebla/los vapores/el aerosol.

P280 Llevar guantes protección /equipo de protección para los ojos/ equipo de protección para la cara.

P305+P351+P338 EN CASO DE CONTACTO CON LOS OJOS: Enjuagar con agua cuidadosamente durante varios minutos. Quitar las lentes de contacto cuando estén presentes y pueda hacerse con facilidad. Proseguir con el lavado.

P333+P313 En caso de irritación o erupción cutánea: Consultar a un médico.

P405 Guardar bajo llave.

P501 Eliminar el contenido o el recipiente conforme a la reglamentación local/regional/nacional/internacional.

· 2.3 Otros peligros

· Resultados de la valoración PBT y mPmB

· **PBT:** No aplicable.· **mPmB:** No aplicable.

SECCIÓN 3: Composición/información sobre los componentes

· 3.2 Caracterización química: Mezclas

· **Descripción:** Mezcla formada por las sustancias especificadas a continuación con adiciones no peligrosas.

· Componentes peligrosos:

CAS: 112-15-2	acetato de 2-(2-etoxietoxi)etilo	Eye Irrit. 2, H319	>10-≤25%
EINECS: 203-940-1			

· **Indicaciones adicionales:** El texto de los posibles riesgos aquí indicados se puede consultar en el capítulo 16.

SECCIÓN 4: Primeros auxilios

· 4.1 Descripción de los primeros auxilios

· Instrucciones generales:

Los síntomas de intoxicación pueden presentarse después de muchas horas, por lo que se requiere una supervisión médica durante un mínimo de 48 horas después del accidente.

· En caso de inhalación del producto:

Suministrar suficiente aire fresco y, para mayor seguridad, consultar el médico.

Las personas desmayadas deben tenderse y transportarse de lado con la suficiente estabilidad.

· En caso de contacto con la piel: Lavar inmediatamente con agua y jabón y enjuagar bien.

· En caso de con los ojos:

Limpiar los ojos abiertos durante varios minutos con agua corriente. En caso de trastornos persistentes consultar un médico.

· En caso de ingestión: Consultar un médico si los trastornos persisten.

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- **4.2 Principales síntomas y efectos, agudos y retardados** No existen más datos relevantes disponibles.
- **4.3 Indicación de toda atención médica y de los tratamientos especiales que deban dispensarse inmediatamente**
No existen más datos relevantes disponibles.

SECCIÓN 5: Medidas de lucha contra incendios

- **5.1 Medios de extinción**
- **Sustancias extintoras apropiadas:** Combatir los incendios con medidas adaptados al ambiente circundante.
- **5.2 Peligros específicos derivados de la sustancia o la mezcla** No existen más datos relevantes disponibles.
- **5.3 Recomendaciones para el personal de lucha contra incendios**
- **Equipo especial de protección:** No se requieren medidas especiales.

SECCIÓN 6: Medidas en caso de vertido accidental

- **6.1 Precauciones personales, equipo de protección y procedimientos de emergencia** No es necesario.
- **6.2 Precauciones relativas al medio ambiente:**
Diluir con mucha agua.
Evitar que penetre en la canalización /aguas de superficie /agua subterráneas.
- **6.3 Métodos y material de contención y de limpieza:**
Quitar con material absorbente (arena, kieselgur, aglutinante de ácidos, aglutinante universal, aserrín).
Desechar el material contaminado como vertido según ítem 13.
Asegurar suficiente ventilación.
- **6.4 Referencia a otras secciones**
Ver capítulo 7 para mayor información sobre una manipulación segura.
Ver capítulo 8 para mayor información sobre el equipo personal de protección.
Para mayor información sobre cómo desechar el producto, ver capítulo 13.

SECCIÓN 7: Manipulación y almacenamiento

- **7.1 Precauciones para una manipulación segura**
Asegurar suficiente ventilación /aspiración en el puesto de trabajo.
Evitar la formación de aerosoles.
- **Prevención de incendios y explosiones:** No se requieren medidas especiales.
- **7.2 Condiciones de almacenamiento seguro, incluidas posibles incompatibilidades**
- **Almacenamiento:**
- **Exigencias con respecto al almacén y los recipientes:** No se requieren medidas especiales.
- **Normas en caso de un almacenamiento conjunto:** No es necesario.
- **Indicaciones adicionales sobre las condiciones de almacenamiento:**
Mantener el recipiente cerrado herméticamente.
- **7.3 Usos específicos finales** No existen más datos relevantes disponibles.

