

Safety Data Sheet

acc. to OSHA HCS

Printing date 01/18/2016

Reviewed on 05/13/2015

1 Identification

- **Product identifier**
- **Trade name:** COLLOIDAL SILVER PASTE
- **Article number:** 12640
- **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

- Carc. 1A H350 May cause cancer.
 Repr. 2 H361 Suspected of damaging fertility or the unborn child.
 STOT RE 2 H373 May cause damage to organs through prolonged or repeated exposure.
 Asp. Tox. 1 H304 May be fatal if swallowed and enters airways.



GHS07

- Acute Tox. 4 H302 Harmful if swallowed.
 Acute Tox. 4 H332 Harmful if inhaled.
 Skin Irrit. 2 H315 Causes skin irritation.
 STOT SE 3 H336 May cause drowsiness or dizziness.
 Eye Irrit. 2B H320 Causes eye irritation.

- **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

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· **Hazard-determining components of labeling:**

Ethyl Alcohol, Absolute, 200 Proof

Reagent, ACS (Ethanol)

15055

toluene

1-methoxy-2-propanol

ethyl acetate

· **Hazard statements**

Harmful if swallowed or if inhaled.

Causes skin and eye irritation.

May cause cancer.

Suspected of damaging fertility or the unborn child.

May cause drowsiness or dizziness.

May cause damage to organs through prolonged or repeated exposure.

May be fatal if swallowed and enters airways.

· **Precautionary statements**

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

Wear protective gloves / eye protection / face protection.

Wash thoroughly after handling.

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

Use only outdoors or in a well-ventilated area.

Obtain special instructions before use.

Do not handle until all safety precautions have been read and understood.

IF SWALLOWED: Immediately call a POISON CENTER/ doctor.

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

Continue rinsing.

Specific treatment (see on this label).

IF INHALED: Remove person to fresh air and keep comfortable for breathing.

IF exposed or concerned: Get medical advice/attention.

If skin irritation occurs: Get medical advice/attention.

If eye irritation persists: Get medical advice/attention.

Get medical advice/attention if you feel unwell.

Rinse mouth.

Do NOT induce vomiting.

IF ON SKIN: Wash with plenty of water.

Take off contaminated clothing and wash it before reuse.

Store in a well-ventilated place. Keep cool.

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

· **Classification system:**

· **NFPA ratings (scale 0 - 4)**



Health = 2

Fire = 0

Reactivity = 0

· **HMIS-ratings (scale 0 - 4)**



Health = *2

Fire = 0

Reactivity = 0

· **Other hazards**

· **Results of PBT and vPvB assessment**

· **PBT:** Not applicable.

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· **vPvB:** Not applicable.

3 Composition/information on ingredients

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

- **Dangerous components:**

64-17-5	Ethyl Alcohol, Absolute, 200 Proof Reagent, ACS (Ethanol) 15055	10-25%
107-98-2	1-methoxy-2-propanol	2,5-10%
108-88-3	toluene	2,5-10%
141-78-6	ethyl acetate	2,5-10%

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; consult doctor in case of complaints.
- **After skin contact:** Generally the product does not irritate the skin.
- **After eye contact:**
Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.
- **After swallowing:** If symptoms persist consult doctor.
- **Information for doctor:**
- **Most important symptoms and effects, both acute and delayed** No further relevant information available.
- **Indication of any immediate medical attention and special treatment needed**
No further relevant information available.

5 Fire-fighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:**
CO₂, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- **Special hazards arising from the substance or mixture** No further relevant information available.
- **Advice for firefighters**
- **Protective equipment:** No special measures required.

6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures** Not required.
- **Environmental precautions:** 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.

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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.
Open and handle receptacle with care.
Prevent formation of aerosols.
- **Information about protection against explosions and fires:**
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.
Protect from heat and direct sunlight.
- **Specific end use(s)** No further relevant information available.

8 Exposure controls/personal protection

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

· **Components with limit values that require monitoring at the workplace:**

64-17-5 Ethyl Alcohol, Absolute, 200 Proof
Reagent, ACS (Ethanol)
15055

PEL Long-term value: 1900 mg/m³, 1000 ppm

REL Long-term value: 1900 mg/m³, 1000 ppm

TLV Short-term value: 1880 mg/m³, 1000 ppm

107-98-2 1-methoxy-2-propanol

REL Short-term value: 540 mg/m³, 150 ppm

Long-term value: 360 mg/m³, 100 ppm

TLV Short-term value: 369 mg/m³, 100 ppm

Long-term value: 184 mg/m³, 50 ppm

108-88-3 toluene

PEL Long-term value: 200 ppm

Ceiling limit value: 300; 500* ppm

*10-min peak per 8-hr shift

REL Short-term value: 560 mg/m³, 150 ppm

Long-term value: 375 mg/m³, 100 ppm

TLV Long-term value: 75 mg/m³, 20 ppm

BEI

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141-78-6 ethyl acetate

PEL Long-term value: 1400 mg/m³, 400 ppm

REL Long-term value: 1400 mg/m³, 400 ppm

TLV Long-term value: 1440 mg/m³, 400 ppm

· Ingredients with biological limit values:

108-88-3 toluene

BEI 0.02 mg/L
 Medium: blood
 Time: prior to last shift of workweek
 Parameter: Toluene

0.03 mg/L
 Medium: urine
 Time: end of shift
 Parameter: Toluene

0.3 mg/g creatinine
 Medium: urine
 Time: end of shift
 Parameter: o-Cresol with hydrolysis (background)

· **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.
- 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.

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· Eye protection:



Tightly sealed goggles

9 Physical and chemical properties

· Information on basic physical and chemical properties

· General Information

· Appearance:

Form:	Pasty
Color:	Silver grey
Odor:	Strong
Odor threshold:	Not determined.

· pH-value: Not determined.

· Change in condition

Melting point/Melting range:	Undetermined.
Boiling point/Boiling range:	75 °C (167 °F)

· Flash point: Not applicable.

· Flammability (solid, gaseous): Not flammable.

· Ignition temperature: 270 °C (518 °F)

· Decomposition temperature: Not determined.

· Auto igniting: Product is not selfigniting.

· Danger of explosion: Product does not present an explosion hazard.

· Explosion limits:

Lower:	1.2 Vol %
Upper:	20.0 Vol %

· Vapor pressure at 20 °C (68 °F): 59 hPa (44 mm Hg)

· Density: Not determined.

· Relative density: Not determined.

· Vapor density: Not determined.

· Evaporation rate: Not determined.

· Solubility in / Miscibility with

Water: Not miscible or difficult to mix.

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

· Viscosity:

Dynamic:	Not determined.
Kinematic:	Not determined.

· Solvent content:

Organic solvents:	40.0 %
VOC content:	40.0 %
	400.0 g/l / 3.34 lb/gal

Solids content: 60.0 %

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

10 Stability and reactivity

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

11 Toxicological information

· **Information on toxicological effects**

· **Acute toxicity:**

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

108-88-3 toluene

Oral	LD50	5000 mg/kg (rat)
Dermal	LD50	12124 mg/kg (rabbit)
Inhalative	LC50/4 h	5320 mg/l (mouse)

· **Primary irritant effect:**

· **on the skin:** No irritant effect.

· **on the eye:** Irritating effect.

· **Sensitization:** No sensitizing effects known.

· **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)**

64-17-5	Ethyl Alcohol, Absolute, 200 Proof Reagent, ACS (Ethanol) 15055	1
108-88-3	toluene	3

· **NTP (National Toxicology Program)**

None of the ingredients is listed.

· **OSHA-Ca (Occupational Safety Health Administration)**

None of the ingredients is listed.

12 Ecological information

· **Toxicity**

· **Aquatic toxicity:** No further relevant information available.

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

· **Behavior in environmental systems:**

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

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- **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.

14 Transport information

· UN-Number	UN1993
· DOT, ADR, IMDG, IATA	
· UN proper shipping name	
· DOT	Flammable liquids, n.o.s.
· ADR	1993 Flammable liquids, n.o.s.
· IMDG, IATA	FLAMMABLE LIQUID, N.O.S.
· Transport hazard class(es)	
· DOT, ADR, IMDG, IATA	
· Class	3 Flammable liquids
· Packing group	
· DOT, ADR, IMDG, IATA	III
· Environmental hazards:	
· Marine pollutant:	No
· Special precautions for user	Warning: Flammable liquids
· 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

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- | | |
|--|--|
| <ul style="list-style-type: none"> · IMDG · Limited quantities (LQ) · Excepted quantities (EQ) | <p>5L
Code: E1
Maximum net quantity per inner packaging: 30 ml
Maximum net quantity per outer packaging: 1000 ml</p> |
| <ul style="list-style-type: none"> · UN "Model Regulation": | <p>UN 1993 FLAMMABLE LIQUIDS, N.O.S., 3, III</p> |

15 Regulatory information

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

- **Section 355 (extremely hazardous substances):**

None of the ingredients is listed.

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

7440-22-4	silver
108-88-3	toluene

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

All ingredients are listed.

- **Proposition 65**

- **Chemicals known to cause cancer:**

None of the ingredients is listed.

- **Chemicals known to cause reproductive toxicity for females:**

108-88-3	toluene
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- **Chemicals known to cause reproductive toxicity for males:**

None of the ingredients is listed.

- **Chemicals known to cause developmental toxicity:**

64-17-5	Ethyl Alcohol, Absolute, 200 Proof Reagent, ACS (Ethanol) 15055
108-88-3	toluene

- **Carcinogenic categories**

- **EPA (Environmental Protection Agency)**

7440-22-4	silver	D
108-88-3	toluene	II

- **TLV (Threshold Limit Value established by ACGIH)**

64-17-5	Ethyl Alcohol, Absolute, 200 Proof Reagent, ACS (Ethanol) 15055	A3
108-88-3	toluene	A4

- **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).

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· **Hazard pictograms**

GHS07 GHS08

· **Signal word** *Danger*· **Hazard-determining components of labeling:***Ethyl Alcohol, Absolute, 200 Proof**Reagent, ACS (Ethanol)**15055**toluene**1-methoxy-2-propanol**ethyl acetate*· **Hazard statements***Harmful if swallowed or if inhaled.**Causes skin and eye irritation.**May cause cancer.**Suspected of damaging fertility or the unborn child.**May cause drowsiness or dizziness.**May cause damage to organs through prolonged or repeated exposure.**May be fatal if swallowed and enters airways.*· **Precautionary statements***Do not breathe dust/fume/gas/mist/vapors/spray.**Wear protective gloves / eye protection / face protection.**Wash thoroughly after handling.**Do not eat, drink or smoke when using this product.**Use only outdoors or in a well-ventilated area.**Obtain special instructions before use.**Do not handle until all safety precautions have been read and understood.**IF SWALLOWED: Immediately call a POISON CENTER/ doctor.**If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.**Continue rinsing.**Specific treatment (see on this label).**IF INHALED: Remove person to fresh air and keep comfortable for breathing.**IF exposed or concerned: Get medical advice/attention.**If skin irritation occurs: Get medical advice/attention.**If eye irritation persists: Get medical advice/attention.**Get medical advice/attention if you feel unwell.**Rinse mouth.**Do NOT induce vomiting.**IF ON SKIN: Wash with plenty of water.**Take off contaminated clothing and wash it before reuse.**Store in a well-ventilated place. Keep cool.**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.

· **Date of preparation / last revision** 01/18/2016 / -

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· Abbreviations and acronyms:

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

ACGIH: American Conference of Governmental Industrial Hygienists

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

NFPA: National Fire Protection Association (USA)

HMIS: Hazardous Materials Identification System (USA)

VOC: Volatile Organic Compounds (USA, EU)

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

BEI: Biological Exposure Limit

Acute Tox. 4: Acute toxicity, Hazard Category 4

Skin Irrit. 2: Skin corrosion/irritation, Hazard Category 2

Eye Irrit. 2B: Serious eye damage/eye irritation, Hazard Category 2B

Carc. 1A: Carcinogenicity, Hazard Category 1A

Repr. 2: Reproductive toxicity, Hazard Category 2

STOT SE 3: Specific target organ toxicity - Single exposure, Hazard Category 3

STOT RE 2: Specific target organ toxicity - Repeated exposure, Hazard Category 2

Asp. Tox. 1: Aspiration hazard, Hazard Category 1

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




Printing date 11.05.2015

Revision: 11.05.2015

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

- **Product identifier**
- **Trade name:** COLLOIDAL SILVER PASTE
- **Article number:** 12640
- **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)
- 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 Hazards identification

- **Classification of the substance or mixture**
- **Classification according to Directive 67/548/EEC or Directive 1999/45/EC**
-  **Toxic**
May cause harm to the unborn child.
-  **Harmful**
Harmful: danger of serious damage to health by prolonged exposure through inhalation, in contact with skin and if swallowed. Possible risk of impaired fertility. Harmful: may cause lung damage if swallowed.
-  **Irritant**
Irritating to eyes.
- **Information concerning particular hazards for human and environment:**
The product has to be labelled due to the calculation procedure of the "General Classification guideline for preparations of the EU" in the latest valid version.
- **Classification system:**
The classification is according to the latest editions of the EU-lists, and extended by company and literature data.

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according to 1907/2006/EC, Article 31

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- **Label elements**

- **Labelling according to EU guidelines:**

The product has been classified and marked in accordance with EU Directives / Ordinance on Hazardous Materials.

- **Code letter and hazard designation of product:**



Toxic

- **Hazard-determining components of labelling:**

toluene

- **Risk phrases:**

May cause harm to the unborn child.

Irritating to eyes.

Also harmful: danger of serious damage to health by prolonged exposure through inhalation, in contact with skin and if swallowed.

Possible risk of impaired fertility.

Harmful: may cause lung damage if swallowed.

- **Information concerning particular hazards for human and environment:**

- **Safety phrases:**

Avoid exposure - obtain special instructions before use.

Wear suitable protective clothing, gloves and eye/face protection.

In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

This material and its container must be disposed of as hazardous waste.

- **Other hazards**

- **Results of PBT and vPvB assessment**

- **PBT:** Not applicable.

- **vPvB:** Not applicable.

3 Composition/information on ingredients

- **Chemical characterisation: Mixtures**

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

- **Dangerous components:**

64-17-5	Ethyl Alcohol, Absolute, 200 Proof Reagent, ACS (Ethanol) 15055	10-25%
107-98-2	1-methoxy-2-propanol	2.5-10%
108-88-3	toluene	2.5-10%
141-78-6	ethyl acetate	2.5-10%

- **Additional information:** For the wording of the listed risk 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.

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- **After inhalation:** Supply fresh air; consult doctor in case of complaints.
- **After skin contact:** Generally the product does not irritate the skin.
- **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.
- **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 Firefighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:**
CO₂, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- **Special hazards arising from the substance or mixture** No further relevant information available.
- **Advice for firefighters**
- **Protective equipment:** No special measures required.

6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures** Not required.
- **Environmental precautions:** 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

- **Precautions for safe handling**
Ensure good ventilation/exhaustion at the workplace.
Open and handle receptacle with care.
Prevent formation of aerosols.
- **Information about fire - and explosion protection:**
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 container tightly sealed.
Protect from heat and direct sunlight.
- **Specific end use(s)** No further relevant information available.

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8 Exposure controls/personal protection

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

· **Control parameters**

· **Ingredients with limit values that require monitoring at the workplace:**

64-17-5 Ethyl Alcohol, Absolute, 200 Proof
Reagent, ACS (Ethanol)
15055

NES Long-term value: 1880 mg/m³, 1000 ppm

107-98-2 1-methoxy-2-propanol

NES Short-term value: 553 mg/m³, 150 ppm
 Long-term value: 369 mg/m³, 100 ppm

108-88-3 toluene

NES Short-term value: 574 mg/m³, 150 ppm
 Long-term value: 191 mg/m³, 50 ppm
 Sk

141-78-6 ethyl acetate

NES Short-term value: 1440 mg/m³, 400 ppm
 Long-term value: 720 mg/m³, 200 ppm

· **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.

Store protective clothing separately.

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.

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Safety data sheet
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Trade name: COLLOIDAL SILVER PASTE

(Contd. of page 4)

· Eye protection:



Tightly sealed goggles

9 Physical and chemical properties

· Information on basic physical and chemical properties

· General Information

· Appearance:

Form:	Pasty
Colour:	Silver grey
Odour:	Strong
Odour threshold:	Not determined.

