1 Identification

- **Product identifier**
  - **Trade name:** SILVER CONDUCTIVE THINNER 478SS
  - **Article number:** 12685-25
  - **CAS Number:** 107-98-2
  - **EC number:** 203-539-1
  - **Index number:** 603-064-00-3
- **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: sgkcek@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**
  - **GHS02 Flame**
    Flammable Liquids 3
    Substances and mixtures which, in contact with water, emit flammable gases 1
  - **GHS06 Skull and crossbones**
    Acute Toxicity - Inhalation 3
  - **GHS08 Health hazard**
    Toxic to Reproduction 1B
  - **GHS07**
    Specific Target Organ Toxicity - Single Exposure 3

- **Label elements**
  - **GHS label elements** The substance is classified and labeled according to the Globally Harmonized System (GHS).
Trade name: SILVER CONDUCTIVE THINNER 478SS

· **Hazard pictograms**

   ![GHS02](image1) ![GHS06](image2) ![GHS07](image3) ![GHS08](image4)

· **Signal word** Danger

· **Hazard-determining components of labeling:**
  1-methoxy-2-propanol
  2-methoxypropanol

· **Hazard statements**
  Flammable liquid and vapor.
  In contact with water releases flammable gases, which may ignite spontaneously.
  Toxic if inhaled.
  May damage fertility or the unborn child.
  May cause drowsiness or dizziness.

· **Precautionary statements**
  Obtain special instructions before use.
  Do not handle until all safety precautions have been read and understood.
  Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
  Do not allow contact with water.
  Handle under inert gas. Protect from moisture.
  Ground/bond container and receiving equipment.
  Use explosion-proof electrical/ventilating/lighting/equipment.
  Use only non-sparking tools.
  Take precautionary measures against static discharge.
  Avoid breathing dust/fume/gas/mist/vapors/spray
  Use only outdoors or in a well-ventilated area.
  Wear protective gloves/protective clothing/eye protection/face protection.
  If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
  IF INHALED: Remove person to fresh air and keep comfortable for breathing.
  IF exposed or concerned: Get medical advice/attention.
  Specific treatment (see on this label).
  Call a poison center/doctor if you feel unwell.
  Brush off loose particles from skin. Immerse in cool water/wrap in wet bandages.
  In case of fire: Use CO₂, sand, extinguishing powder to extinguish.
  Store in a dry place. Store in a closed container.
  Store in a well-ventilated place. Keep container tightly closed.
  Store in a well-ventilated place. Keep cool.
  Store locked up.
  Dispose of contents/container in accordance with local/regional/national/international regulations.

· **Classification system:**
  · **NFPA ratings (scale 0 - 4)**

   ![1](image5) ![2](image6) ![3](image7)

   Health = 1
   Fire = 3
   Reactivity = 2

   The substance demonstrates unusual reactivity with water.
Trade name: SILVER CONDUCTIVE THINNER 478SS

- HMIS-ratings (scale 0 - 4)
  - HEALTH = 1
  - FIRE = 3
  - REACTIVITY = 2

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

3 Composition/information on ingredients

- Chemical characterization: Substances
- CAS No. Description
  - 107-98-2 1-methoxy-2-propanol
- Identification number(s)
  - EC number: 203-539-1
  - Index number: 603-064-00-3

- Dangerous components:
  - 1589-47-5 2-methoxypropanol ≤2.5%

4 First-aid measures

- Description of first aid measures
- General information:
  - Immediately remove any clothing soiled by the product.
  - Remove breathing apparatus only after contaminated clothing have been completely removed.
  - In case of irregular breathing or respiratory arrest provide artificial respiration.
- After inhalation:
  - Supply fresh air or oxygen; call for 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. Then consult a doctor.
- After swallowing:
  - If symptoms persist consult doctor.
- Information for doctor:
  - Most important symptoms and effects, both acute and delayed No further relevant information available.
  - Indication of any immediate medical attention and special treatment needed No further relevant information available.

5 Fire-fighting measures

- Extinguishing media
- Suitable extinguishing agents:
  - CO2, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- For safety reasons unsuitable extinguishing agents: Water
- Special hazards arising from the substance or mixture No further relevant information available.
- Advice for firefighters
- Protective equipment: Mouth respiratory protective device.
6 Accidental release measures

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

· **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.
  Do not flush with water or aqueous cleansing agents

· **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: | 100 ppm |
| PAC-2: | 160 ppm |
| PAC-3: | 660 ppm |

7 Handling and storage

· **Handling:**
  · **Precautions for safe handling**
    Ensure good ventilation/exhaustion at the workplace.
    Open and handle receptacle with care.
    Prevent formation of aerosols.
  · **Information about protection against explosions and fires:**
    Keep ignition sources away - Do not smoke.
    Protect from heat.
    Protect against electrostatic charges.
    Keep respiratory protective device available.

· **Conditions for safe storage, including any incompatibilities**

· **Storage:**
  · **Requirements to be met by storerooms and receptacles:** No special requirements.
  · **Information about storage in one common storage facility:** Not required.
  · **Further information about storage conditions:**
    Keep receptacle tightly sealed.
    Store in cool, dry conditions in well sealed receptacles.
    Protect from heat and direct sunlight.

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

8 Exposure controls/personal protection

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

Components with limit values that require monitoring at the workplace:
The following constituent is the only constituent of the product which has a PEL, TLV or other recommended exposure limit.
At this time, the remaining constituent has no known exposure limits.