SECCIÓN 8: Controles de exposición/protección individual

- **8.1 Parámetros de control**
- **Instrucciones adicionales para el acondicionamiento de instalaciones técnicas:**
Sin datos adicionales, ver punto 7.
- **Componentes con valores límite admisibles que deben controlarse en el puesto de trabajo:**
El producto no contiene cantidades relevantes de sustancias con valores límite que exijan un control en el puesto de trabajo.
- **Indicaciones adicionales:** Como base se han utilizado las listas vigentes en el momento de la elaboración.

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· 8.2 Controles de la exposición

· Equipo de protección individual:

· Medidas generales de protección e higiene:

Mantener alejado de alimentos, bebidas y alimentos para animales.

Quitarse de inmediato la ropa ensuciada o impregnada.

Lavarse las manos antes de las pausas y al final del trabajo.

Evitar el contacto con los ojos.

Evitar el contacto con los ojos y la piel.

· Protección respiratoria:

Si la exposición va a ser breve o de poca intensidad, colocarse una máscara respiratoria. Para una exposición más intensa o de mayor duración, usar un aparato de respiración autónomo.

· Protección de manos:



Guantes de protección

El material del guante deberá ser impermeable y resistente al producto / sustancia / preparado.

Ante la ausencia de tests específicos, no se puede recomendar ningún material específico para guantes de protección contra el producto / preparado / mezcla de sustancias químicas.

Selección del material de los guantes en función de los tiempos de rotura, grado de permeabilidad y degradación.

· Material de los guantes

La elección del guante adecuado no depende únicamente del material, sino también de otras características de calidad, que pueden variar de un fabricante a otro. Teniendo en cuenta que el producto está fabricado a partir de diferentes materiales, su calidad no puede ser evaluada de antemano, de modo que los guantes deberán ser controlados antes de su utilización.

· Tiempo de penetración del material de los guantes

El tiempo de resistencia a la penetración exacto deberá ser pedido al fabricante de los guantes. Este tiempo debe ser respetado.

· Protección de ojos:



Gafas de protección herméticas

SECCIÓN 9: Propiedades físicas y químicas

· 9.1 Información sobre propiedades físicas y químicas básicas

· Datos generales

· Aspecto:

Forma:

Líquido

Color:

Plateado

· Olor:

Característico

· Umbral olfativo:

No determinado.

· valor pH:

No determinado.

· Cambio de estado

Punto de fusión/punto de congelación:

Indeterminado.

Punto inicial de ebullición e intervalo de ebullición: 217,4 °C

· Punto de inflamación:

110 °C

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· Inflamabilidad (sólido, gas):	No aplicable.
· Temperatura de ignición:	310 °C
· Temperatura de descomposición:	No determinado.
· Temperatura de auto-inflamación:	El producto no es autoinflamable.
· Propiedades explosivas:	El producto no es explosivo.
· Límites de explosión:	
Inferior:	No determinado.
Superior:	No determinado.
· Presión de vapor a 20 °C:	0,4 hPa
· Densidad a 20 °C:	2,589 g/cm ³
· Densidad relativa	No determinado.
· Densidad de vapor	No determinado.
· Tasa de evaporación:	No determinado.
· Solubilidad en / miscibilidad con agua:	Completamente mezclable.
· Coefficiente de reparto: n-octanol/agua:	No determinado.
· Viscosidad:	
Dinámica a 20 °C:	20.000 mPas
Cinemática:	No determinado.
· Concentración del disolvente:	
VOC (CE)	0,00 %
Contenido de cuerpos sólidos:	75,0 %
· 9.2 Otros datos	No existen más datos relevantes disponibles.

SECCIÓN 10: Estabilidad y reactividad

- **10.1 Reactividad** No existen más datos relevantes disponibles.
- **10.2 Estabilidad química**
- **Descomposición térmica / condiciones que deben evitarse:** No se descompone al emplearse adecuadamente.
- **10.3 Posibilidad de reacciones peligrosas** No se conocen reacciones peligrosas.
- **10.4 Condiciones que deben evitarse** No existen más datos relevantes disponibles.
- **10.5 Materiales incompatibles:** No existen más datos relevantes disponibles.
- **10.6 Productos de descomposición peligrosos:** No se conocen productos de descomposición peligrosos.