· pH-value: Not determined.

· Change in condition

Melting point/Melting range:	Undetermined.
Boiling point/Boiling range:	75 °C

· Flash point: Not applicable.

· Flammability (solid, gaseous): Not applicable.

· Ignition temperature: 270 °C

· Decomposition temperature: Not determined.

· Self-igniting: Product is not selfigniting.

· Danger of explosion: Product does not present an explosion hazard.

· Explosion limits:

Lower:	1.2 Vol %
Upper:	20.0 Vol %

· Vapour pressure at 20 °C: 59 hPa

· Density: Not determined.

· Relative density: Not determined.

· Vapour density: Not determined.

· Evaporation rate: Not determined.

· Solubility in / Miscibility with water:

Not miscible or difficult to mix.

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

· Viscosity:

Dynamic:	Not determined.
Kinematic:	Not determined.

· Solvent content:

Organic solvents:	40.0 %
VOC (EC)	40.00 %

Solids content: 60.0 %

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

10 Stability and reactivity

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

11 Toxicological information

· **Information on toxicological effects**

· **Acute toxicity:**

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

108-88-3 toluene

Oral	LD50	5000 mg/kg (rat)
Dermal	LD50	12124 mg/kg (rabbit)
Inhalative	LC50/4 h	5320 mg/l (mouse)

· **Primary irritant effect:**

· **on the skin:** No irritant effect.

· **on the eye:** Irritating effect.

· **Sensitisation:** No sensitising effects known.

· **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.

· **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.

AU

(Contd. on page 7)

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

Printing date 11.05.2015

Revision: 11.05.2015

Trade name: COLLOIDAL SILVER PASTE

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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.

14 Transport information

· UN-Number	
· ADG, IMDG, IATA	UN1993
· UN proper shipping name	
· ADG	1993 FLAMMABLE LIQUID, N.O.S.
· IMDG, IATA	FLAMMABLE LIQUID, N.O.S.
· Transport hazard class(es)	
· ADG, IMDG, IATA	
· Class	3 Flammable liquids.
· Packing group	
· ADG, IMDG, IATA	III
· Environmental hazards:	
· Marine pollutant:	No
· Special precautions for user	Warning: Flammable liquids.
· Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code	Not applicable.
· Transport/Additional information:	
· ADG	
· 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
· 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

15 Regulatory information

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

· **Australian Inventory of Chemical Substances**

All ingredients are listed.

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

7440-22-4 | silver

S2

(Contd. on page 8)

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

Printing date 11.05.2015

Revision: 11.05.2015

Trade name: COLLOIDAL SILVER PASTE

(Contd. of page 7)

108-88-3 toluene

S6

· **Labelling according to EU guidelines:**

The product has been classified and marked in accordance with EU Directives / Ordinance on Hazardous Materials.

· **Code letter and hazard designation of product:**



Toxic

· **Hazard-determining components of labelling:**

toluene

· **Risk phrases:**

May cause harm to the unborn child.

Irritating to eyes.

Also harmful: danger of serious damage to health by prolonged exposure through inhalation, in contact with skin and if swallowed.

Possible risk of impaired fertility.

Harmful: may cause lung damage if swallowed.

· **Safety phrases:**

Avoid exposure - obtain special instructions before use.

Wear suitable protective clothing, gloves and eye/face protection.

In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

This material and its container must be disposed of as hazardous waste.

· **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.

Safety Data Sheet

acc. to OSHA HCS

Printing date 05/11/2015

Reviewed on 05/11/2015

1 Identification

- **Product identifier**
- **Trade name:** COLLOIDAL SILVER PASTE
- **Article number:** 12640
- **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
- **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

Flam. Liq. 3 H226 Flammable liquid and vapour.



GHS08 Health hazard

Carc. 1A H350 May cause cancer.

Repr. 2 H361 Suspected of damaging fertility or the unborn child.

STOT RE 2 H373 May cause damage to organs through prolonged or repeated exposure.

Asp. Tox. 1 H304 May be fatal if swallowed and enters airways.



GHS07

Acute Tox. 4 H302 Harmful if swallowed.

Acute Tox. 4 H332 Harmful if inhaled.

Skin Irrit. 2 H315 Causes skin irritation.

STOT SE 3 H336 May cause drowsiness or dizziness.

Eye Irrit. 2B H320 Causes eye irritation.

- **Classification according to Directive 67/548/EEC or Directive 1999/45/EC**



Toxic

May cause harm to the unborn child.



Harmful

(Contd. on page 2)

CA

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Reviewed on 05/11/2015

Trade name: COLLOIDAL SILVER PASTE

(Contd. of page 1)

Harmful: danger of serious damage to health by prolonged exposure through inhalation, in contact with skin and if swallowed. Possible risk of impaired fertility. Harmful: may cause lung damage if swallowed.

**Irritant**

Irritating to eyes.

· **Information concerning particular hazards for human and environment:**

The product has to be labeled due to the calculation procedure of international guidelines.

· **Classification system:**

The classification was made according to the latest editions of international substances lists, and expanded upon from company and literature data.

· **Label elements**

· **Labelling according to EU guidelines:**

The product has been classified and marked in accordance with directives on hazardous materials.

· **Code letter and hazard designation of product:**

**Toxic**

· **Hazard-determining components of labeling:**

toluene

· **Risk phrases:**

May cause harm to the unborn child.

Irritating to eyes.

Also harmful: danger of serious damage to health by prolonged exposure through inhalation, in contact with skin and if swallowed.

Possible risk of impaired fertility.

Harmful: may cause lung damage if swallowed.

· **Safety phrases:**

Avoid exposure - obtain special instructions before use.

Wear suitable protective clothing, gloves and eye/face protection.

In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

This material and its container must be disposed of as hazardous waste.

· **Hazard description:**

· **WHMIS-symbols:**

D2A - Very toxic material causing other toxic effects



· **Classification system:**

· **NFPA ratings (scale 0 - 4)**



Health = 2

Fire = 0

Reactivity = 0

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Trade name: COLLOIDAL SILVER PASTE

(Contd. of page 2)

- **HMIS-ratings (scale 0 - 4)**

HEALTH	*2	Health = *2
FIRE	0	Fire = 0
REACTIVITY	0	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:**

64-17-5	Ethyl Alcohol, Absolute, 200 Proof Reagent, ACS (Ethanol) 15055	10-30%
107-98-2	1-methoxy-2-propanol	5-10%
108-88-3	toluene	5-10%
141-78-6	ethyl acetate	1-5%

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; consult doctor in case of complaints.
- **After skin contact:** Generally the product does not irritate the skin.
- **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.
- **Most important symptoms and effects, both acute and delayed** No further relevant information available.
- **Indication of any immediate medical attention and special treatment needed**
No further relevant information available.

5 Fire-fighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:**
CO₂, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- **Special hazards arising from the substance or mixture** No further relevant information available.
- **Advice for firefighters**
- **Protective equipment:** No special measures required.

CA

(Contd. on page 4)

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Reviewed on 05/11/2015

Trade name: COLLOIDAL SILVER PASTE

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6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures** Not required.
- **Environmental precautions:** 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

- **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:**
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.
Protect from heat and direct sunlight.
- **Specific end use(s)** No further relevant information available.

8 Exposure controls/personal protection

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

Components with limit values that require monitoring at the workplace:

64-17-5 Ethyl Alcohol, Absolute, 200 Proof
Reagent, ACS (Ethanol)
15055

EL Short-term value: 1000 ppm

EV Long-term value: 1.900 mg/m³, 1.000 ppm

107-98-2 1-methoxy-2-propanol

EL Short-term value: 75 ppm

Long-term value: 50 ppm

EV Short-term value: 550 mg/m³, 150 ppm

Long-term value: 365 mg/m³, 100 ppm

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Reviewed on 05/11/2015

Trade name: COLLOIDAL SILVER PASTE

(Contd. of page 4)

108-88-3 toluene

EL Long-term value: 20 ppm
R

EV Long-term value: 20 ppm

141-78-6 ethyl acetate

EL Long-term value: 150 ppm

EV Long-term value: 1.440 mg/m³, 400 ppm

· **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.

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: Pasty

Color: Silver grey

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Reviewed on 05/11/2015

Trade name: COLLOIDAL SILVER PASTE

(Contd. of page 5)

· Odor:	Strong
· Odour threshold:	Not determined.
· pH-value:	Not determined.
· Change in condition	
Melting point/Melting range:	Undetermined.
Boiling point/Boiling range:	75 °C
· Flash point:	Not applicable.
· Flammability (solid, gaseous):	Not flammable.
· Ignition temperature:	270 °C
· Decomposition temperature:	Not determined.
· Auto igniting:	Product is not selfigniting.
· Danger of explosion:	Product does not present an explosion hazard.
· Explosion limits:	
Lower:	1.2 Vol %
Upper:	20.0 Vol %
· Vapor pressure at 20 °C:	59 hPa
· Density:	Not determined.
· Relative density	Not determined.
· Vapour density	Not determined.
· Evaporation rate	Not determined.
· Solubility in / Miscibility with	
Water:	Not miscible or difficult to mix.
· Partition coefficient (n-octanol/water):	Not determined.
· Viscosity:	
Dynamic:	Not determined.
Kinematic:	Not determined.
· Solvent content:	
Organic solvents:	40.0 %
Solids content:	60.0 %
· Other information	No further relevant information available.

10 Stability and reactivity

- **Reactivity**
- **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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Printing date 05/11/2015

Reviewed on 05/11/2015

Trade name: COLLOIDAL SILVER PASTE

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11 Toxicological information

- **Information on toxicological effects**

- **Acute toxicity:**

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

108-88-3 toluene

Oral	LD50	5000 mg/kg (rat)
Dermal	LD50	12124 mg/kg (rabbit)
Inhalative	LC50/4 h	5320 mg/l (mouse)

- **Primary irritant effect:**

- **on the skin:** No irritant effect.

- **on the eye:** Irritating effect.

- **Sensitization:** No sensitizing effects known.

- **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)**

64-17-5	Ethyl Alcohol, Absolute, 200 Proof Reagent, ACS (Ethanol) 15055	1
108-88-3	toluene	3

- **NTP (National Toxicology Program)**

None of the ingredients is listed.

- **OSHA-Ca (Occupational Safety Health Administration)**

None of the ingredients is listed.

12 Ecological information

- **Toxicity**

- **Aquatic toxicity:** No further relevant information available.

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

- **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.

CA

(Contd. on page 8)

Safety Data Sheet

acc. to OSHA HCS

Printing date 05/11/2015

Reviewed on 05/11/2015

Trade name: COLLOIDAL SILVER PASTE

(Contd. of page 7)

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.

14 Transport information

· UN-Number	UN1993
· DOT, TDG, IMDG, IATA	UN1993
· UN proper shipping name	Flammable liquids, n.o.s.
· DOT	1993 Flammable liquids, n.o.s.
· TDG	FLAMMABLE LIQUID, N.O.S.
· IMDG, IATA	FLAMMABLE LIQUID, N.O.S.
· Transport hazard class(es)	
· DOT, TDG, IMDG, IATA	3 Flammable liquids
· Class	3 Flammable liquids
· Packing group	III
· DOT, TDG, IMDG, IATA	III
· Environmental hazards:	
· Marine pollutant:	No
· Special precautions for user	Warning: Flammable liquids
· 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
· TDG	
· Excepted quantities (EQ)	Code: E1 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml
· 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":	UN1993, Flammable liquids, n.o.s., 3, III

CA

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Printing date 05/11/2015

Reviewed on 05/11/2015

Trade name: COLLOIDAL SILVER PASTE

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15 Regulatory information

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

· Sara

· Section 355 (extremely hazardous substances):

None of the ingredients is listed.

· Section 313 (Specific toxic chemical listings):

7440-22-4 silver

108-88-3 toluene

· TSCA (Toxic Substances Control Act):

All ingredients are listed.

· Proposition 65

· Chemicals known to cause cancer:

None of the ingredients is listed.

· Chemicals known to cause reproductive toxicity for females:

108-88-3 toluene

· Chemicals known to cause reproductive toxicity for males:

None of the ingredients is listed.

· Chemicals known to cause developmental toxicity:

64-17-5 Ethyl Alcohol, Absolute, 200 Proof
Reagent, ACS (Ethanol)
15055

108-88-3 toluene

· Carcinogenic categories

· EPA (Environmental Protection Agency)

7440-22-4 silver

D

108-88-3 toluene

II

· TLV (Threshold Limit Value established by ACGIH)

64-17-5 Ethyl Alcohol, Absolute, 200 Proof
Reagent, ACS (Ethanol)
15055

A3

108-88-3 toluene

A4

· NIOSH-Ca (National Institute for Occupational Safety and Health)

None of the ingredients is listed.

· Canadian substance listings:

· Canadian Domestic Substances List (DSL)

All ingredients are listed.

· Canadian Ingredient Disclosure list (limit 0.1%)

64-17-5 Ethyl Alcohol, Absolute, 200 Proof
Reagent, ACS (Ethanol)
15055

· Canadian Ingredient Disclosure list (limit 1%)

7440-22-4 silver

107-98-2 1-methoxy-2-propanol

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Safety Data Sheet

acc. to OSHA HCS

Printing date 05/11/2015

Reviewed on 05/11/2015

Trade name: COLLOIDAL SILVER PASTE

(Contd. of page 9)

108-88-3	toluene
141-78-6	ethyl acetate

Product related hazard informations:

The product has been classified and marked in accordance with directives on hazardous materials.

Hazard symbols:


Toxic

Hazard-determining components of labeling:

toluene

Risk phrases:

May cause harm to the unborn child.

Irritating to eyes.

Also harmful: danger of serious damage to health by prolonged exposure through inhalation, in contact with skin and if swallowed.

Possible risk of impaired fertility.

Harmful: may cause lung damage if swallowed.

Safety phrases:

Avoid exposure - obtain special instructions before use.

Wear suitable protective clothing, gloves and eye/face protection.

In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

This material and its container must be disposed of as hazardous waste.

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.

Date of preparation / last revision 05/11/2015 / -

Abbreviations and acronyms:

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

ACGIH: American Conference of Governmental Industrial Hygienists

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

NFPA: National Fire Protection Association (USA)

HMIS: Hazardous Materials Identification System (USA)

WHMIS: Workplace Hazardous Materials Information System (Canada)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

Flam. Liq. 3: Flammable liquids, Hazard Category 3

Acute Tox. 4: Acute toxicity, Hazard Category 4

Skin Irrit. 2: Skin corrosion/irritation, Hazard Category 2

Eye Irrit. 2B: Serious eye damage/eye irritation, Hazard Category 2B

Carc. 1A: Carcinogenicity, Hazard Category 1A

Repr. 2: Reproductive toxicity, Hazard Category 2

STOT SE 3: Specific target organ toxicity - Single exposure, Hazard Category 3

STOT RE 2: Specific target organ toxicity - Repeated exposure, Hazard Category 2

Asp. Tox. 1: Aspiration hazard, Hazard Category 1

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

Printing date 01.09.2015

Revision: 01.09.2015

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

- **Product identifier**
- **Trade name:** COLLOIDAL SILVER PASTE
- **Article number:** 12640
- **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
- **Further information obtainable from:** Product safety department
- **Emergency telephone number:**
ChemTrec 1-800-424-9300 Contract CCN7661
1-703-527-3887

2 Hazards identification

- **Classification of the substance or mixture**



health hazard

- Repr. 2 H361 Suspected of damaging fertility or the unborn child.
STOT RE 2 H373 May cause damage to organs through prolonged or repeated exposure.
Asp. Tox. 1 H304 May be fatal if swallowed and enters airways.
- Acute Tox. 5 H303 May be harmful if swallowed.
Acute Tox. 5 H333 May be harmful if inhaled.
Skin Corr. 3 H316 Causes mild skin irritation.
Eye Irrit. 2B H320 Causes eye irritation.

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



GHS08

- **Signal word** Danger
- **Hazard-determining components of labelling:**
toluene
- **Hazard statements**
May be harmful if swallowed.
May be harmful if inhaled.
Causes mild skin irritation.
Causes eye irritation.

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Suspected of damaging fertility or the unborn child.

May cause damage to organs through prolonged or repeated exposure.