<table>
<thead>
<tr>
<th>107-98-2 1-methoxy-2-propanol</th>
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<tbody>
<tr>
<td>REL</td>
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<td></td>
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<tr>
<td>TLV</td>
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</tbody>
</table>

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.
Store protective clothing separately.

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:
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.

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: Clear
Odor: Light
Odor threshold: Not determined.

pH-value:
4-7
### 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**: Contact with water releases flammable gases.
  - **Conditions to avoid**: No further relevant information available.
  - **Incompatible materials**: No further relevant information available.
  - **Hazardous decomposition products**: No dangerous decomposition products known.
11 Toxicological information

- Information on toxicological effects
  - Acute toxicity:
    
    - LD/LC50 values that are relevant for classification:

    | 107-98-2 1-methoxy-2-propanol |
    |-----------------------------|
    | Oral     | LD50     | 5,660 mg/kg (rat) |
    | Dermal   | LD50     | 13,000 mg/kg (rabbit) |
    | Inhalative | LC50/4 h | 6 mg/l (rat) |

- Primary irritant effect:
  - on the skin: No irritant effect.
  - on the eye: No irritating effect.

- Sensitization: No sensitizing effects known.

- Additional toxicological information:

- 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 (Assessment by list): 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.
Trade name: SILVER CONDUCTIVE THINNER 478SS

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

# 14 Transport information

<table>
<thead>
<tr>
<th>DOT, ADR, IMDG, IATA</th>
<th>UN3092</th>
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</thead>
<tbody>
<tr>
<td>DOT proper shipping name</td>
<td>1-Methoxy-2-propanol</td>
</tr>
<tr>
<td>ADR proper shipping name</td>
<td>3092 1-METHOXY-2-PROpanol</td>
</tr>
<tr>
<td>IMDG proper shipping name</td>
<td>1-METHOXY-2-PROpanol</td>
</tr>
</tbody>
</table>

- **DOT**
  - Class: 3 Flammable liquids
  - Label: 3

- **ADR, IMDG, IATA**
  - Class: 3 Flammable liquids
  - Label: 3

- **Packing group**
  - DOT, ADR, IMDG, IATA: III

- **Environmental hazards:** Not applicable.

- **Special precautions for user**
  - Warning: Flammable liquids

- **EMS Number:** F-E,S-D

- **Stowage Category:** A

- **Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code**
  - Not applicable.

- **Transport/Additional information:**
  - **DOT**
    - Quantity limitations:
      - On passenger aircraft/rail: 60 L
      - On cargo aircraft only: 220 L
  - **ADR**
    - Excepted quantities (EQ)
      - Code: E1
      - Maximum net quantity per inner packaging: 30 ml
      - Maximum net quantity per outer packaging: 1000 ml
Safety Data Sheet
acc. to OSHA HCS

Trade name: SILVER CONDUCTIVE THINNER 478SS

- IMDG
  - Limited quantities (LQ) 5L
  - Excepted quantities (EQ) Code: E1
    Maximum net quantity per inner packaging: 30 ml
    Maximum net quantity per outer packaging: 1000 ml

- UN "Model Regulation": UN 3092 1-METHOXY-2-PROpanol, 3, III

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):
  None of the ingredients is 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.

- Carcinogenic categories
  - EPA (Environmental Protection Agency)
    None of the ingredients is listed.

  - 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 substance is classified and labeled according to the Globally Harmonized System (GHS).
  - Hazard pictograms
    - GHS02
    - GHS06
    - GHS07
    - GHS08
Trade name: SILVER CONDUCTIVE THINNER 478SS

· Signal word Danger

· Hazard-determining components of labeling:
1-methoxy-2-propanol
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Flammable liquid and vapor.
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Toxic if inhaled.
May damage fertility or the unborn child.
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· Precautionary statements
Obtain special instructions before use.
Do not handle until all safety precautions have been read and understood.
Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
Do not allow contact with water.
Handle under inert gas. Protect from moisture.
Ground/bond container and receiving equipment.
Use explosion-proof electrical/ventilating/lighting/equipment.
Use only non-sparking tools.
Take precautionary measures against static discharge.
Avoid breathing dust/fume/gas/mist/vapors/spray
Use only outdoors or in a well-ventilated area.
Wear protective gloves/protective clothing/eye protection/face protection.
If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
IF INHALED: Remove person to fresh air and keep comfortable for breathing.
IF exposed or concerned: Get medical advice/attention.
Specific treatment (see on this label).
Call a poison center/doctor if you feel unwell.

Brush off loose particles from skin. Immerse in cool water/wrap in wet bandages.
In case of fire: Use CO2, sand, extinguishing powder to extinguish.
Store in a dry place. Store in a closed container.
Store in a well-ventilated place. Keep container tightly closed.
Store in a well-ventilated place. Keep cool.
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 11/09/2022 / -
· 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
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)
Trade name: SILVER CONDUCTIVE THINNER 478SS

LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
PBT: Persistent, Bioaccumulative and Toxic
vPvB: very Persistent and very Bioaccumulative
NIOSH: National Institute for Occupational Safety
OSHA: Occupational Safety Health
TLV: Threshold Limit Value
PEL: Permissible Exposure Limit
REL: Recommended Exposure Limit
Flammable Liquids 3: Flammable liquids – Category 3
Substances and mixtures which, in contact with water, emit flammable gases 1: Substances and mixtures which in contact with water emit flammable gases – Category 1
Acute Toxicity - Inhalation 3: Acute toxicity – Category 3
Toxic to Reproduction 1B: Reproductive toxicity – Category 1B
Specific Target Organ Toxicity - Single Exposure 3: Specific target organ toxicity (single exposure) – Category 3