SECCIÓN 11: Información toxicológica

- **11.1 Información sobre los efectos toxicológicos**
- **Toxicidad aguda** A la vista de los datos disponibles, no se cumplen los criterios de clasificación.
- **Efecto estimulante primario:**
- **Corrosión o irritación cutáneas** A la vista de los datos disponibles, no se cumplen los criterios de clasificación.
- **Lesiones o irritación ocular graves**
Provoca irritación ocular grave.
- **Sensibilización respiratoria o cutánea**
Puede provocar una reacción alérgica en la piel.

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- **Indicaciones toxicológicas adicionales:**
- **Efectos CMR (carcinogenicidad, mutagenicidad y toxicidad para la reproducción)**
- **Mutagenicidad en células germinales**
A la vista de los datos disponibles, no se cumplen los criterios de clasificación.
- **Carcinogenicidad** A la vista de los datos disponibles, no se cumplen los criterios de clasificación.
- **Toxicidad para la reproducción** A la vista de los datos disponibles, no se cumplen los criterios de clasificación.
- **Toxicidad específica en determinados órganos (STOT) – exposición única**
Provoca daños en los órganos.
- **Toxicidad específica en determinados órganos (STOT) – exposición repetida**
Provoca daños en los órganos tras exposiciones prolongadas o repetidas.
- **Peligro de aspiración** A la vista de los datos disponibles, no se cumplen los criterios de clasificación.

SECCIÓN 12: Información ecológica

- **12.1 Toxicidad**
- **Toxicidad acuática:** No existen más datos relevantes disponibles.
- **12.2 Persistencia y degradabilidad** No existen más datos relevantes disponibles.
- **12.3 Potencial de bioacumulación** No existen más datos relevantes disponibles.
- **12.4 Movilidad en el suelo** No existen más datos relevantes disponibles.
- **Indicaciones medioambientales adicionales:**
- **Indicaciones generales:**
Nivel de riesgo para el agua 1 (autoclasiación): escasamente peligroso para el agua
En estado no diluido o no neutralizado, no dejar que se infiltre en aguas subterráneas, aguas superficiales o en alcantarillados.
- **12.5 Resultados de la valoración PBT y mPmB**
- **PBT:** No aplicable.
- **mPmB:** No aplicable.
- **12.6 Otros efectos adversos** No existen más datos relevantes disponibles.

SECCIÓN 13: Consideraciones relativas a la eliminación

- **13.1 Métodos para el tratamiento de residuos**
- **Recomendación:** No debe desecharse con la basura doméstica. No debe llegar al alcantarillado.
- **Embalajes sin limpiar:**
- **Recomendación:** Eliminar conforme a las disposiciones oficiales.
- **Producto de limpieza recomendado:** Agua, eventualmente añadiendo productos de limpieza.

SECCIÓN 14: Información relativa al transporte

- **14.1 Número ONU**
- **ADR, IMDG, IATA** suprimido
- **14.2 Designación oficial de transporte de las Naciones Unidas**
- **ADR, IMDG, IATA** suprimido
- **14.3 Clase(s) de peligro para el transporte**
- **ADR, ADN, IMDG, IATA**
- **Clase** suprimido

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- | | |
|--|---------------|
| · 14.4 Grupo de embalaje
· ADR, IMDG, IATA | suprimido |
| · 14.5 Peligros para el medio ambiente: | No aplicable. |
| · 14.6 Precauciones particulares para los usuarios | No aplicable. |
| · 14.7 Transporte a granel con arreglo al anexo II del Convenio MARPOL y el Código IBC | No aplicable. |
| · "Reglamentación Modelo" de la UNECE: | suprimido |

SECCIÓN 15: Información reglamentaria

- 15.1 Reglamentación y legislación en materia de seguridad, salud y medio ambiente específicas para la sustancia o la mezcla
- Directiva 2012/18/UE
- Sustancias peligrosas nominadas - ANEXO I ninguno de los componentes está incluido en una lista
- Categoría Seveso
H3 TOXICIDAD ESPECÍFICA EN DETERMINADOS ÓRGANOS (STOT) – EXPOSICIÓN ÚNICA
- Cantidad umbral (toneladas) a efectos de aplicación de los requisitos de nivel inferior 50 t
- Cantidad umbral (toneladas) a efectos de aplicación de los requisitos de nivel superior 200 t
- REGLAMENTO (CE) n° 1907/2006 ANEXO XVII Restricciones: 3