May be fatal if swallowed and enters airways.

· **Precautionary statements**

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

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

IF SWALLOWED: Immediately call a POISON CENTER/ doctor.

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

Continue rinsing.

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/information on ingredients

· **Chemical characterisation: Mixtures**

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

· **Dangerous components:**

64-17-5	Ethyl Alcohol, Absolute, 200 Proof Reagent, ACS (Ethanol) 15055 ⚠ Flam. Liq. 2, H225	10-25%
107-98-2	1-methoxy-2-propanol ⚠ Flam. Liq. 3, H226; ⚠ STOT SE 3, H336	2,5-10%
108-88-3	toluene ⚠ Flam. Liq. 2, H225; ⚠ Repr. 2, H361; STOT RE 2, H373; Asp. Tox. 1, H304; ⚠ Skin Irrit. 2, H315; STOT SE 3, H336	2,5-10%
141-78-6	ethyl acetate ⚠ Flam. Liq. 2, H225; ⚠ Eye Irrit. 2A, H319; STOT SE 3, H336	2,5-10%

· **Additional information:** For the wording of the listed risk 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; consult doctor in case of complaints.

· **After skin contact:** Generally the product does not irritate the skin.

· **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 Firefighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:**
CO₂, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- **Special hazards arising from the substance or mixture** No further relevant information available.
- **Advice for firefighters**
- **Protective equipment:** No special measures required.

6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures** Not required.
- **Environmental precautions:** 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.
Open and handle receptacle with care.
Prevent formation of aerosols.
- **Information about fire - and explosion protection:**
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 container tightly sealed.
Protect from heat and direct sunlight.
- **Specific end use(s)** No further relevant information available.

8 Exposure controls/personal protection

- **Additional information about design of technical 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.

Store protective clothing separately.

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: Pasty

Colour: Silver grey

- **Odour:** Strong

- **Odour threshold:** Not determined.

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

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· Change in condition Melting point/Melting range:	Undetermined.
Boiling point/Boiling range:	75 °C
· Flash point:	Not applicable.
· Flammability (solid, gaseous):	Not applicable.
· Ignition temperature:	270 °C
· Decomposition temperature:	Not determined.
· Self-igniting:	Product is not selfigniting.
· Danger of explosion:	Product does not present an explosion hazard.
· Explosion limits:	
Lower:	1,2 Vol %
Upper:	20,0 Vol %
· Vapour pressure at 20 °C:	59 hPa
· Density:	Not determined.
· Relative density	Not determined.
· Vapour density	Not determined.
· Evaporation rate	Not determined.
· Solubility in / Miscibility with water:	Not miscible or difficult to mix.
· Partition coefficient (n-octanol/water):	Not determined.
· Viscosity:	
Dynamic:	Not determined.
Kinematic:	Not determined.
· Solvent content:	
Organic solvents:	40,0 %
VOC (EC)	40,00 %
Solids content:	60,0 %
· Other information	No further relevant information available.

10 Stability and reactivity

- **Reactivity**
- **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**

- **LD/LC50 values relevant for classification:**

108-88-3 toluene

Oral	LD50	5000 mg/kg (rat)
Dermal	LD50	12124 mg/kg (rabbit)
Inhalative	LC50/4 h	5320 mg/l (mouse)

- **Primary irritant effect:**
- **Skin corrosion/irritation** No irritant effect.
- **Serious eye damage/irritation** Irritating effect.
- **Respiratory or skin sensitisation** No sensitising effects known.
- **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
- **CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)**
Repr. 2

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.

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14 Transport information

· UN-Number · ADR, IMDG, IATA	UN1993
· UN proper shipping name · ADR · IMDG, IATA	1993 FLAMMABLE LIQUID, N.O.S. FLAMMABLE LIQUID, N.O.S.
· Transport hazard class(es) · ADR, IMDG, IATA · Class	3 Flammable liquids.
· Packing group · ADR, IMDG, IATA	III
· Environmental hazards: · Marine pollutant:	No
· Special precautions for user	Warning: Flammable liquids.
· Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code	Not applicable.
· Transport/Additional information:	
· ADR · Limited quantities (LQ) · Excepted quantities (EQ)	5L Code: E1 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml
· IMDG · Limited quantities (LQ) · Excepted quantities (EQ)	5L Code: E1 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml
· UN "Model Regulation":	UN1993, FLAMMABLE LIQUID, N.O.S., 3, III

15 Regulatory information

- Safety, health and environmental regulations/legislation specific for the substance or mixture
- GHS label elements The product is classified and labelled according to the Globally Harmonised System (GHS).
- Hazard pictograms



GHS08

- Signal word *Danger*
- Hazard-determining components of labelling:
toluene
- Hazard statements
May be harmful if swallowed.
May be harmful if inhaled.

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*Causes mild skin irritation.**Causes eye irritation.**Suspected of damaging fertility or the unborn child.**May cause damage to organs through prolonged or repeated exposure.**May be fatal if swallowed and enters airways.***· Precautionary statements***Do not breathe dust/fume/gas/mist/vapours/spray.**Wear protective gloves/protective clothing/eye protection/face protection.**IF SWALLOWED: Immediately call a POISON CENTER/ doctor.**IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.**Continue rinsing.**Store locked up.**Dispose of contents/container in accordance with local/regional/national/international regulations.***· Directive 2012/18/EU****· Named dangerous substances - ANNEX I** None of the ingredients is listed.**· 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.***· Relevant phrases***H225 Highly flammable liquid and vapour.**H226 Flammable liquid and vapour.**H304 May be fatal if swallowed and enters airways.**H315 Causes skin irritation.**H319 Causes serious eye irritation.**H336 May cause drowsiness or dizziness.**H361 Suspected of damaging fertility or the unborn child.**H373 May cause damage to organs through prolonged or repeated exposure.***· Abbreviations and acronyms:***ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)**IMDG: International Maritime Code for Dangerous Goods**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)**LC50: Lethal concentration, 50 percent**LD50: Lethal dose, 50 percent**Flam. Liq. 2: Flammable liquids, Hazard Category 2**Flam. Liq. 3: Flammable liquids, Hazard Category 3**Acute Tox. 5: Acute toxicity, Hazard Category 5**Skin Irrit. 2: Skin corrosion/irritation, Hazard Category 2**Skin Corr. 3: Skin corrosion/irritation, Hazard Category 3**Eye Irrit. 2A: Serious eye damage/eye irritation, Hazard Category 2A**Eye Irrit. 2B: Serious eye damage/eye irritation, Hazard Category 2B**Repr. 2: Reproductive toxicity, Hazard Category 2**STOT SE 3: Specific target organ toxicity - Single exposure, Hazard Category 3**STOT RE 2: Specific target organ toxicity - Repeated exposure, Hazard Category 2**Asp. Tox. 1: Aspiration hazard, Hazard Category 1*

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

- **1.1 Product identifier**
- **Trade name:** COLLOIDAL SILVER PASTE
- **Article number:** 12640
- **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**



GHS08 health hazard

- Repr. 2 H361d Suspected of damaging the unborn child.
 STOT RE 2 H373 May cause damage to organs through prolonged or repeated exposure.
 Asp. Tox. 1 H304 May be fatal if swallowed and enters airways.



GHS07

- Acute Tox. 4 H302 Harmful if swallowed.
 Acute Tox. 4 H332 Harmful if inhaled.
 Skin Irrit. 2 H315 Causes skin irritation.

- **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-determining components of labelling:**
toluene

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· Hazard statements

- H302+H332 Harmful if swallowed or if inhaled.
 H315 Causes skin irritation.
 H361d Suspected of damaging the unborn child.
 H373 May cause damage to organs through prolonged or repeated exposure.
 H304 May be fatal if swallowed and enters airways.

· Precautionary statements

- P260 Do not breathe dust/fume/gas/mist/vapours/spray.
 P280 Wear protective gloves/protective clothing/eye protection/face protection.
 P301+P310 IF SWALLOWED: Immediately call a POISON CENTER/ doctor.
 P321 Specific treatment (see on this label).
 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: 64-17-5 EINECS: 200-578-6	Ethyl Alcohol, Absolute, 200 Proof Reagent, ACS (Ethanol) 15055 ⚠ Flam. Liq. 2, H225	10-25%
CAS: 107-98-2 EINECS: 203-539-1	1-methoxy-2-propanol ⚠ Flam. Liq. 3, H226; ⚠ STOT SE 3, H336	2.5-10%
CAS: 108-88-3 EINECS: 203-625-9	toluene ⚠ Flam. Liq. 2, H225; ⚠ Repr. 2, H361d; STOT RE 2, H373; Asp. Tox. 1, H304; ⚠ Skin Irrit. 2, H315; STOT SE 3, H336	2.5-10%
CAS: 141-78-6 EINECS: 205-500-4	ethyl acetate ⚠ Flam. Liq. 2, H225; ⚠ Eye Irrit. 2, H319; STOT SE 3, H336	2.5-10%

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; consult doctor in case of complaints.

- **After skin contact:** Generally the product does not irritate the skin.

· 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.

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- **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:**
CO₂, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- **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.

SECTION 6: Accidental release measures

- **6.1 Personal precautions, protective equipment and emergency procedures** Not required.
- **6.2 Environmental precautions:** 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.
Open and handle receptacle with care.
Prevent formation of aerosols.
- **Information about fire - and explosion protection:**
Protect from heat.
Protect against electrostatic charges.
Keep respiratory protective device available.
- **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.
Protect from heat and direct sunlight.
- **7.3 Specific end use(s)** No further relevant information available.

SECTION 8: Exposure controls/personal protection

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

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· 8.1 Control parameters

· **Ingredients with limit values that require monitoring at the workplace:**

64-17-5 Ethyl Alcohol, Absolute, 200 Proof
Reagent, ACS (Ethanol)
15055

WEL Long-term value: 1920 mg/m³, 1000 ppm**107-98-2 1-methoxy-2-propanol**WEL Short-term value: 560 mg/m³, 150 ppm
Long-term value: 375 mg/m³, 100 ppm
Sk**108-88-3 toluene**WEL Short-term value: 384 mg/m³, 100 ppm
Long-term value: 191 mg/m³, 50 ppm
Sk**141-78-6 ethyl acetate**WEL Short-term value: 400 ppm
Long-term value: 200 ppm· **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.
Store protective clothing separately.
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.

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· Eye protection:



Tightly sealed goggles

SECTION 9: Physical and chemical properties

· 9.1 Information on basic physical and chemical properties

· General Information

· Appearance:

Form:	Pasty
Colour:	Silver grey
· Odour:	Strong
· Odour threshold:	Not determined.

· pH-value: Not determined.

· Change in condition

Melting point/Melting range:	Undetermined.
Boiling point/Boiling range:	75 °C

· Flash point: Not applicable.

· Flammability (solid, gaseous): Not applicable.

· Ignition temperature: 270 °C

· Decomposition temperature: Not determined.

· Self-igniting: Product is not selfigniting.

· Danger of explosion: Product does not present an explosion hazard.

· Explosion limits:

Lower:	1.2 Vol %
Upper:	20.0 Vol %

· Vapour pressure at 20 °C: 59 hPa

· Density: Not determined.

· Relative density: Not determined.

· Vapour density: Not determined.

· Evaporation rate: Not determined.

· Solubility in / Miscibility with water:

Not miscible or difficult to mix.

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

· Viscosity:

Dynamic:	Not determined.
Kinematic:	Not determined.

· Solvent content:

Organic solvents:	40.0 %
VOC (EC)	40.00 %

Solids content: 60.0 %

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· **9.2 Other information** No further relevant information available.

SECTION 10: Stability and reactivity

- **10.1 Reactivity**
- **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:**

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

108-88-3 toluene

Oral	LD50	5000 mg/kg (rat)
Dermal	LD50	12124 mg/kg (rabbit)
Inhalative	LC50/4 h	5320 mg/l (mouse)

- **Primary irritant effect:**
- **on the skin:** No irritant effect.
- **on the eye:** Irritating effect.
- **Sensitisation:** No sensitising effects known.
- **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
- **CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)**
Repr. 2

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.

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· 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.

SECTION 14: Transport information

· 14.1 UN-Number

· ADR, IMDG, IATA

UN1993

· 14.2 UN proper shipping name

· ADR

· IMDG, IATA

1993 FLAMMABLE LIQUID, N.O.S.

FLAMMABLE LIQUID, N.O.S.

· 14.3 Transport hazard class(es)

· ADR, IMDG, IATA

· Class

3 Flammable liquids.

· 14.4 Packing group

· ADR, IMDG, IATA

III

· 14.5 Environmental hazards:

· Marine pollutant:

No

· 14.6 Special precautions for user

Warning: Flammable liquids.

· 14.7 Transport in bulk according to Annex II of

MARPOL73/78 and the IBC Code

Not applicable.

· Transport/Additional information:

· ADR

· Limited quantities (LQ)

· Excepted quantities (EQ)

5L

Code: E1

Maximum net quantity per inner packaging: 30 ml

Maximum net quantity per outer packaging: 1000 ml

· IMDG

· Limited quantities (LQ)

· Excepted quantities (EQ)

5L

Code: E1

Maximum net quantity per inner packaging: 30 ml

Maximum net quantity per outer packaging: 1000 ml

· UN "Model Regulation":

UN1993, FLAMMABLE LIQUID, N.O.S., 3, III

SECTION 15: Regulatory information

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

No further relevant information available.

(Contd. on page 8)

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

Printing date 11.05.2015

Revision: 11.05.2015

Trade name: **COLLOIDAL SILVER PASTE**

(Contd. of page 7)

· **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**

- H225 Highly flammable liquid and vapour.
- H226 Flammable liquid and vapour.
- H304 May be fatal if swallowed and enters airways.
- H315 Causes skin irritation.
- H319 Causes serious eye irritation.
- H336 May cause drowsiness or dizziness.
- H361d Suspected of damaging the unborn child.
- H373 May cause damage to organs through prolonged or repeated exposure.

· **Abbreviations and acronyms:**

- ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
- IMDG: International Maritime Code for Dangerous Goods
- 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)
- LC50: Lethal concentration, 50 percent
- LD50: Lethal dose, 50 percent
- Flam. Liq. 2: Flammable liquids, Hazard Category 2
- Flam. Liq. 3: Flammable liquids, Hazard Category 3
- Acute Tox. 4: Acute toxicity, Hazard Category 4
- Skin Irrit. 2: Skin corrosion/irritation, Hazard Category 2
- Eye Irrit. 2: Serious eye damage/eye irritation, Hazard Category 2
- Repr. 2: Reproductive toxicity, Hazard Category 2
- STOT SE 3: Specific target organ toxicity - Single exposure, Hazard Category 3
- STOT RE 2: Specific target organ toxicity - Repeated exposure, Hazard Category 2
- Asp. Tox. 1: Aspiration hazard, Hazard Category 1

GB

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根据 GB/T 16483-2008, GB/T 17519-2013

打印日期 2015.05.11

在 2015.05.11 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: COLLOIDAL SILVER PASTE
- 商品编号: 12640
- 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。
- 原材料的应用/准备工作进行 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: sgkcck@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:

银灰色, 浆状的

· GHS危险性类别



火焰

易燃液体 第3类

H226 易燃液体和蒸气



健康危险

生殖毒性 第2类

H361 怀疑损害生育力或胎儿

特定靶器官系统毒性 (重复接触) 第2类 H373 长期或反复接触

急性毒性(经口) 第5类

H303 吞咽可能有害

急性毒性(吸入) 第5类

H333 吸入可能有害

皮肤腐蚀/刺激 第3类

H316 引起轻微的皮肤刺激

严重眼睛损伤/眼睛刺激性 第2B类

H320 引起眼睛刺激

· 标签因素

- 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。

· 图示



GHS02



GHS08

- 名称 警告

(在 2 页继续)

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· **标签上辨别危险的成份:**

甲苯

· **危险字句**

易燃液体和蒸气

吞咽可能有害

吸入可能有害

引起轻微的皮肤刺激

引起眼睛刺激

怀疑损害生育力或胎儿

长期或反复接触

· **警戒字句**

· **预防措施**

远离热源/火花/明火/热表面。 - 禁止吸烟。

使用防爆的电气/通风/照明/设备。

· **事故响应**

如皮肤(或头发)沾染: 立即去脱/脱掉所有沾染的衣服。用水清洗皮肤/淋浴。

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

· **安全贮存**

存放处须加锁。

· **废弃处置**

按照本地 / 地区 / 国家 / 国际规例处理内含物 / 容器。

· **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:**

64-17-5	乙醇 ⚠ 易燃液体 第2类, H225	10-25%
107-98-2	1-甲氧基-2-丙醇 ⚠ 易燃液体 第3类, H226	2.5-10%
108-88-3	甲苯 ⚠ 易燃液体 第2类, H225; ⚠ 生殖毒性 第2类, H361; 特定靶器官系统毒性 (重复接触) 第2类, H373; ⚠ 皮肤腐蚀/刺激 第2类, H315	2.5-10%
141-78-6	乙酸乙酯 ⚠ 易燃液体 第2类, H225; ⚠ 严重眼睛损伤/眼睛刺激性 第2A类, H319	2.5-10%

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;如果病人感到不适时要询问医生。

· **皮肤接触:** 一般的产品不会刺激皮肤。

· **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。

· **最重要的急慢性症状及其影响** 无相关详细资料。

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- **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:** 二氧化碳 (CO₂)、灭火粉末或洒水. 使用洒水或抗酒精泡沫灭火剂扑灭较大的火种.
- **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.
- **环境保护措施:** 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

- **储存**
确保工作间有良好的通风/排气装置.
小心打开及处理贮藏器.
防止气溶胶的形成.
- **有关火灾及防止爆炸的资料:**
防热.
防静电.
提供呼吸保护装置.
- **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.
免受接触热力和直接受阳光照射.
- **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.