- Directiva 2011/65/UE sobre restricciones a la utilización de determinadas sustancias peligrosas en aparatos eléctricos y electrónicos - Anexo II

ninguno de los componentes está incluido en una lista

- REGLAMENTO (UE) 2019/1148

- Anexo I - PRECURSORES DE EXPLOSIVOS RESTRINGIDOS (Valor límite superior a efectos de la concesión de licencias con arreglo al artículo 5, apartado 3)

ninguno de los componentes está incluido en una lista

- Anexo II - PRECURSORES DE EXPLOSIVOS NOTIFICABLES

ninguno de los componentes está incluido en una lista

- Reglamento (CE) no 273/2004 sobre precursores de drogas

ninguno de los componentes está incluido en una lista

- Reglamento (CE) N o 111/2005 por el que establecen normas para la vigilancia del comercio de precursores de drogas entre la Comunidad y terceros países

ninguno de los componentes está incluido en una lista

- 15.2 Evaluación de la seguridad química: Una evaluación de la seguridad química no se ha llevado a cabo.

SECCIÓN 16: Otra información

Los datos se fundan en el estado actual de nuestros conocimientos, pero no constituyen garantía alguna de cualidades del producto y no generan ninguna relación jurídica contractual.

- Frases relevantes

H319 Provoca irritación ocular grave.

- Abreviaturas y acrónimos:

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

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*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)**PBT: Persistent, Bioaccumulative and Toxic**vPvB: very Persistent and very Bioaccumulative**Eye Irrit. 2: Lesiones oculares graves o irritación ocular – Categoría 2**Skin Sens. 1: Sensibilización cutánea – Categoría 1**STOT SE 1: Toxicidad específica en determinados órganos (exposición única) – Categoría 1**STOT RE 1: Toxicidad específica en determinados órganos (exposiciones repetidas) – Categoría 1*

ES

Phiếu an toàn hóa chất

theo điều Luật hóa chất số: 06/2007/QH12, Điều 29

Ngày in 2022.05.17

Sửa lại: 2022.05.17

Phần 1: Nhận dạng hóa chất và thông tin về nhà cung cấp

- **Phân loại sản phẩm**
- **Tên thương mại** **SILVER CONDUCTIVE ADHESIVE 478SS**
- **Mã giao dịch:** 12685-15
- **Mục đích sử dụng và hạn chế khi sử dụng:** Không có thêm thông tin có liên quan.
- **Hướng dẫn sử dụng** Phòng thí nghiệm hóa chất
- **Thông tin chi tiết của các nhà cung cấp các bảng dữ liệu an toàn**
- **Nhà sản xuất / Nhà phân phối:**
Electron Microscopy Sciences
1560 Industry Road
USA-Hatfield, PA 19440
Tel: 215-412-8400 Fax: 215-412-8450
email: sgkcck@aol.com
www.emsdiasum.com
- **Các thông tin chi tiết có thể tìm thấy ở:** Product safety department
- **Số điện thoại liên hệ trong trường hợp khẩn cấp**
ChemTrec 1-800-424-9300 Contract CCN7661
1-703-527-3887

Phần 2: Nhận dạng đặc tính nguy hiểm của hóa chất

- **Phân loại chất và hỗn hợp**



Nguy hại sức khỏe

Độc tính đến cơ quan cụ thể sau phơi nhiễm đơn – H370 Gây tổn thương cho các cơ quan
Cấp 1

Độc tính đến cơ quan cụ thể sau phơi nhiễm lặp lại – H372 Có hại cho các cơ quan thông qua tiếp xúc
Cấp 1 kéo dài hoặc lặp đi lặp lại.



Tổn thương nghiêm trọng/ kích ứng mắt – Cấp 2A H319 Gây kích ứng mắt nghiêm trọng
Tác nhân nhạy da – Cấp 1 H317 Có thể gây ra phản ứng dị ứng da.

- **Các phân tử nhãn hiệu**
- **Các yếu tố trên nhãn GHS** Sản phẩm được xếp loại và ghi nhãn theo quy định của GHS
- **Các hình biểu thị sự nguy hiểm**



GHS07 GHS08

- **Từ cảnh báo** Nguy hiểm
- **Các hướng dẫn về các nguy hiểm**
Gây kích ứng mắt nghiêm trọng
Có thể gây ra phản ứng dị ứng da.
Gây tổn thương cho các cơ quan
Có hại cho các cơ quan thông qua tiếp xúc kéo dài hoặc lặp đi lặp lại.
- **Các hướng dẫn an toàn**
Không hít thở bụi/khói/khí/sương/hơi/bụi nước.