(在 4 页继续)

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· **控制变数**

· **在工作场需要监控的限值成分**

64-17-5 乙醇

PEL (TW) PC-TWA: 1880 mg/m³, 1000 ppm

107-98-2 1-甲氧基-2-丙醇

PEL (TW) PC-TWA: 369 mg/m³, 100 ppm

108-88-3 甲苯

OEL (RC) PC-STEL: 100 mg/m³

PC-TWA: 50 mg/m³

PEL (TW) PC-TWA: 376 mg/m³, 100 ppm

141-78-6 乙酸乙酯

OEL (RC) PC-STEL: 300 mg/m³

PC-TWA: 200 mg/m³

PEL (TW) PC-TWA: 1440 mg/m³, 400 ppm

· **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.

分开储存保护性衣服.

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

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

CN

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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: 浆状的

· 颜色: 银灰色

· 气味: 坚固的

· 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: 75 °C

· 闪点: 不适用的

· 可燃性(固体、气体): 不适用的

· 点火温度: 270 °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: 1.2 Vol %

· 较高: 20.0 Vol %

· 蒸气压 在 20 °C: 59 hPa

· 密度: 未决定的

· 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: 不能拌和的或难以拌和

· n-辛醇/水分配系数: 未决定.

· 黏性:

· 动态: 未决定.

· 运动学的: 未决定.

· 溶剂成份:

· 有机溶剂: 40.0 %

· 固体成份: 60.0 %

· 其他信息: 无相关详细资料。

10 稳定性和反应性

· 反应性

· 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。

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(在 5 页继续)

- **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:**

- **与分类相关的 LD/ LC50 值:**

108-88-3 甲苯

口腔	LD50	5000 mg/kg (rat)
皮肤	LD50	12124 mg/kg (rabbit)
吸入	LC50/4 h	5320 mg/l (mouse)

- **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:** 没有已知的敏化影响。
- **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
- **对以下组别可能产生影响的数据:**
- **CMR作用 (致癌、导致基因突变、对生殖系统有害)**
生殖毒性 第2类

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。
- **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。
- **受污染的容器和包装:**
- **建议:** 必须根据官方的规章来丢弃。

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14 运输信息

· 联合国危险货物编号(UN号) · ADR, IMDG, IATA	UN1993
· UN适当装船名 · ADR · IMDG, IATA	1993 FLAMMABLE LIQUID, N.O.S. FLAMMABLE LIQUID, N.O.S.
· 运输危险等级 · ADR, IMDG, IATA · 级别	3 可燃液体
· 包装组别 · ADR, IMDG, IATA	III
· 危害环境: · 海运污染物质:	不是
· 用户特别预防措施	警告: 可燃液体
· 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
· 运输/额外的资料:	
· ADR · Excepted quantities (EQ)	Code: E1 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml
· IMDG · Limited quantities (LQ) · Excepted quantities (EQ)	5L Code: E1 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml
· UN "标准规定":	UN1993, FLAMMABLE LIQUID, N.O.S., 3, III

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
- 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。
- 危险象形图表



GHS02 GHS08

- 名称 警告

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· **标签上辨别危险的成份:**

甲苯

· **危险字句**

易燃液体和蒸气

吞咽可能有害

吸入可能有害

引起轻微的皮肤刺激

引起眼睛刺激

怀疑损害生育力或胎儿

长期或反复接触

· **警戒字句**

· **预防措施**

远离热源/火花/明火/热表面。 - 禁止吸烟。

使用防爆的电气/通风/照明/设备。

· **事故响应**

如皮肤(或头发)沾染 : 立即去脱/脱掉所有沾染的衣服。用水清洗皮肤/淋浴。

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

· **安全贮存**

存放处须加锁。

· **废弃处置**

按照本地 / 地区 / 国家 / 国际规例处理内含物 / 容器。

· **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。

· **缩写:**

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

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)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

易燃液体 第2类: Flammable liquids, Hazard Category 2

易燃液体 第3类: Flammable liquids, Hazard Category 3

急性毒性(经口) 第5类: Acute toxicity, Hazard Category 5

皮肤腐蚀/刺激 第2类: Skin corrosion/irritation, Hazard Category 2

皮肤腐蚀/刺激 第3类: Skin corrosion/irritation, Hazard Category 3

严重眼睛损伤/眼睛刺激性 第2A类: Serious eye damage/eye irritation, Hazard Category 2A

严重眼睛损伤/眼睛刺激性 第2B类: Serious eye damage/eye irritation, Hazard Category 2B

生殖毒性 第2类: Reproductive toxicity, Hazard Category 2

特定靶器官系统毒性 (重复接触) 第2类: Specific target organ toxicity - Repeated exposure, Hazard Category 2

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

- **1.1 Productidentificatie**
- **Handelsnaam:** COLLOIDAL SILVER PASTE
- **Artikelnummer:** 12640
- **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

- Repr. 2 H361d Wordt ervan verdacht het ongeboren kind te schaden.
 STOT RE 2 H373 Kan schade aan organen veroorzaken bij langdurige of herhaalde blootstelling.
 Asp. Tox. 1 H304 Kan dodelijk zijn als de stof bij inslikken in de luchtwegen terecht komt.



GHS07

- Acute Tox. 4 H302 Schadelijk bij inslikken.
 Acute Tox. 4 H332 Schadelijk bij inademing.
 Skin Irrit. 2 H315 Veroorzaakt huidirritatie.

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

(Vervolg op blz. 2)

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(Vervolg van blz. 1)

· Gevarenpictogrammen



GHS07 GHS08

· Signaalwoord Gevaar

· Gevaaraanduidende componenten voor de etikettering:

tolueen

· Gevarenaanduidingen

H302+H332 Schadelijk bij inslikken en bij inademing.

H315 Veroorzaakt huidirritatie.

H361d Wordt ervan verdacht het ongeboren kind te schaden.

H373 Kan schade aan organen veroorzaken bij langdurige of herhaalde blootstelling.

H304 Kan dodelijk zijn als de stof bij inslikken in de luchtwegen terechtkomt.

· Voorzorgsmaatregelen

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

P280 Beschermende handschoenen/beschermende kleding/oogbescherming/gelaatsbescherming dragen.

P301+P310 NA INSLIKKEN: onmiddellijk een ANTIGIFCENTRUM/arts raadplegen.

P321 Specifieke behandeling vereist (zie op dit etiket).

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: 64-17-5 EINECS: 200-578-6	ethanol ⚠ Flam. Liq. 2, H225	10-25%
CAS: 107-98-2 EINECS: 203-539-1	1-methoxy-2-propanol ⚠ Flam. Liq. 3, H226; ⚠ STOT SE 3, H336	2,5-10%
CAS: 108-88-3 EINECS: 203-625-9	tolueen ⚠ Flam. Liq. 2, H225; ⚠ Repr. 2, H361d; STOT RE 2, H373; Asp. Tox. 1, H304; ⚠ Skin Irrit. 2, H315; STOT SE 3, H336	2,5-10%
CAS: 141-78-6 EINECS: 205-500-4	ethylacetaat ⚠ Flam. Liq. 2, H225; ⚠ Eye Irrit. 2, H319; STOT SE 3, H336	2,5-10%

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.

(Vervolg op blz. 3)

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(Vervolg van blz. 2)

- **Na het inademen:** Frisse lucht toedienen; bij klachten arts ontbieden.
- **Na huidcontact:** Over het algemeen is het produkt niet prikkelend voor de huid
- **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.
- **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:**
CO₂, bluspoeder of waterstraal. Grotere brand met waterstraal bestrijden of met schuim, dat tegen alcohol bestand is.
- **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, beschermde uitrusting en noodprocedures** Niet nodig.
- **6.2 Milieuvoorzorgsmaatregelen:** Niet in de riolering/het oppervlaktewater/het grondwater laten terechtkomen.
- **6.3 Insluutings- 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.
Tanks voorzichtig openen en behandelen.
Aërosolvorming vermijden.
- **Informatie m.b.t. brand- en ontploffingsgevaar:**
Beschermen tegen hitte.
Maatregelen treffen tegen ontlading van statische elektriciteit.
Ademhalingstoestellen gereedhouden.
- **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.
Tegen hitte en directe zonnestralen beschermen.

(Vervolg op blz. 4)

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· 7.3 Specifiek eindgebruik Geen verdere relevante informatie verkrijgbaar.

RUBRIEK 8: Maatregelen ter beheersing van blootstelling/persoonlijke bescherming

· Aanvullende gegevens m.b.t. de inrichting van technische installaties: Geen aanvullende gegevens. Zie 7.

· 8.1 Controleparameters

· Bestanddelen met grenswaarden die m.b.t. de werkruimte in acht genomen moeten worden:

64-17-5 ethanol

WGW	Korte termijn waarde: 1900 mg/m ³ , 990 ppm
	Lange termijn waarde: 260 mg/m ³ , 135 ppm

107-98-2 1-methoxy-2-propanol

WGW	Korte termijn waarde: 563 mg/m ³ , 150 ppm
	Lange termijn waarde: 375 mg/m ³ , 100 ppm

108-88-3 toluen

WGW	Korte termijn waarde: 384 mg/m ³ , 100 ppm
	Lange termijn waarde: 150 mg/m ³ , 39 ppm

· Aanvullende gegevens: Als basis dienden lijsten die bij opstelling geldig waren.

· 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.
- Beschermende kleding afzonderlijk bewaren.
- 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.

(Vervolg op blz. 5)

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· Oogbescherming:



Nauw aansluitende veiligheidsbril

RUBRIEK 9: Fysische en chemische eigenschappen

· 9.1 Informatie over fysische en chemische basiseigenschappen

· Algemene gegevens

· Voorkomen:

Vorm:	Pasteus
Kleur:	Zilvergrijs
Reuk:	Sterk
Geurdrempelwaarde:	Niet bepaald.

· pH-waarde: Niet bepaald.

· Toestandsverandering

Smeltpunt/smeltbereik:	Niet bepaald.
Kookpunt/kookpuntbereik:	75 °C

· Vlampunt: Niet bruikbaar.

· Ontvlambaarheid (vast, gasvormig): Niet bruikbaar.

· Ontstekingstemperatuur: 270 °C

· Ontbindingstemperatuur: Niet bepaald.

· Zelfonsteking: Het produkt ontbrandt niet uit zichzelf.

· Ontploffingsgevaar: Het produkt is niet ontploffingsgevaarlijk.

· Ontploffingsgrenzen:

Onderste:	1,2 Vol %
Bovenste:	20,0 Vol %

· Dampspanning bij 20 °C: 59 hPa

· Dichtheid: Niet bepaald.

· Relatieve dichtheid: Niet bepaald.

· Dampdichtheid: Niet bepaald.

· Verdampingssnelheid: Niet bepaald.

· Oplosbaarheid in/mengbaarheid met

Water: Niet resp. gering mengbaar.

· Verdelingscoëfficiënt (n-octanol/water): Niet bepaald.

· Viscositeit

Dynamisch: Niet bepaald.

Kinematisch: Niet bepaald.

· Oplosmiddelgehalte:

Organisch oplosmiddel:	40,0 %
VOC (EG)	40,00 %

Gehalte aan vaste bestanddelen: 60,0 %

(Vervolg op blz. 6)

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(Vervolg van blz. 5)

· **9.2 Overige informatie** Geen verdere relevante informatie verkrijgbaar.

RUBRIEK 10: Stabiliteit en reactiviteit

- **10.1 Reactiviteit**
- **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:**

· **Indelingsrelevantie LD/LC50-waarden:**

108-88-3 toluen

Oraal	LD50	5000 mg/kg (rat)
Dermaal	LD50	12124 mg/kg (rabbit)
Inhalatief	LC50/4 h	5320 mg/l (mouse)

- **Primaire aandoening:**
- **op de huid:** Geen prikkelend effect.
- **aan het oog:** Prikkeling
- **Overgevoeligheid:** Geen effect van overgevoeligheid bekend.
- **Aanvullende toxicologische informatie:**
Het produkt vertoont op grond van het berekeningsprocédé van de algemene classificatie-richtlijnen van de EG voor toebereidingen in de laatste geldige redactie de volgende gevaren:
Irriterend
- **CMR-effecten (kankerverwekkendheid, mutageniteit en giftigheid voor de voortplanting)**
Repr. 2

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) 1: Zwarte lijst-stof (76/464/EEG).
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.

(Vervolg op blz. 7)

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· **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.

RUBRIEK 14: Informatie met betrekking tot het vervoer

· **14.1 VN-nummer**

· **ADR, IMDG, IATA**

UNI993

· **14.2 Juiste ladingnaam overeenkomstig de modelreglementen van de VN**

· **ADR**

1993 BRANDBARE VLOEISTOF, N.E.G.

· **IMDG, IATA**

FLAMMABLE LIQUID, N.O.S.

· **14.3 Transportgevarenklasse(n)**

· **ADR, IMDG, IATA**

· **klasse**

3 Brandbare vloeistoffen

· **14.4 Verpakkingsgroep:**

· **ADR, IMDG, IATA**

III

· **14.5 Milieugevaren:**

· **Marine pollutant:**

Neen

· **14.6 Bijzondere voorzorgen voor de gebruiker**

Waarschuwing: Brandbare vloeistoffen

· **14.7 Vervoer in bulk overeenkomstig bijlage II bij**

MARPOL 73/78 en de IBC-code

Niet bruikbaar.

· **Transport/verdere gegevens:**

· **ADR**

· **Beperkte hoeveelheden (LQ)**

5L

· **Uitgezonderde hoeveelheden (EQ)**

Code: E1

Grootste netto hoeveelheid per binnenverpakking: 30 ml

Grootste netto hoeveelheid per buitenverpakking: 1000 ml

· **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

· **VN "Model Regulation":**

UNI993, BRANDBARE VLOEISTOF, N.E.G., 3, III

NL

(Vervolg op blz. 8)

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RUBRIEK 15: Regelgeving

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

· SZW-lijst van kankerverwekkende stoffen

64-17-5	ethanol
---------	---------

· SZW-lijst van mutagene stoffen

geen der bestanddelen staat op de lijst.	
--	--

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

64-17-5	ethanol	1
---------	---------	---

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

64-17-5	ethanol	1
---------	---------	---

108-88-3	tolueen	3
----------	---------	---

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

64-17-5	ethanol	x
---------	---------	---

· Nationale voorschriften:

· **Gevaarklasse v. water:** Waterbezwaarlijkheid (NL) 1: Saneringsinspanning A

· **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 producteigenschappen en vestigen geen contractuele rechtsbetrekking.

· Relevante zinnen

H225 Licht ontvlambare vloeistof en damp.

H226 Ontvlambare vloeistof en damp.

H304 Kan dodelijk zijn als de stof bij inslikken in de luchtwegen terechtkomt.

H315 Veroorzaakt huidirritatie.

H319 Veroorzaakt ernstige oogirritatie.

H336 Kan slaperigheid of duizeligheid veroorzaken.

H361d Wordt ervan verdacht het ongeboren kind te schaden.

H373 Kan schade aan organen veroorzaken bij langdurige of herhaalde blootstelling.

· Afkortingen en acroniemen:

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

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)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

Flam. Liq. 2: Flammable liquids, Hazard Category 2

Flam. Liq. 3: Flammable liquids, Hazard Category 3

Acute Tox. 4: Acute toxicity, Hazard Category 4

Skin Irrit. 2: Skin corrosion/irritation, Hazard Category 2

Eye Irrit. 2: Serious eye damage/eye irritation, Hazard Category 2

Repr. 2: Reproductive toxicity, Hazard Category 2

STOT SE 3: Specific target organ toxicity - Single exposure, Hazard Category 3

STOT RE 2: Specific target organ toxicity - Repeated exposure, Hazard Category 2

Asp. Tox. 1: Aspiration hazard, Hazard Category 1

Käyttöturvallisuustiedote

1907/2006/EY, 31 artikla mukainen

Painatuspäivämäärä 11.05.2015

Tarkistus: 11.05.2015

KOHTA 1: Aineen tai seoksen ja yhtiön tai yrityksen tunnistetiedot

- **1.1 Tuotetunniste**
- **Kauppanimike:** COLLOIDAL SILVER PASTE
- **Artikkelinumero:** 12640
- **1.2 Aineen tai seoksen merkitykselliset tunnistetut käytöt ja käytöt, joita ei suositella**
Merkittäviä lisätietoja ei ole saatavilla.
- **Aineen / valmisteen käyttö** Laboratoriokemikaalit
- **1.3 Käyttöturvallisuustiedotteen toimittajan tiedot**
- **Valmistaja/toimittaja:**
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
- **Tietoja antaa:** Product safety department
- **1.4 Häätöpuhelinnumero:**
ChemTrec 1-800-424-9300 Contract CCN7661
1-703-527-3887

KOHTA 2: Vaaran yksilöinti

- **2.1 Aineen tai seoksen luokitus**
- **Luokitus asetuksen (EY) N:o 1272/2008 mukaisesti**



GHS08 terveysvaara

- Repr. 2 H361d Epäillään vaurioittavan sikiötä.
 STOT RE 2 H373 Saattaa vahingoittaa elimiä pitkäaikaisessa tai toistuvassa altistumisessa.
 Asp. Tox. 1 H304 Voi olla tappavaa nieltynä ja joutuessaan hengitysteihin.



GHS07

- Acute Tox. 4 H302 Haitallista nieltynä.
 Acute Tox. 4 H332 Haitallista hengitettynä.
 Skin Irrit. 2 H315 Ärsyttää ihoa.

- **2.2 Merkinnät**
- **Merkinnät asetuksen (EY) N:o 1272/2008 mukaisesti** Tuote on luokiteltu ja merkitty CLP-asetuksen mukaan.
- **Varoitusmerkit**



GHS07



GHS08

- **Huomiosana** Vaara
- **Vaaran määräävät komponentit etiketeissä:**
Toluenei
- **Vaaralausekkeet**
H302+H332 Haitallista nieltynä tai hengitettynä.

(jatkuu sivulla 2)

Käyttöturvallisuustiedote

1907/2006/EY, 31 artikla mukainen

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Kauppanimike: COLLOIDAL SILVER PASTE

(jatkuu sivulla 1)

- H315 Ärsyttää ihoa.
 H361d Epäillään vaurioittavan sikiötä.
 H373 Saattaa vahingoittaa elimiä pitkäaikaisessa tai toistuvassa altistumisessa.
 H304 Voi olla tappavaa nieltynä ja joutuessaan hengitysteihin.
- **Turvalausekkeet**
 - P260 Älä hengitä pölyä/savua/kaasua/sumua/höyryä/suihketta.
 - P280 Käytä suojakäsineitä/suojavaatetusta/silmiensuojainta/kasvonsuojainta.
 - P301+P310 JOS KEMIKAALIA ON NIELTY: Ota välittömästi yhteys MYRKYTYSTIETOKESKUKSEEN/lääkäriin.
 - P321 Erityishoitoa tarvitaan (katso pakkauksen merkinnöissä).
 - P405 Varastoi lukitussa tilassa.
 - P501 Säilytä säiliö(t) noudattaen paikallisia/alueellisia/kansallisia/kansainvälisiä määräyksiä.
 - **2.3 Muut vaarat**
 - **PBT- ja vPvB-arvioinnin tulokset**
 - **PBT:** Ei voida käyttää.
 - **vPvB:** Ei voida käyttää.

KOHTA 3: Koostumus ja tiedot aineosista

- **3.2 Kemialliset ominaisuudet: Seokset**
- **Selostus:** Seuraavista aineista koostuva seos, jossa vaarattomia lisäaineita.

- **Sisältää vaarallisia aineita:**

CAS: 64-17-5 EINECS: 200-578-6	Etanoli Flam. Liq. 2, H225	10-25%
CAS: 107-98-2 EINECS: 203-539-1	I-Metoksi-2-propanoli Flam. Liq. 3, H226; STOT SE 3, H336	2,5-10%
CAS: 108-88-3 EINECS: 203-625-9	Tolueeni Flam. Liq. 2, H225; Repr. 2, H361d; STOT RE 2, H373; Asp. Tox. 1, H304; Skin Irrit. 2, H315; STOT SE 3, H336	2,5-10%
CAS: 141-78-6 EINECS: 205-500-4	etyyliasettaatti Flam. Liq. 2, H225; Eye Irrit. 2, H319; STOT SE 3, H336	2,5-10%

KOHTA 4: Ensiaputoimenpiteet

- **4.1 Ensiaputoimenpiteiden kuvaus**
- **Yleisohjeet:**
Myrkytysoireet voivat ilmaantua vasta useiden tuntien kuluttua. Tästä syystä henkilöt on pidettävä lääkärin tarkkailun alaisena ainakin 48 tuntia onnettomuuden jälkeen.
- **Hengitettyä:** Huolehdi raittiin ilman saannista. Oireiden esiintyessä pyydettyä lääkärin apua.
- **Ihokosketuksessa:** Aine ei yleensä ärsytä ihoa.
- **Aineen päästyä silmiin:**
Silmää huuhdotaan luomet auki juoksevan veden alla useita minutteja. Oireiden kestäessä käännetään lääkärin puoleen.
- **Nieltyä:** Käännä lääkärin puoleen oireiden jatkuessa.
- **4.2 Tärkeimmät oireet ja vaikutukset, sekä välittömät että viivästyneet** Merkittäviä lisätietoja ei ole saatavilla.
- **4.3 Mahdollisesti tarvittavaa välitöntä lääketieteellistä apua ja erityishoitoa koskevat ohjeet**
Merkittäviä lisätietoja ei ole saatavilla.

FI

(jatkuu sivulla 3)

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(jatkuu sivulla 2)

KOHTA 5: Palontorjuntatoimenpiteet

- **5.1 Sammutusaineet**
- **Sopivat sammutusaineet:**
CO₂, kuivakemikaalisammutin tai vesisuihku. Suuremmat palot torjutaan vesisuihulla tai alkoholeja kestäväällä vaahdolla.
- **5.2 Aineesta tai seoksesta johtuvat erityiset vaarat** Merkittäviä lisätietoja ei ole saatavilla.
- **5.3 Palontorjuntaa koskevat ohjeet**
- **Erikoinen suojavarustus:** Erikoistoimenpiteitä ei tarvita.

KOHTA 6: Toimenpiteet onnettomuuspäästöissä

- **6.1 Varotoimenpiteet, henkilösuojaimet ja menettely hätätilanteessa** Ei tarvita.
- **6.2 Ympäristöön kohdistuvat varotoimet:** Estettävä pääsy viemäreihin/pintavesiin/pohjaveteen.
- **6.3 Suojarakenteita ja puhdistusta koskevat menetelmät ja -välineet:**
Imettävä nestettä sitovalla aineella (hiekkä, piimaa, hapon sidosaaine, yleisidosaine, sahajauho).
Saastunut aine on jätteenä hävitettävä kohdan 13 mukaisesti.
Huolehdittava riittävästä tuuletuksesta.
- **6.4 Viittäukset muihin kohtiin**
Turvallista käsittelyä koskevia ohjeita kappaleessa 7.
Henkilökohtaista suojavarustusta koskevia ohjeita kappaleessa 8.
Aineen hävitystä koskevia ohjeita kappaleessa 13.

KOHTA 7: Käsittely ja varastointi

- **7.1 Turvallisen käsittelyn edellyttämät toimenpiteet**
Huolehdittava hyvästä tuuletuksesta/imusta työpaikalla.
Säiliöt avattava ja käsiteltävä varovasti.
Vältettävä aerosolin muodostusta.
- **Palo- ja räjähdysuojaohjeet:**
Suoritettava toimenpiteet sähköstaattista latausta vastaan.
Vältettävä iskuja ja hankautumista.
Pidettävä hengityssuojain käyttövalmiina.
- **7.2 Turvallisen varastoinnin edellyttämät olosuhteet, mukaan luettuina yhteensopimattomuudet**
- **Varastointi:**
- **Varastotiloille ja säiliöille asetettavat vaatimukset:** Ei erikoisvaatimuksia.
- **Yhteisvarastointiohjeet:** Ei tarvita.
- **Lisätietoja varastointiehtoihin:**
Astiat on pidettävä tiiviisti suljettuina.
Suojattava kuumuudelta ja välittömältä auringonpaisteelta.
- **7.3 Erityinen loppukäyttö** Merkittäviä lisätietoja ei ole saatavilla.

KOHTA 8: Altistumisen ehkäiseminen ja henkilösuojaimet

- **Lisäohjeita teknisten laitteiden varustukseen:** Ei muita tietoja, ks. kohta 7.

(jatkuu sivulla 4)

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(jatkuu sivulla 3)

· 8.1 Valvontaa koskevat muuttujat

· Aineosat työpaikkakohtaisin valvottavin raja-arvoin:

64-17-5 Etanoli

HTP Lyhytaikaisarvo: 2500 mg/m³, 1300 ppm
Pitkäaikaisarvo: 1900 mg/m³, 1000 ppm

107-98-2 1-Metoksi-2-propanoli

HTP Lyhytaikaisarvo: 560 mg/m³, 150 ppm
Pitkäaikaisarvo: 370 mg/m³, 100 ppm
iho

108-88-3 Tolueeni

HTP Lyhytaikaisarvo: 380 mg/m³, 100 ppm
Pitkäaikaisarvo: 81 mg/m³, 25 ppm
iho, melu

141-78-6 etyyliasetaatti

HTP Lyhytaikaisarvo: 1800 mg/m³, 500 ppm
Pitkäaikaisarvo: 1100 mg/m³, 300 ppm

· Aineosat - biologiset raja-arvot:

108-88-3 Tolueeni

BNV 500 nmol/l
Altiste: veren
Näytteenottoajankohta: Työpäivän jälkeinen aamu
Parametri: tolueenipitoisuus

· **Lisäohjeet:** Tiedot perustuvat valmistushetkellä voimassaoleviin luetteloihin.

· 8.2 Altistumisen ehkäiseminen

· Henkilökohtainen suojavarustus:

· Yleiset suoja- ja hygieniatoimenpiteet:

Pidettävä loitolla elintarvikkeista, juomista ja rehuista.

Likaantuneet, aineen saastuttamat vaatekappaleet on riisuttava välittömästi.

Kädet on pestävä ennen taukoja ja työn päätyttyä.

Suojavaatetus on säilytettävä erikseen.

Vältettävä kosketusta silmiin.

Vältettävä ihokosketusta ja kosketusta silmiin.

· Hengityssuoja:

Lyhytaikaisessa tai vähäisessä altistuksessa hengityssuojasuodin; intensiivisessä tai pitempiäaikaisessa rasituksessa ulkoilmasta riippumaton hengityssuojain.

· Käsisuojaus:



Suojakäsineet

Käsinemateriaalin tulee olla tuotetta/ainetta/valmistetta kestävä ja läpäisemätöntä.

Puuttuvien testien vuoksi suositusta soveltuvasta suojakäsinemateriaalista tuotteelle/ valmisteelle / kemikaalisekoitteelle ei voida antaa.

Suojakäsinemateriaalin valinnassa on otettava huomioon läpäisyajat, läpäisevyyskerroin ja kuluminen.

· Käsinemateriaali

Soveltuvan käsineyyppin valikoima ei riipu yksinomaan materiaalista vaan myös muista laatuominaisuuksista ja vaihtelee eri valmistajilla. Koska tuote on valmiste, joka koostuu eri aineista, ei suojakäsinemateriaalin kestävyys ole ennalta arvioitavissa vaan pitää tarkistaa ennen käyttöä.

(jatkuu sivulla 5)

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(jatkuu sivulla 4)

- **Käsinemateriaalin läpäisy aika**
Tarkka läpäisy aika on selvitetävä suojakäsinevalmistajalta ja sitä on noudatettava.
- **Silmäsuojus:**



Tiiviit suojalasit

KOHTA 9: Fysikaaliset ja kemialliset ominaisuudet

- **9.1 Fysikaalisia ja kemiallisia perusominaisuuksia koskevat tiedot**
- **Yleiset ohjeet**
- **Olomuoto:**
 - Muoto:** Pastamainen
 - Väri:** Hopeanharmaa
- **Haju:** Voimakas
- **Hajukynnys:** Ei määrätty.
- **pH-arvo:** Ei määrätty.
- **Tilanmuutos**
 - Sulamispiste/sulamisarvo:** Ei määrätty.
 - Kiehumispiste/kiehumisarvo:** 75 °C
- **Leimahduspiste:** Ei voida käyttää.
- **Syttyvyys (kiinteä, kaasumainen):** Ei voida käyttää.
- **Syttymislämpötila:** 270 °C
- **Hajaantumislämpötila:** Ei määrätty.
- **Itsesyttyvyys:** Tuote ei ole itsestään syttyvä.
- **Räjähdyksvaara:** Tuote ei ole räjähdysvaarallinen.
- **Räjähdyksrajat:**
 - Alempi:** 1,2 Vol %
 - Ylempi:** 20,0 Vol %
- **Höyrypaine 20 °C lämpötilassa:** 59 hPa
- **Tiheys:** Ei määrätty.
- **Suhteellinen tiheys:** Ei määrätty.
- **Höyryn tiheys:** Ei määrätty.
- **Höyrystymisnopeus:** Ei määrätty.
- **Liukenevuus/sekoittuvuus veteen:** Ei sekoittuva tai vain osittain sekoittuva.
- **Jakaantumiskerroin (-oktanoliväli):** Ei määrätty.
- **Viskositeetti:**
 - Dynaaminen:** Ei määrätty.
 - Kinemaattinen:** Ei määrätty.
- **Liuteainepitoisuus:**
 - Orgaaniset liuteaineet:** 40,0 %
 - VOC (EY):** 40,00 %

(jatkuu sivulla 6)

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(jatkuu sivulla 5)

- Kiinneainepitoisuus:** 60,0 %
9.2 Muut tiedot Merkittäviä lisätietoja ei ole saatavilla.

KOHTA 10: Stabiilisuus ja reaktiivisuus

- **10.1 Reaktiivisuus**
- **10.2 Kemiallinen stabiilisuus**
- **Terminen hajoavuus / vältettävät olosuhteet:** Ei hajaantumista määräystenmukaisessa käytössä.
- **10.3 Vaarallisten reaktioiden mahdollisuus** Ei tiedossa vaarallisia reaktioita.
- **10.4 Vältettävät olosuhteet** Merkittäviä lisätietoja ei ole saatavilla.
- **10.5 Yhteensopimattomat materiaalit:** Merkittäviä lisätietoja ei ole saatavilla.
- **10.6 Vaaralliset hajoamistuotteet:** Tiedossa ei ole vaarallisia hajoamistuotteita.