(Xem tiếp ở trang 2)

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(Xem tiếp ở trang 1)

Đeo găng tay bảo vệ /dụng cụ bảo vệ mắt/bảo vệ mặt.

NẾU ĐÍNH MẮT: Rửa thật cẩn thận với nước trong vài phút. Tháo kính áp tròng nếu có và nếu dễ làm. Sau đó tiếp tục rửa

Nếu da bị dị ứng hoặc phát ban: Hãy xin chỉ dẫn của bác sĩ/thận trọng.

Nơi cất giữ được khóa lại

Vứt sản phẩm/vỏ hộp theo quy định của địa phương/khu vực/quốc gia/quốc tế.

- **Các dấu hiệu nguy hiểm khác:**
- **Kết quả của đánh giá PBT và vPvB Results**
- **PBT:** Không được áp dụng
- **vPvB:** Không được áp dụng

Phần 3: Thông tin về thành phần các chất

- **Hỗn hợp chất**
- **Mô tả** Hỗn hợp các chất sau với những thành phần phụ gia không gây nguy hiểm

- **Các chất thành phần nguy hiểm:**

112-15-2	2-(2-ethoxyethoxy)ethyl acetate	>10-≤25%
	⚠️ Tồn thương nghiêm trọng/ kích ứng mắt – Cấp 2A, H319	

- **Các hướng dẫn đính kèm:** Đối với các từ ngữ dùng để chỉ rủi ro được liệt kê trong mục 16

Phần 4: Biện pháp sơ cứu về y tế

- **Mô tả về các biện pháp sơ cứu**
- **Hướng dẫn chung:**
Triệu chứng nhiễm độc có thể xuất hiện sau một vài giờ, nên những quan sát ý tế cần phải được kéo dài ít nhất 48 giờ sau tai nạn.
- **Sau khi hít vào:**
Cung cấp không khí trong lành và gọi bác sĩ
Trong trường hợp người bệnh bất tỉnh giữ bệnh nhân ở vị trí nằm nghiêng và chuyển đi.
- **Sau khi tiếp xúc với da:** Rửa ngay và thật sạch với nước và xà phòng
- **Sau khi tiếp xúc với mắt:**
Mở mắt và rửa dưới vòi nước trong vài phút, nếu không thấy đỡ thì phải gọi cho bác sĩ ngay
- **Sau khi nuốt phải:** Nếu triệu chứng không giảm thì phải xin tư vấn của bác sĩ
- **Thông tin dành cho bác sĩ:**
- **Những triệu chứng và tác dụng cấp và chậm quan trọng nhất:**
Không có thông tin liên quan nào khác
- **Các chỉ dẫn về sự giúp đỡ tức thời của bác sĩ và trợ giúp đặc biệt**
Không có thêm thông tin liên quan

Phần 5: Biện pháp xử lý khi có hòa loạn

- **Các phương tiện chữa cháy**
- **Các giải pháp chữa cháy thích hợp**
Use Sử dụng phương pháp chữa cháy phù hợp với điều kiện môi trường xung quanh
- **Những nguy cơ gây cháy từ các chất hoặc hỗn hợp** Không có thêm thông tin liên quan
- **Hướng dẫn trong trường hợp chữa cháy**
- **Các thiết bị bảo vệ** Không cần đến những biện pháp đặc biệt

VN

(Xem tiếp ở trang 3)

Phiếu an toàn hóa chất

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(Xem tiếp ở trang 2)

Phần 6: Biện pháp phòng ngừa, ứng phó khi có sự cố

- **Trang thiết bị bảo hộ và quy trình ứng phó sự cố** Không yêu cầu
- **Các cảnh báo về môi trường**
Làm loãng đi bằng nhiều nước
Ngăn không cho tràn vào hệ thống nước thải, nước mặt hay nước ngầm
- **Biện pháp, vật liệu vệ sinh sau khi xảy ra sự cố**
Có thể ngấm vào vật liệu giữ chất lỏng (cát, diatomite, vữa axit, vữa thường, mùn cưa)
Loại bỏ vật liệu bị ô nhiễm theo quy định về chất thải tại mục 13
Đảm bảo thoáng khí
- **Liên hệ đến các phần khác**
Xem phần 7 để biết thông tin về xử lý an toàn
Xem phần 8 để biết thông tin và thiết bị bảo hộ cá nhân
Xem phần 13 để biết thông tin về xử thải

Phần 7: Yêu cầu về sử dụng, bảo quản

- **Xử lý**
- **Các biện pháp bảo vệ để xử lý an toàn**
Đảm bảo nơi làm việc thoáng khí
Tránh hình thành aerosol
- **Thông tin về các biện pháp chống cháy**, Không có yêu cầu về biện pháp đặc biệt
- **Điều kiện cho việc lưu trữ an toàn, bao gồm cả sự không tương thích**
- **Lưu trữ:**
- **Yêu cầu đối với phòng chứa và dụng cụ chứa** Không có yêu cầu đặc biệt nào
- **Thông tin về lưu trữ đối với một cơ sở lưu trữ thông thường** Không yêu cầu
- **Thông tin thêm về điều kiện lưu trữ** Đậy kín bình chứa
- **Tác dụng của sản phẩm** Không có thêm thông tin liên quan

Phần 8: Kiểm soát phơi nhiễm/yêu cầu về thiết bị bảo vệ cá nhân

- **Thông tin thêm về thiết kế các phương tiện kỹ thuật** Không có thêm dữ liệu; xem mục 7
- **Các thông số kiểm soát**
- **Các thành phần với giá trị giới hạn cần được yêu cầu giám sát tại nơi làm việc**
Sản phẩm không chứa số lượng vật liệu liên quan nào có giá trị quan trọng cần được giám sát tại nơi làm việc.
- **Thông tin bổ sung** Danh sách có hiệu lực trong suốt quá trình thực hiện được sử dụng làm cơ sở
- **Kiểm soát các tình huống nguy hiểm**
- **Các thiết bị an toàn cá nhân**
- **Các biện pháp bảo vệ và vệ sinh tổng thể**
Tránh xa thực phẩm, đồ uống và đồ ăn cho vật nuôi
Loại bỏ ngay lập tức tất cả quần áo bị nhiễm bẩn
rửa tay trước giờ nghỉ và cuối giờ làm
Tránh tiếp xúc với mắt
Tránh tiếp xúc với mắt và da
- **Bảo vệ đường hô hấp:**
Trong trường hợp tiếp xúc ít hoặc ô nhiễm ở mức độ thấp hãy sử dụng mặt nạ phòng độc. Trong trường hợp tiếp xúc nhiều và trong thời gian lâu thì phải sử dụng bình thở ôxi

(Xem tiếp ở trang 4)

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(Xem tiếp ở trang 3)

· **Bảo vệ tay**



Găng tay bảo hộ

Chất liệu làm găng phải chống thấm đối với sản phẩm/chất/chế phẩm
Do không thấy các cuộc thử nghiệm nên không có khuyến cáo về chất liệu làm găng tay cho sản phẩm/chế phẩm/hỗn hợp hóa chất
Chọn chất liệu găng theo số lần và thời gian sử dụng

· **Chất liệu của găng tay**

Khi sản phẩm là một chế phẩm của một số chất, khả năng kháng độc của găng tay không thể tính toán trước được và do đó phải được kiểm tra trước khi ứng dụng

· **Thời gian xâm nhập của găng tay vật liệu**

Việc phá vỡ chính xác qua thời gian đã được phát hiện bởi các nhà sản xuất găng tay bảo vệ và phải được giám sát

· **Bảo vệ mắt Eye**



Kính bảo hộ dán kín

Phần 9: Đặc tính lý, hóa của hóa chất

· Thông tin về tính chất vật lý và hóa học cơ bản

· Thông tin tổng quát

· Diện mạo:

Hình thức:: Chất lỏng

Màu sắc: Màu bạc

· Mùi: Đặc điểm

· Ngưỡng mùi: Không xác định.

· Độ pH: Không xác định.

· Thay đổi trong điều kiện

Điểm tan / Phạm vi tan: Không xác định

Điểm sôi / Phạm vi sôi: 217.4 °C

· Điểm cháy: 110 °C

· Tính dễ cháy (rắn, khí): Không thể áp dụng.

· Nhiệt độ cháy: 310 °C

· Nhiệt độ phân hủy: Không xác định.

· Nhiệt độ tự cháy: Sản phẩm không tự bốc cháy.

· Nguy hiểm do cháy nổ: Sản phẩm không có nguy cơ cháy nổ

· Giới hạn nổ:

Dưới: Không xác định

Trên: Không xác định.