KOHTA 11: Myrkyllisyyteen liittyvät tiedot

- **11.1 Tiedot myrkyllisistä vaikutuksista**
- **Akuutti myrkyllisyys:**

- **Luokittelurelevantti LD/LC50-arvot:**

108-88-3 Tolueeni

Oraali	LD50	5000 mg/kg (rat)
Dermaali	LD50	12124 mg/kg (rabbit)
Inhaloituna	LC50/4 h	5320 mg/l (mouse)

- **Ensisijainen ärsyttävä vaikutus:**
- **iholla:** Ei ärsyttävää vaikutusta.
- **silmiin:** Ärsyttävä vaikutus.
- **Herkistymistä:** Tiedossa ei ole stabiiloivaa vaikutusta.
- **Toksikologisia lisätietoja:**
Tuote voi aiheuttaa EY:n yleisten luokitusdirektiivien mukaisesti valmistetuissa seuraavat vaarat:
Ärsyttävä
- **CMR-vaikutukset eli syöpää aiheuttavat, perimää vaurioittavat ja lisääntymiselle vaaralliset vaikutukset**
Repr. 2

KOHTA 12: Tiedot vaarallisuudesta ympäristölle

- **12.1 Myrkyllisyys**
- **Vesimyrkyllisyys:** Merkittäviä lisätietoja ei ole saatavilla.
- **12.2 Pysyvyys ja hajoavuus** Merkittäviä lisätietoja ei ole saatavilla.
- **12.3 Biokertyvyys** Merkittäviä lisätietoja ei ole saatavilla.
- **12.4 Liikkuvuus maaperässä** Merkittäviä lisätietoja ei ole saatavilla.
- **Ekologisia lisätietoja:**
- **Yleisohjeita:**
Vesistövaarallisuusluokka 1 (Oma luokitus): lievästi vesistöä vaarantava
Estetään aineen pääsy ohentamattomana tai suurina määrinä pohjaveteen, vesistöihin, viemäristöön.
- **12.5 PBT- ja vPvB-arvioinnin tulokset**
- **PBT:** Ei voida käyttää.
- **vPvB:** Ei voida käyttää.

(jatkuu sivulla 7)

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(jatkuu sivulla 6)

· 12.6 Muut haitalliset vaikutukset Merkittäviä lisätietoja ei ole saatavilla.

KOHTA 13: Jätteiden käsittelyyn liittyvät näkökohdat

- 13.1 Jätteiden käsittelymenetelmät
- Suositus: Ei voida hävittää yhdessä talousjätteiden kanssa. Ei saa päästää viemäristöön.
- Puhdistamattomat pakkaukset:
- Suositus: Hävitettävä virallisten määräysten mukaisesti.

KOHTA 14: Kuljetustiedot

- | | |
|---|--|
| · 14.1 UN-numero
· ADR, IMDG, IATA | UN1993 |
| · 14.2 Kuljetuksessa käytettävä virallinen nimi
· ADR
· IMDG, IATA | 1993 PALAVA NESTE, N.O.S.
FLAMMABLE LIQUID, N.O.S. |
| · 14.3 Kuljetuksen vaaraluokka
· ADR, IMDG, IATA
· luokka | 3 Palavat nesteet |
| · 14.4 Pakkausryhmä
· ADR, IMDG, IATA | III |
| · 14.5 Ympäristövaarat:
· Marine pollutant: | Ei |
| · 14.6 Erityiset varotoimet käyttäjälle | Varoitus: Palavat nesteet |
| · 14.7 Kuljetus irtolastina Marpol 73/78 -sopimuksen II liitteen ja IBC-säännösten mukaisesti | Ei voida käyttää. |
| · Kuljetus/lisätietoja: | |
| · ADR
· Rajoitetut määrät (LQ)
· Poikkeusmäärät (EQ) | 5L
Koodi: E1
Enimmäisnettomäärä sisäpakkausta kohti: 30 ml
Enimmäisnettomäärä ulkopakkausta kohti: 1000 ml |
| · IMDG
· Limited quantities (LQ)
· Excepted quantities (EQ) | 5L
Code: E1
Maximum net quantity per inner packaging: 30 ml
Maximum net quantity per outer packaging: 1000 ml |
| · UN "Model Regulation": | UN1993, PALAVA NESTE, N.O.S., 3, III |

KOHTA 15: Lainsäädäntöä koskevat tiedot

- 15.1 Nimenomaisesti ainetta tai seosta koskevat turvallisuus-, terveys- ja ympäristösäännökset tai -lainsäädäntö Merkittäviä lisätietoja ei ole saatavilla.

(jatkuu sivulla 8)

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(jatkuu sivulla 7)

· **15.2 Kemikaaliturvallisuusarviointi:** Kemikaaliturvallisuusarviointia ei ole tehty.

KOHTA 16: Muut tiedot

Annetut tiedot perustuvat tämänhetkisiin tietoihimme. Ne eivät kuitenkaan anna takuuta tuotteen ominaisuuksista eivätkä aikaansaa sopimuksellista oikeussuhdetta.

· **Asiaankuuluvat lausekkeet**

H225 Helposti syttyvä neste ja höyry.

H226 Syttyvä neste ja höyry.

H304 Voi olla tappavaa nieltynä ja joutuessaan hengitysteihin.

H315 Ärsyttää ihoa.

H319 Ärsyttää voimakkaasti silmiä.

H336 Saattaa aiheuttaa uneliaisuutta ja huimausta.

H361d Epäillään vaurioittavan sikiötä.

H373 Saattaa vahingoittaa elimiä pitkäaikaisessa tai toistuvassa altistumisessa.

· **Lyhenteet ja lyhytnimet:**

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

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)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

Flam. Liq. 2: Flammable liquids, Hazard Category 2

Flam. Liq. 3: Flammable liquids, Hazard Category 3

Acute Tox. 4: Acute toxicity, Hazard Category 4

Skin Irrit. 2: Skin corrosion/irritation, Hazard Category 2

Eye Irrit. 2: Serious eye damage/eye irritation, Hazard Category 2

Repr. 2: Reproductive toxicity, Hazard Category 2

STOT SE 3: Specific target organ toxicity - Single exposure, Hazard Category 3

STOT RE 2: Specific target organ toxicity - Repeated exposure, Hazard Category 2

Asp. Tox. 1: Aspiration hazard, Hazard Category 1

Fiche de données de sécurité

selon 1907/2006/CE, Article 31

Date d'impression : 11.05.2015

Révision: 11.05.2015

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

- **1.1 Identificateur de produit**
- **Nom du produit:** COLLOIDAL SILVER PASTE
- **Code du produit:** 12640
- **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: sgkcck@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

SECTION 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

Repr. 2 H361d Susceptible de nuire au fœtus.

STOT RE 2 H373 Risque présumé d'effets graves pour les organes à la suite d'expositions répétées ou d'une exposition prolongée.

Asp. Tox. 1 H304 Peut être mortel en cas d'ingestion et de pénétration dans les voies respiratoires.



GHS07

Acute Tox. 4 H302 Nocif en cas d'ingestion.

Acute Tox. 4 H332 Nocif par inhalation.

Skin Irrit. 2 H315 Provoque une irritation 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



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- **Mention d'avertissement** Danger
- **Composants dangereux déterminants pour l'étiquetage:**
toluène

(suite page 2)

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· **Mentions de danger**

H302+H332 Nocif en cas d'ingestion ou d'inhalation.

H315 Provoque une irritation cutanée.

H361d Susceptible de nuire au fœtus.

H373 Risque présumé d'effets graves pour les organes à la suite d'expositions répétées ou d'une exposition prolongée.

H304 Peut être mortel en cas d'ingestion et de pénétration dans les voies respiratoires.

· **Conseils de prudence**

P260 Ne pas respirer les poussières/fumées/gaz/brouillards/vapeurs/aérosols.

P280 Porter des gants de protection/des vêtements de protection/un équipement de protection des yeux/du visage.

P301+P310 EN CAS D'INGESTION: Appeler immédiatement un CENTRE ANTIPOISON/un médecin.

P321 Traitement spécifique (voir sur cette étiquette).

P405 Garder sous clef.

P501 Éliminer le contenu/récipient conformément à la réglementation locale/régionale/nationale/internationale.

· **2.3 Autres dangers**

· **Résultats des évaluations PBT et vPvB**

· **PBT:** Non applicable.

· **vPvB:** Non applicable.

SECTION 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: 64-17-5 EINECS: 200-578-6	éthanol ⚠ Flam. Liq. 2, H225	10-25%
CAS: 107-98-2 EINECS: 203-539-1	1-méthoxy-2-propanol ⚠ Flam. Liq. 3, H226; ⚠ STOT SE 3, H336	2,5-10%
CAS: 108-88-3 EINECS: 203-625-9	toluène ⚠ Flam. Liq. 2, H225; ⚠ Repr. 2, H361d; STOT RE 2, H373; Asp. Tox. 1, H304; ⚠ Skin Irrit. 2, H315; STOT SE 3, H336	2,5-10%
CAS: 141-78-6 EINECS: 205-500-4	acétate d'éthyle ⚠ Flam. Liq. 2, H225; ⚠ Eye Irrit. 2, H319; STOT SE 3, H336	2,5-10%

SECTION 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, consulter un médecin en cas de troubles.

· **Après contact avec la peau:** En règle générale, le produit n'irrite pas la peau.

· **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.

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- **4.3 Indication des éventuels soins médicaux immédiats et traitements particuliers nécessaires**
Pas d'autres informations importantes disponibles.

SECTION 5: Mesures de lutte contre l'incendie

- **5.1 Moyens d'extinction**
- **Moyens d'extinction:**
CO₂, poudre d'extinction ou eau pulvérisée. Combattre les foyers importants avec de l'eau pulvérisée ou de la mousse résistant à l'alcool.
- **5.2 Dangers particuliers résultant de la substance ou du mélange**
Pas d'autres informations importantes disponibles.
- **5.3 Conseils aux pompiers**
- **Équipement spécial de sécurité:** Aucune mesure particulière n'est requise.

SECTION 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:**
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).
Evacuer les matériaux contaminés en tant que déchets conformément au point 13.
Assurer une aération suffisante.
- **6.4 Référence à d'autres sections**
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.

SECTION 7: Manipulation et stockage

- **7.1 Précautions à prendre pour une manipulation sans danger**
Veiller à une bonne ventilation/aspiration du poste de travail.
Ouvrir et manipuler les récipients avec précaution.
Eviter la formation d'aérosols.
- **Préventions des incendies et des explosions:**
Tenir à l'abri de la chaleur.
Prendre des mesures contre les charges électrostatiques.
Tenir des appareils de protection respiratoire prêts.
- **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.
Protéger de la forte chaleur et du rayonnement direct du soleil.
- **7.3 Utilisation(s) finale(s) particulière(s)** Pas d'autres informations importantes disponibles.

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SECTION 8: Contrôles de l'exposition/protection individuelle

· **Indications complémentaires pour l'agencement des installations techniques:**

Sans autre indication, voir point 7.

· **8.1 Paramètres de contrôle**

· **Composants présentant des valeurs-seuil à surveiller par poste de travail:**

64-17-5 éthanol

VME	Valeur momentanée: 9500 mg/m ³ , 5000 ppm Valeur à long terme: 1900 mg/m ³ , 1000 ppm
-----	--

107-98-2 1-méthoxy-2-propanol

VME	Valeur momentanée: 375 mg/m ³ , 100 ppm Valeur à long terme: 188 mg/m ³ , 50 ppm risque de pénétration percutanée
-----	---

108-88-3 toluène

VME	Valeur momentanée: 384 mg/m ³ , 100 ppm Valeur à long terme: 76,8 mg/m ³ , 20 ppm R2, risque de pénétration percutanée
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141-78-6 acétate d'éthyle

VME	Valeur à long terme: 1400 mg/m ³ , 400 ppm
-----	---

· **Remarques supplémentaires:**

Le présent document s'appuie sur les listes en vigueur au moment de son élaboration.

· **8.2 Contrôles de l'exposition**

· **Equipement 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.

Conserver à part les vêtements de protection.

Eviter tout contact avec les yeux.

Eviter tout contact avec les yeux et avec la peau.

· **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.

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· Protection des yeux:



Lunettes de protection hermétiques

SECTION 9: Propriétés physiques et chimiques

· 9.1 Informations sur les propriétés physiques et chimiques essentielles

· Indications générales

· Aspect:

Forme:	Pâteuse
Couleur:	Gris argent
Odeur:	Forte
Seuil olfactif:	Non déterminé.

· valeur du pH: Non déterminé.

· Changement d'état

Point de fusion:	Non déterminé.
Point d'ébullition:	75 °C

· Point d'éclair Non applicable.

· Inflammabilité (solide, gazeux): Non applicable.

· Température d'inflammation: 270 °C

· Température de décomposition: Non déterminé.

· Auto-inflammation: Le produit ne s'enflamme pas spontanément.

· Danger d'explosion: Le produit n'est pas explosif.

· Limites d'explosion:

Inférieure:	1,2 Vol %
Supérieure:	20,0 Vol %

· Pression de vapeur à 20 °C: 59 hPa

· Densité: Non déterminée.

· Densité relative Non déterminé.

· Densité de vapeur. Non déterminé.

· Vitesse d'évaporation Non déterminé.

· Solubilité dans/miscibilité avec l'eau:

Pas ou peu miscible

· Coefficient de partage (n-octanol/eau): Non déterminé.

· Viscosité:

Dynamique:	Non déterminé.
Cinématique:	Non déterminé.

· Teneur en solvants:

Solvants organiques:	40,0 %
VOC (CE)	40,00 %

Teneur en substances solides: 60,0 %

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· **9.2 Autres informations** Pas d'autres informations importantes disponibles.

SECTION 10: Stabilité et réactivité

- **10.1 Réactivité**
- **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

SECTION 11: Informations toxicologiques

- **11.1 Informations sur les effets toxicologiques**

· **Toxicité aiguë:**

· **Valeurs LD/LC50 déterminantes pour la classification:**

108-88-3 toluène

Oral	LD50	5000 mg/kg (rat)
Dermique	LD50	12124 mg/kg (lapin)
Inhalatoire	LC50/4 h	5320 mg/l (souris)

- **Effet primaire d'irritation:**
- **de la peau:** Pas d'effet d'irritation.
- **des yeux:** Effet d'irritation.
- **Sensibilisation:** Aucun effet de sensibilisation connu.
- **Indications toxicologiques complémentaires:**
Selon le procédé de calcul de la dernière version en vigueur de la directive générale CEE sur la classification des préparations, le produit présente les dangers suivants:
Irritant
- **Effets CMR (cancérogène, mutagène et toxique pour la reproduction)**
Repr. 2

SECTION 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.

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· 12.6 Autres effets néfastes Pas d'autres informations importantes disponibles.

SECTION 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.

SECTION 14: Informations relatives au transport

· 14.1 No ONU

· ADR, IMDG, IATA

UN1993

· 14.2 Nom d'expédition des Nations unies

· ADR

· IMDG, IATA

1993 LIQUIDE INFLAMMABLE, N.S.A.

FLAMMABLE LIQUID, N.O.S.

· 14.3 Classe(s) de danger pour le transport

· ADR, IMDG, IATA

· Classe

3 Liquides inflammables.

· 14.4 Groupe d'emballage

· ADR, IMDG, IATA

III

· 14.5 Dangers pour l'environnement:

· **Marine Pollutant:**

Non

· 14.6 Précautions particulières à prendre par l'utilisateur

Attention: Liquides inflammables.

· 14.7 Transport en vrac conformément à l'annexe II de la convention Marpol 73/78 et au recueil IBC

Non applicable.

· **Indications complémentaires de transport:**

· ADR

· Quantités limitées (LQ)

· Quantités exceptées (EQ)

5L

Code: E1

Quantité maximale nette par emballage intérieur: 30 ml

Quantité maximale nette par emballage extérieur: 1000 ml

· IMDG

· Limited quantities (LQ)

· Excepted quantities (EQ)

5L

Code: E1

Maximum net quantity per inner packaging: 30 ml

Maximum net quantity per outer packaging: 1000 ml

· "Règlement type" de l'ONU:

UN1993, LIQUIDE INFLAMMABLE, N.S.A., 3, III

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SECTION 15: Informations réglementaires

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

Pas d'autres informations importantes disponibles.