· Áp suất hóa hơi tại 20 °C: 0.4 hPa

· Mật độ tại 20 °C: 2.589 g/cm³

(Xem tiếp ở trang 5)

Phiếu an toàn hóa chất
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(Xem tiếp ở trang 4)

· Mật độ tương đối:	Không xác định.
· Mật độ của hơi:	Không xác định.
· Tỷ lệ hóa hơi	Không xác định.
· Độ hòa tan trong / Độ hòa trộn với: Nước:	Có thể trộn lẫn hoàn toàn.
· Sự phân biệt hệ số (n-octanol / Nước):	Không xác định.
· Độ nhớt: Động tại 20 °C	20,000 mPas
Tĩnh	Không xác định.
· Thành phần dung môi: VOC (EC):	0.00 %
Thành phần chất rắn:	75.0 %
· Thông tin khác:	Không có thông tin chi tiết tương ứng

Phần 10: Mức ổn định và phản ứng của hóa chất

- **Khả năng phản ứng** Không có thêm thông tin liên quan
- **Tính ổn định**
- **Phân hủy nhiệt / Điều kiện cần tránh::** Không phân hủy nếu được sử dụng theo tiêu chuẩn.
- **Khả năng phản ứng nguy hiểm:** Chưa có phản ứng nguy hiểm nào được biết tới.
- **Các điều kiện cần tránh:** Không có thêm thông tin liên quan
- **Vật liệu không tương thích** Không có thêm thông tin liên quan.
- **Sản phẩm phân hủy nguy hiểm:** Chưa có sản phẩm phân hủy nào được biết đến.

Phần 11: Thông tin về độc tính

- **Thông tin về các hiệu ứng độc tính:**
- **Ngộ độc cấp tính:**
- **Hiệu ứng kích thích sơ cấp:**
- **Trên da** Không có tác dụng kích ứng.
- **Trên mắt:** Tác dụng kích ứng.
- **Độ nhạy cảm** Có khả năng mẫn cảm nếu tiếp xúc với da.
- **Thông tin thêm về độc tính::**
Sản phẩm này chỉ ra những tác hại sau theo phương pháp tính toán của hướng dẫn phân loại Châu Âu chung được ban hành trong biên bản mới nhất:
Kích ứng

Phần 12: Thông tin về sinh thái

- **Độc tính**
- **Thủy sản độc tính:** Không có thêm thông tin liên quan.
- **Sự kiên trì và khả năng nhậ dần:** Không có thêm thông tin liên quan.
- **Hành vi trong các hệ thống môi trường:**
- **Khả năng tích lũy sinh học** Không có thêm thông tin liên quan.
- **Độ linh động trong đất** Không có thêm thông tin liên quan.

(Xem tiếp ở trang 6)

Phiếu an toàn hóa chất
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(Xem tiếp ở trang 5)

- **Bổ sung thông tin sinh thái:**
- **Ghi chú tổng quát:**
Độc hại cho nước loại 1 (quy định của Đức) (Tự đánh giá): hơi độc cho nước.
Không để sản phẩm chưa pha loãng hoặc số lượng lớn tiếp xúc với nước ngầm, nguồn nước hoặc hệ thống nước thải.
- **Kết quả của đánh giá PBT và vPvB**
- **PBT PBT:** Không có khả năng ứng dụng.
- **vPvB vPvB:** Không có khả năng ứng dụng.
- **Các hiệu ứng bất lợi** Không có thêm thông tin liên quan.

Phần 13: Thông tin về thải bỏ

- **Phương pháp xử lý chất thải**
- **Khuyến nghị**
Không được xử lý cùng rác thải sinh hoạt. Không được bỏ sản phẩm vào hệ thống nước thải.
- **Bao bì bán**
- **Khuyến nghị:** Việc xử lý phải thực hiện theo các quy định của chính quyền.
- **Các chất tẩy rửa được khuyến nghị sử dụng** Nước, nếu cần, kết hợp với chất tẩy rửa.

Phần 14: Thông tin khi vận chuyển

- | | |
|---|-----------------------------|
| · Mã LHQ (UN) | |
| · ADR, IMDG, IATA | khoảng trống |
| · Tên vận chuyển theo quy ước của LHQ | |
| · ADR, IMDG, IATA | khoảng trống |
| · vận chuyển các lớp học nguy hiểm | |
| · ADR, ADN, IMDG, IATA | |
| · lớp | khoảng trống |
| · Nhóm bao bì | |
| · ADR, IMDG, IATA | khoảng trống |
| · Các môi trường nguy hiểm: | Không có khả năng ứng dụng. |
| · Các biện pháp phòng ngừa đặc biệt cho người sử dụng: | Không có khả năng ứng dụng. |
| · Vận chuyển với số lượng lớn theo Phụ Lục II của MARPOL73/78 và mã IBC | Không có khả năng ứng dụng. |
| · Mẫu chuẩn của LHQ: | khoảng trống |

Phần 15: Thông tin về pháp luật

- **An toàn, sức khỏe và các quy định, pháp luật về môi trường cho các chất và hỗn hợp**
Không có thêm thông tin liên quan
- **Kho hóa chất và chất hóa học của Philippin**
Tất cả các thành phần được liệt kê.

(Xem tiếp ở trang 7)

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(Xem tiếp ở trang 6)

· **Lập kế hoạch cho thuốc và chất độc theo mẫu chuẩn**

7440-22-4 | silver

S2

· **Danh mục hóa chất sản xuất, kinh doanh có điều kiện trong lĩnh vực công nghiệp - phụ lục I**

Không có các thành phần được liệt kê.

· **Danh mục hóa chất hạn chế sản xuất, kinh doanh trong lĩnh vực công nghiệp - phụ lục II**

Không có các thành phần được liệt kê.

· **Danh mục hóa chất nguy hiểm phải xây dựng kế hoạch phòng ngừa, ứng phó sự cố hóa chất - phụ lục IV - Ngưỡng khối lượng hóa chất tồn trữ lớn nhất tại một thời điểm (kg)**

Không có các thành phần được liệt kê.

· **Danh mục hóa chất phải khai báo - phụ lục V**

Không có các thành phần được liệt kê.

· **Các yếu tố trên nhãn GHS** Sản phẩm được xếp loại và ghi nhãn theo quy định của GHS

· **Các hình biểu thị sự nguy hiểm**



GHS07 GHS08

· **Từ cảnh báo** Nguy hiểm

· **Các hướng dẫn về các nguy hiểm**

Gây kích ứng mắt nghiêm trọng

Có thể gây ra phản ứng dị ứng da.

Gây tổn thương cho các cơ quan

Có hại cho các cơ quan thông qua tiếp xúc kéo dài hoặc lặp đi lặp lại.

· **Các hướng dẫn an toàn**

Không hít thở bụi/khói/khí/sương/hơi/bụi nước.

Đeo găng tay bảo vệ /dụng cụ bảo vệ mắt/bảo vệ mặt.

NẾU DÍNH MẮT: Rửa thật cẩn thận với nước trong vài phút. Tháo kính áp tròng nếu có và nếu dễ làm.
Sau đó tiếp tục rửa

Nếu da bị dị ứng hoặc phát ban: Hãy xin chỉ dẫn của bác sĩ/thận trọng.

Nơi cất giữ được khóa lại

Vứt sản phẩm/vỏ hộp theo quy định của địa phương/khu vực/quốc gia/quốc tế.

· **Đánh giá an toàn hóa chất:** Đánh giá an toàn hóa chất chưa được tiến hành.

Phần 16: Các thông tin cần thiết khác

Thông tin này dựa trên kiến thức hiện nay của chúng tôi. Tuy nhiên, điều này không đảm bảo cho bất cứ tính chất cụ thể nào của sản phẩm và không thiết lập mối quan hệ hợp tác có giá trị pháp lý nào.

· **Liên hệ:**

· **Ngày tháng biên soạn phiếu:** 2022.05.17

· **Ngày tháng sửa đổi, bổ sung gần nhất:** 2022.05.17

· **Chữ viết tắt hoặc Viết tắt chữ cái đầu:**

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

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)

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

(Xem tiếp ở trang 8)

Phiếu an toàn hóa chất
theo điều Luật hóa chất số: 06/2007/QH12, Điều 29

Ngày in 2022.05.17

Sửa lại: 2022.05.17

Tên thương mại SILVER CONDUCTIVE ADHESIVE 478SS

(Xem tiếp ở trang 7)

Tổn thương nghiêm trọng/ kích ứng mắt – Cấp 2A: Serious eye damage/eye irritation – Category 2A

Tác nhân nhạy da – Cấp 1: Skin sensitisation – Category 1

Độc tính đến cơ quan cụ thể sau phơi nhiễm đơn – Cấp 1: Specific target organ toxicity (single exposure) – Category 1

Độc tính đến cơ quan cụ thể sau phơi nhiễm lặp lại – Cấp 1: Specific target organ toxicity (repeated exposure) – Category 1

VN