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

SECTION 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**

H225 *Liquide et vapeurs très inflammables.*

H226 *Liquide et vapeurs inflammables.*

H304 *Peut être mortel en cas d'ingestion et de pénétration dans les voies respiratoires.*

H315 *Provoque une irritation cutanée.*

H319 *Provoque une sévère irritation des yeux.*

H336 *Peut provoquer somnolence ou vertiges.*

H361d *Susceptible de nuire au fœtus.*

H373 *Risque présumé d'effets graves pour les organes à la suite d'expositions répétées ou d'une exposition prolongée.*

· **Acronymes et abréviations:**

ADR: Accord européen sur le transport 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)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

Flam. Liq. 2: Flammable liquids, Hazard Category 2

Flam. Liq. 3: Flammable liquids, Hazard Category 3

Acute Tox. 4: Acute toxicity, Hazard Category 4

Skin Irrit. 2: Skin corrosion/irritation, Hazard Category 2

Eye Irrit. 2: Serious eye damage/eye irritation, Hazard Category 2

Repr. 2: Reproductive toxicity, Hazard Category 2

STOT SE 3: Specific target organ toxicity - Single exposure, Hazard Category 3

STOT RE 2: Specific target organ toxicity - Repeated exposure, Hazard Category 2

Asp. Tox. 1: Aspiration hazard, Hazard Category 1

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ABSCHNITT 1: Bezeichnung des Stoffs bzw. des Gemischs und des Unternehmens

- **1.1 Produktidentifikator**
- **Handelsname:** COLLOIDAL SILVER PASTE
- **Artikelnummer:** 12640
- **1.2 Relevante identifizierte Verwendungen des Stoffs oder Gemischs und Verwendungen, von denen abgeraten wird**
Keine weiteren relevanten Informationen verfügbar.
- **Verwendung des Stoffs / 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

24h Giftnotruf Munchen: +49 (0)89 19240
Toxikologische Abteilung der II. Medizinischen Klinik
rechts der Isar, Munchen. - www.toxinfo.org
- **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

- Repr. 2 H361d Kann vermutlich das Kind im Mutterleib schädigen.
 STOT RE 2 H373 Kann die Organe schädigen bei längerer oder wiederholter Exposition.
 Asp. Tox. 1 H304 Kann bei Verschlucken und Eindringen in die Atemwege tödlich sein.



GHS07

- Acute Tox. 4 H302 Gesundheitsschädlich bei Verschlucken.
 Acute Tox. 4 H332 Gesundheitsschädlich bei Einatmen.
 Skin Irrit. 2 H315 Verursacht Hautreizungen.

- **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**· Gefahrbestimmende Komponenten zur Etikettierung:**

Toluol

· GefahrenhinweiseH302+H332 *Gesundheitsschädlich bei Verschlucken oder Einatmen.*H315 *Verursacht Hautreizungen.*H361d *Kann vermutlich das Kind im Mutterleib schädigen.*H373 *Kann die Organe schädigen bei längerer oder wiederholter Exposition.*H304 *Kann bei Verschlucken und Eindringen in die Atemwege tödlich sein.***· Sicherheitshinweise**P260 *Staub/Rauch/Gas/Nebel/Dampf/Aerosol nicht einatmen.*P280 *Schutzhandschuhe/Schutzkleidung/Augenschutz/Gesichtsschutz tragen.*P301+P310 *BEI VERSCHLUCKEN: Sofort GIFTINFORMATIONSZENTRUM/Arzt anrufen.*P321 *Besondere Behandlung (siehe auf diesem Kennzeichnungsetikett).*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: 64-17-5 EINECS: 200-578-6	Ethanol ⚠ Flam. Liq. 2, H225	10-25%
CAS: 107-98-2 EINECS: 203-539-1	1-Methoxy-2-propanol ⚠ Flam. Liq. 3, H226; ⚠ STOT SE 3, H336	2,5-10%
CAS: 108-88-3 EINECS: 203-625-9	Toluol ⚠ Flam. Liq. 2, H225; ⚠ Repr. 2, H361d; STOT RE 2, H373; Asp. Tox. 1, H304; ⚠ Skin Irrit. 2, H315; STOT SE 3, H336	2,5-10%
CAS: 141-78-6 EINECS: 205-500-4	Ethylacetat ⚠ Flam. Liq. 2, H225; ⚠ Eye Irrit. 2, H319; STOT SE 3, H336	2,5-10%

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.

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- **Nach Einatmen:** Frischluftzufuhr, bei Beschwerden Arzt aufsuchen.
- **Nach Hautkontakt:** Im allgemeinen ist das Produkt nicht hautreizend.
- **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.
- **4.3 Hinweise auf ärztliche Soforthilfe oder Spezialbehandlung**
Keine weiteren relevanten Informationen verfügbar.

ABSCHNITT 5: Maßnahmen zur Brandbekämpfung

- **5.1 Löschmittel**
- **Geeignete Löschmittel:**
CO₂, Löschpulver oder Wassersprühstrahl. Größeren Brand mit Wassersprühstrahl oder alkoholbeständigem Schaum bekämpfen.
- **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:** 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.
Behälter mit Vorsicht öffnen und handhaben.
Aerosolbildung vermeiden.
- **Hinweise zum Brand- und Explosionsschutz:**
Vor Hitze schützen.
Maßnahmen gegen elektrostatische Aufladung treffen.
Atemschutzgeräte bereithalten.
- **7.2 Bedingungen zur sicheren Lagerung unter Berücksichtigung von Unverträglichkeiten**
- **Lagerung:**
- **Anforderung an Lagerräume und Behälter:** Keine besonderen Anforderungen.
- **Zusammenlagerungshinweise:** Nicht erforderlich.

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- **Weitere Angaben zu den Lagerbedingungen:**
Behälter dicht geschlossen halten.
Vor Hitze und direkter Sonnenbestrahlung schützen.
- **Lagerklasse:**
- **Klassifizierung nach Betriebsicherheitsverordnung (BetrSichV):** -
- **7.3 Spezifische Endanwendungen** Keine weiteren relevanten Informationen verfügbar.

ABSCHNITT 8: Begrenzung und Überwachung der Exposition/Persönliche Schutzausrüstungen

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

Bestandteile mit arbeitsplatzbezogenen, zu überwachenden Grenzwerten:
64-17-5 Ethanol

 AGW Langzeitwert: 960 mg/m³, 500 ml/m³
2(II);DFG, Y

107-98-2 1-Methoxy-2-propanol

 AGW Langzeitwert: 370 mg/m³, 100 ml/m³
2(I);DFG, EU, Y

108-88-3 Toluol

 AGW Langzeitwert: 190 mg/m³, 50 ml/m³
4(II);DFG, EU, H, Y

141-78-6 Ethylacetat

 AGW Langzeitwert: 1500 mg/m³, 400 ml/m³
2(I);DFG, Y

Bestandteile mit biologischen Grenzwerten:
107-98-2 1-Methoxy-2-propanol

 BGW 15 mg/l
 Untersuchungsmaterial: Urin
 Probennahmezeitpunkt: Expositionsende bzw. Schichtende
 Parameter: 1-Methoxypropan-2-ol

108-88-3 Toluol

 BGW 600 µg/l
 Untersuchungsmaterial: Vollblut
 Probennahmezeitpunkt: Expositionsende bzw. Schichtende
 Parameter: Toluol

1,5 mg/l

 Untersuchungsmaterial: Urin
 Probennahmezeitpunkt: bei Langzeitexposition: Nach mehreren vorangegangenen Schichten,
 Expositionsende bzw. Schichtende
 Parameter: o-Kresol

- **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.

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Vor den Pausen und bei Arbeitsende Hände waschen.
 Getrennte Aufbewahrung der Schutzkleidung.
 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 unluftunabhängiges 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: Pastös
Farbe: Silbergrau

· **Geruch:** Stark

· **Geruchsschwelle:** Nicht bestimmt.

· **pH-Wert:** Nicht bestimmt.

· **Zustandsänderung**

Schmelzpunkt/Schmelzbereich: Nicht bestimmt.
Siedepunkt/Siedebereich: 75 °C

· **Flammpunkt:** Nicht anwendbar.

· **Entzündlichkeit (fest, gasförmig):** Nicht anwendbar.

· **Zündtemperatur:** 270 °C

· **Zersetzungstemperatur:** Nicht bestimmt.

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· Selbstentzündlichkeit:	Das Produkt ist nicht selbstentzündlich.
· Explosionsgefahr:	Das Produkt ist nicht explosionsgefährlich.
· Explosionsgrenzen:	
Untere:	1,2 Vol %
Obere:	20,0 Vol %
· Dampfdruck bei 20 °C:	59 hPa
· Dichte:	Nicht bestimmt.
· Relative Dichte	Nicht bestimmt.
· Dampfdichte	Nicht bestimmt.
· Verdampfungsgeschwindigkeit	Nicht bestimmt.
· Löslichkeit in / Mischbarkeit mit Wasser:	Nicht bzw. wenig mischbar.
· Verteilungskoeffizient (n-Octanol/Wasser):	Nicht bestimmt.
· Viskosität:	
Dynamisch:	Nicht bestimmt.
Kinematisch:	Nicht bestimmt.
· Lösemittelgehalt:	
Organische Lösemittel:	40,0 %
VOC (EU)	40,00 %
Festkörpergehalt:	60,0 %
· 9.2 Sonstige Angaben	Keine weiteren relevanten Informationen verfügbar.

ABSCHNITT 10: Stabilität und Reaktivität

- **10.1 Reaktivität**
- **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:**

· Einstufungsrelevante LD/LC50-Werte:		
108-88-3 Toluol		
Oral	LD50	5000 mg/kg (rat)
Dermal	LD50	12124 mg/kg (rabbit)
Inhalativ	LC50/4 h	5320 mg/l (mouse)

- **Primäre Reizwirkung:**
- **an der Haut:** Keine Reizwirkung.
- **am Auge:** Reizwirkung.

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- **Sensibilisierung:** Keine sensibilisierende Wirkung bekannt.
- **Zusätzliche toxikologische Hinweise:**
Das Produkt weist aufgrund des Berechnungsverfahrens der Allgemeinen Einstufungsrichtlinie der EG für Zubereitungen in der letztgültigen Fassung folgende Gefahren auf:
Reizend
- **CMR-Wirkungen (krebserzeugende, erbgutverändernde und fortpflanzungsgefährdende Wirkung)**
Repr. 2

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.

ABSCHNITT 14: Angaben zum Transport

<ul style="list-style-type: none"> · 14.1 UN-Nummer · ADR, IMDG, IATA 	UN1993
<ul style="list-style-type: none"> · 14.2 Ordnungsgemäße UN-Versandbezeichnung · ADR · IMDG, IATA 	1993 ENTZÜNDBARER FLÜSSIGER STOFF, N.A.G. FLAMMABLE LIQUID, N.O.S.
<ul style="list-style-type: none"> · 14.3 Transportgefahrenklassen · ADR, IMDG, IATA · Klasse 	3 Entzündbare flüssige Stoffe
<ul style="list-style-type: none"> · 14.4 Verpackungsgruppe · ADR, IMDG, IATA 	III
<ul style="list-style-type: none"> · 14.5 Umweltgefahren: · Marine pollutant: 	Nein

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· 14.6 Besondere Vorsichtsmaßnahmen für den Verwender	Achtung: Entzündbare flüssige Stoffe
· 14.7 Massengutbeförderung gemäß Anhang II des MARPOL-Übereinkommens 73/78 und gemäß IBC-Code	Nicht anwendbar.
· Transport/weitere Angaben:	
· ADR	
· Begrenzte Menge (LQ)	5L
· Freigestellte Mengen (EQ)	Code: E1 Höchste Nettomenge je Innenverpackung: 30 ml Höchste Nettomenge je Außenverpackung: 1000 ml
· 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":	UN1993, ENTZÜNDBARER FLÜSSIGER STOFF, N.A.G., 3, III

ABSCHNITT 15: Rechtsvorschriften

- **15.1 Vorschriften zu Sicherheit, Gesundheits- und Umweltschutz/spezifische Rechtsvorschriften für den Stoff oder das Gemisch**
 - **Nationale Vorschriften:**
 - **Klassifizierung nach Betriebssicherheitsverordnung (BetrSichV): -**
 - **Technische Anleitung Luft:**
- | Klasse | Anteil in % |
|--------|-------------|
| NK | 40,0 |
- **Wassergefährdungsklasse: WGK 1 (Selbsteinstufung): schwach wassergefährdend.**
 - **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**
- H225 Flüssigkeit und Dampf leicht entzündbar.
- H226 Flüssigkeit und Dampf entzündbar.
- H304 Kann bei Verschlucken und Eindringen in die Atemwege tödlich sein.
- H315 Verursacht Hautreizungen.
- H319 Verursacht schwere Augenreizung.
- H336 Kann Schläfrigkeit und Benommenheit verursachen.
- H361d Kann vermutlich das Kind im Mutterleib schädigen.
- H373 Kann die Organe schädigen bei längerer oder wiederholter Exposition.
- **Abkürzungen und Akronyme:**
- ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

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*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)**LC50: Lethal concentration, 50 percent**LD50: Lethal dose, 50 percent**Flam. Liq. 2: Flammable liquids, Hazard Category 2**Flam. Liq. 3: Flammable liquids, Hazard Category 3**Acute Tox. 4: Acute toxicity, Hazard Category 4**Skin Irrit. 2: Skin corrosion/irritation, Hazard Category 2**Eye Irrit. 2: Serious eye damage/eye irritation, Hazard Category 2**Repr. 2: Reproductive toxicity, Hazard Category 2**STOT SE 3: Specific target organ toxicity - Single exposure, Hazard Category 3**STOT RE 2: Specific target organ toxicity - Repeated exposure, Hazard Category 2**Asp. Tox. 1: Aspiration hazard, Hazard Category 1*

DE

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

· **1.1 Identificatore del prodotto**

· **Denominazione commerciale:** COLLOIDAL SILVER PASTE

· **Articolo numero:** 12640

· **1.2 Usi pertinenti identificati della sostanza o 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: sgkcck@aol.com

www.emsdiasum.com

Societa 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

Repr. 2 H361d Sospettato di nuocere al feto.

STOT RE 2 H373 Può provocare danni agli organi in caso di esposizione prolungata o ripetuta.

Asp. Tox. 1 H304 Può essere letale in caso di ingestione e di penetrazione nelle vie respiratorie.



GHS07

Acute Tox. 4 H302 Nocivo se ingerito.

Acute Tox. 4 H332 Nocivo se inalato.

Skin Irrit. 2 H315 Provoca irritazione 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**Componenti pericolosi che ne determinano l'etichettatura:**

toluene

Indicazioni di pericolo

H302+H332 Nocivo se ingerito o inalato.

H315 Provoca irritazione cutanea.

H361d Sospettato di nuocere al feto.

H373 Può provocare danni agli organi in caso di esposizione prolungata o ripetuta.

H304 Può essere letale in caso di ingestione e di penetrazione nelle vie respiratorie.

Consigli di prudenza

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

P280 Indossare guanti/indumenti protettivi/Proteggere gli occhi/il viso.

P301+P310 IN CASO DI INGESTIONE: contattare immediatamente un CENTRO ANTIVELENI/un medico.

P321 Trattamento specifico (vedere su questa etichetta).

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: 64-17-5 EINECS: 200-578-6	etanolo Flam. Liq. 2, H225	10-25%
CAS: 107-98-2 EINECS: 203-539-1	1-metossi-2-propanolo Flam. Liq. 3, H226; STOT SE 3, H336	2,5-10%
CAS: 108-88-3 EINECS: 203-625-9	toluene Flam. Liq. 2, H225; Repr. 2, H361d; STOT RE 2, H373; Asp. Tox. 1, H304; Skin Irrit. 2, H315; STOT SE 3, H336	2,5-10%
CAS: 141-78-6 EINECS: 205-500-4	acetato di etile Flam. Liq. 2, H225; Eye Irrit. 2, H319; STOT SE 3, H336	2,5-10%

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.

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- **Inalazione:** Portare in zona ben areata, in caso di disturbi consultare il medico.
- **Contatto con la pelle:** Generalmente il prodotto non è irritante per la pelle.
- **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.
- **4.3 Indicazione della 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:**
CO₂, polvere o acqua nebulizzata. Estinguere gli incendi di grosse dimensioni con acqua nebulizzata o con schiuma resistente all'alcool.
- **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:** 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 una 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.
Aprire e manipolare i recipienti con cautela.
Evitare la formazione di aerosol.
- **Indicazioni in caso di incendio ed esplosione:**
Proteggere dal calore.
Adottare provvedimenti contro cariche elettrostatiche.
Tener pronto il respiratore.
- **7.2 Condizioni per l'immagazzinamento 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.
Proteggere dal calore e dai raggi diretti del sole.

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· **7.3 Usi finali specifici** Non sono disponibili altre informazioni.

SEZIONE 8: Controllo dell'esposizione/protezione individuale

· **Ulteriori indicazioni sulla struttura di impianti tecnici:** Nessun dato ulteriore, vedere punto 7.

· 8.1 Parametri di controllo

· **Componenti i cui valori limite devono essere tenuti sotto controllo negli ambienti di lavoro:**

64-17-5 etanolo

TWA Valore a breve termine: 1884 mg/m³, 1000 ppm
A3

107-98-2 1-metossi-2-propanolo

TWA Valore a breve termine: 553 mg/m³, 150 ppm
Valore a lungo termine: 369 mg/m³, 100 ppm
VL Valore a breve termine: 568 mg/m³, 150 ppm
Valore a lungo termine: 375 mg/m³, 100 ppm
Pelle

108-88-3 toluene

TWA Valore a lungo termine: 75,4 mg/m³, 20 ppm
A4, IBE
VL Valore a lungo termine: 192 mg/m³, 50 ppm
Pelle

141-78-6 acetato di etile

TWA Valore a lungo termine: 1441 mg/m³, 400 ppm

· **Componenti con valori limite biologici:**

108-88-3 toluene

IBE 0,02 mg/l
Campioni: sangue
Momento del prelievo: a prima ultimo turno settimana lavorativa
Indicatore biologico: toluene

0,03 mg/l
Campioni: urine
Momento del prelievo: a fine turno
Indicatore biologico: toluene

0,3 mg/g creatinina
Campioni: urine
Momento del prelievo: a fine turno
Indicatore biologico: o-cresolo

· **Ulteriori indicazioni:** Le liste valide alla data di compilazione sono state usate come base.

· 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.
Custodire separatamente l'equipaggiamento protettivo.
Evitare il contatto con gli occhi.

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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:	Pastoso
· Colore:	Grigio argento
· Odore:	Forte
· Soglia olfattiva:	Non definito.

· **valori di pH:** Non definito.

· **Cambiamento di stato**

· Temperatura di fusione/ambito di fusione:	Non definito.
· Temperatura di ebollizione/ambito di ebollizione:	75 °C

· **Punto di infiammabilità:** Non applicabile.

· **Infiammabilità (solido, gassoso):** Non applicabile.

· **Temperatura di accensione:** 270 °C

· **Temperatura di decomposizione:** Non definito.

· **Autoaccensione:** Prodotto non autoinfiammabile.

· **Pericolo di esplosione:** Prodotto non esplosivo.

· **Limiti di infiammabilità:**

· Inferiore:	1,2 Vol %
---------------------	-----------

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Superiore:	20,0 Vol %
· Tensione di vapore a 20 °C:	59 hPa
· Densità:	Non definito.
· Densità relativa	Non definito.
· Densità del vapore	Non definito.
· Velocità di evaporazione	Non definito.
· Solubilità in/Miscibilità con acqua:	Poco e/o non miscibile.
· Coefficiente di distribuzione (n-Octanol/acqua):	Non definito.
· Viscosità:	
Dinamica:	Non definito.
Cinematica:	Non definito.
· Tenore del solvente:	
Solventi organici:	40,0 %
VOC (CE)	40,00 %
· Contenuto solido:	60,0 %
· 9.2 Altre informazioni	Non sono disponibili altre informazioni.

SEZIONE 10: Stabilità e reattività

- **10.1 Reattività**
- **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:**

· **Valori LD/LC50 rilevanti per la classificazione:****108-88-3 toluene**

Orale	LD50	5000 mg/kg (rat)
Cutaneo	LD50	12124 mg/kg (rabbit)
Per inalazione	LC50/4 h	5320 mg/l (mouse)

- **Irritabilità primaria:**
- **sulla pelle:** Non ha effetti irritanti.
- **sugli occhi:** Irritante.
- **Sensibilizzazione:** Non si conoscono effetti sensibilizzanti.
- **Ulteriori dati tossicologici:**

Il prodotto, in base al metodo di calcolo della direttiva generale della Comunità sulla classificazione dei preparati nella sua ultima versione valida, presenta i seguenti rischi:
Irritante

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- **Effetti CMR (cancerogenicità, mutagenicità e tossicità per la riproduzione)**
Repr. 2

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.

SEZIONE 14: Informazioni sul trasporto

- | | |
|---|-----------------------------------|
| · 14.1 Numero ONU | |
| · ADR, IMDG, IATA | UN1993 |
| · 14.2 Nome di spedizione dell'ONU | |
| · ADR | 1993 LIQUIDO INFIAMMABILE, N.A.S. |
| · IMDG, IATA | FLAMMABLE LIQUID, N.O.S. |
| · 14.3 Classi di pericolo connesso al trasporto | |
| · ADR, IMDG, IATA | |
| · Classe | 3 Liquidi infiammabili |
| · 14.4 Gruppo di imballaggio | |
| · ADR, IMDG, IATA | III |
| · 14.5 Pericoli per l'ambiente: | |
| · Marine pollutant: | No |
| · 14.6 Precauzioni speciali per gli utilizzatori | Attenzione: Liquidi infiammabili |
| · 14.7 Trasporto di rinfuse secondo l'allegato II di MARPOL 73/78 ed il codice IBC | Non applicabile. |

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· Trasporto/ulteriori indicazioni:**· ADR****· Quantità limitate (LQ)**

5L

· Quantità esenti (EQ)

Codice: E1

Quantità massima netta per imballaggio interno: 30 ml

Quantità massima netta per imballaggio esterno: 1000 ml

· 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":

UN1993, LIQUIDO INFIAMMABILE, N.A.S., 3, III

SEZIONE 15: Informazioni sulla regolamentazione**· 15.1 Norme e legislazione su salute, sicurezza e ambiente specifiche per la sostanza o la miscela****· Disposizioni nazionali:****· Istruzione tecnica aria:**

Classe	quota in %
NC	40,0

· 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.

· Frasi rilevanti

H225 Liquido e vapori facilmente infiammabili.

H226 Liquido e vapori infiammabili.

H304 Può essere letale in caso di ingestione e di penetrazione nelle vie respiratorie.

H315 Provoca irritazione cutanea.

H319 Provoca grave irritazione oculare.

H336 Può provocare sonnolenza o vertigini.

H361d Sospettato di nuocere al feto.

H373 Può provocare danni agli organi in caso di esposizione prolungata o ripetuta.

· Abbreviazioni e acronimi:

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

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)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

Flam. Liq. 2: Flammable liquids, Hazard Category 2

Flam. Liq. 3: Flammable liquids, Hazard Category 3

Acute Tox. 4: Acute toxicity, Hazard Category 4

Skin Irrit. 2: Skin corrosion/irritation, Hazard Category 2

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*Eye Irrit. 2: Serious eye damage/eye irritation, Hazard Category 2**Repr. 2: Reproductive toxicity, Hazard Category 2**STOT SE 3: Specific target organ toxicity - Single exposure, Hazard Category 3**STOT RE 2: Specific target organ toxicity - Repeated exposure, Hazard Category 2**Asp. Tox. 1: Aspiration hazard, Hazard Category 1*

IT

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1 화학제품과 회사에 관한 정보

- **제품 식별자**
- **제품명: COLLOIDAL SILVER PASTE**
- **상품번호: 12640**
- **해당 순물질이나 혼합물의 관련 하위용도 및 사용금지용도** 추가적인 정보가 존재하지 않습니다.
- **제품의 권고 용도와 사용상의 제한:** 실험실 화학품
- **안전데이터표(Safety Data Sheet)내 공급업체 관련 상세 정보**
- **제조사/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
- **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**



화염

인화성 액체 구분3 H226 인화성 액체 및 증기



건강에 위험

생식 독성 구분2 H361 태아 또는 생식능력에 손상을 일으킬 것으로 의심됨
 표적장기-반복노출 구분2 H373 장기간 또는 반복노출 되면 신체 중에 손상을 일으킬 수 있음
 흡인 유해성 구분1 H304 삼켜서 기도로 유입되면 치명적일 수 있음



심한 눈 손상/자극성 구분2 H319 눈에 심한 자극을 일으킴

- **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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· **그림문자**



GHS02 GHS07 GHS08

· **신호어 위험**

· **상표상에명확히위험성이표시된성분:**

toluene

· **유해.위험 문구**

- 인화성 액체 및 증기
- 눈에 심한 자극을 일으킴
- 태아 또는 생식능력에 손상을 일으킬 것으로 의심됨
- 장기간 또는 반복노출 되면 신체 중에 손상을 일으킬 수 있음
- 삼켜서 기도로 유입되면 치명적일 수 있음

· **예방조치 문구**

- 열,스파크,화염,고열로부터 멀리하십시오 - 금연
- 삼켰을 시: 즉시 독성물질센터/병원 연락 필요.
- 피부(또는 머리카락)에 묻으면 오염된 모든 의복은 벗거나제거하십시오. 피부를 물로 씻으시오/샤워하십시오.
- 눈에 묻으면 몇 분간 물로 조심해서 씻으시오. 가능하면콘택트렌즈를 제거하십시오. 계속 씻으시오.
- 잠금장치가 있는 저장장소에 저장하십시오.
- 현지/지역/국가/국제 규정에 따라서 내용물/용기 노출

· **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

· **화학적 특성: 혼합물**

· **설명:** 무해한 첨가물이 함유된 아래에 열거된 물질로 만들어진 혼합물.

· **위험 요소:**

64-17-5	Ethyl Alcohol, Absolute, 200 Proof Reagent, ACS (Ethanol) 15055 ⚠ 인화성 액체 구분2, H225	10-25%
107-98-2	1-methoxy-2-propanol ⚠ 인화성 액체 구분3, H226; ⚠ 표적장기-1회노출 구분3, H336	2.5-10%
108-88-3	toluene ⚠ 인화성 액체 구분2, H225; ⚠ 생식 독성 구분2, H361; ⚠ 표적장기-반복노출 구분2, H373; ⚠ 흡인 유해성 구분1, H304; ⚠ 피부 부식성/자극성 구분2, H315; ⚠ 표적장기-1회노출 구분3, H336	2.5-10%
141-78-6	ethyl acetate ⚠ 인화성 액체 구분2, H225; ⚠ 심한 눈 손상/자극성 구분2, H319; ⚠ 표적장기-1회노출 구분3, H336	2.5-10%

KR
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4 응급조치 요령

· 응급조치요령 내용

· 일반적 정보:

중독 증상은 몇 시간 이 지난 뒤에 발생할 수 있다. 따라서 사고가 발생한 후에 적어도 48 시간 동안은 의료진의 관찰을 받아야 한다.

· **흡입했을 때:** 신선한 공기를 쐬고, 통증이 있을 때는 의료진의 도움을 구한다.

· **피부에 접촉했을 때:** 일반적으로 이 제품은 피부에 자극적이지 않다.

· **눈에 들어갔을 때:** 흐르는 물에 눈을 몇분동안 씻어내고나서, 증상이 지속될 경우에는 의사와 상담한다

· **먹었을 때:** 증상이 지속될 경우에는 의사와 상담한다.

· **가장 중요한 급·만성 증상 및 영향** 추가적인 정보가 존재하지 않습니다.

· **즉각적인 의료처리 및 특별치료가 필요함을 시사하는 징후** 추가적인 정보가 존재하지 않습니다.

5 폭발·화재시 대처방법

· 소화제

· 적절한 소화제:

이산화탄소, 진화용 석회 가루 또는 물방사를 사용하고, 더 큰 화재는 물을 분사하거나 알코올이 함유된 거품으로 끈다.

· **본 화학물질이나 혼합물에서 발생하는 특별 유해성** 추가적인 정보가 존재하지 않습니다.

· **소방관에 대한 권고사항**

· **화재 진압 시 착용할 보호구 및 예방조치:** 특별한 조치가 필요없음.

6 누출 사고 시 대처방법

· **개인적 예방조치, 보호장비 및 응급처리 절차** 필요없음.

· **환경 관련 예방조치:** 하수도망/해수면위의물/지하수로도달하지않게한다.

· 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 장을 참고하십시오.

개인 보호 장비에 대한 정보는 제8 장을 참고하십시오.

쓰레기 처리에 대한 정보는 제13 장을 참고하십시오.

7 취급 및 저장방법

· 안전 취급을 위한 예방조치

작업장에서는 통풍이 잘 되고/습기 제거가 잘 되게 주의한다.

조심스럽게 용기를 개봉하거나 취급한다.

연무질이 형성되는 것을 피한다.

· 화재 및 폭발 사고 예방대책에 관한 정보:

열로부터 보호한다.

정전기의 충전으로부터 보호한다.

호흡보호장비를 항상 비치한다.

· 혼합위험성 등 안전 저장 조건

· 보관:

· **안전한 저장 방법:** 특별한 요구사항이 없음.

· **하나의 공동 보관 시설에 대한 보관 관련 정보:** 필요없음

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- **보관 조건에 관한 추가적인 정보:**
 용기를새지않게밀폐한채보관한다.
 열이나직사광선으로부터보호한다.
- **구체적 최종 사용자** 추가적인 정보가 존재하지 않습니다.

8 노출방지 및 개인보호구

- **첨단시설 디자인에 대한 추가정보:** 더 이상 의 자료는 없음. 항 목 7 을 참고하시 오.
- **통제 변수**

· **화학물질의 노출기준, 생물학적 노출기준 등:**

**64-17-5 Ethyl Alcohol, Absolute, 200 Proof
 Reagent, ACS (Ethanol)
 15055**

TLV (ROK)	장기간의값: 1900 mg/m ³ , 1000 ppm
PEL (USA)	장기간의값: 1900 mg/m ³ , 1000 ppm
REL (USA)	장기간의값: 1900 mg/m ³ , 1000 ppm
TLV (USA)	단기간의값: 1880 mg/m ³ , 1000 ppm

107-98-2 1-methoxy-2-propanol

TLV (ROK)	단기간의값: 540 mg/m ³ , 150 ppm 장기간의값: 360 mg/m ³ , 100 ppm
IOELV (EU)	단기간의값: 568 mg/m ³ , 150 ppm 장기간의값: 375 mg/m ³ , 100 ppm Skin
REL (USA)	단기간의값: 540 mg/m ³ , 150 ppm 장기간의값: 360 mg/m ³ , 100 ppm
TLV (USA)	단기간의값: 369 mg/m ³ , 100 ppm 장기간의값: 184 mg/m ³ , 50 ppm

108-88-3 toluene

TLV (ROK)	단기간의값: 560 mg/m ³ , 150 ppm 장기간의값: 188 mg/m ³ , 50 ppm
PEL (USA)	장기간의값: 200 ppm 최고노출기준: 300; 500* ppm *10-min peak per 8-hr shift
REL (USA)	단기간의값: 560 mg/m ³ , 150 ppm 장기간의값: 375 mg/m ³ , 100 ppm
TLV (USA)	장기간의값: 75 mg/m ³ , 20 ppm BEI

141-78-6 ethyl acetate

TLV (ROK)	장기간의값: 1400 mg/m ³ , 400 ppm
PEL (USA)	장기간의값: 1400 mg/m ³ , 400 ppm
REL (USA)	장기간의값: 1400 mg/m ³ , 400 ppm
TLV (USA)	장기간의값: 1440 mg/m ³ , 400 ppm

- **추 가 정보:** 제 조 할 당시에 유 효 한 목 록 을 기 초 로 사 용 했 다.

- **노출 통제**
- **개인 보호구**
- **일반적보호조치및위생조치:**
 식료품, 음료수와 사료로부터 멀리떨어뜨려 놓는다.

(5 쪽에계속)

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(4 쪽부터계속)

더러워지거나 음료가 묻은 옷은 즉시 탈의한다.
 휴식 전이나 작업이 끝날때마다 손을 씻는다.
 방호복은 따로 보관한다.
 눈과의 접촉을 피한다.
 눈과 피부와의 접촉을 피한다.

· 호흡기 보호:

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

· 손 보호:



보호용 장갑

장갑재질은 제품 / 원료 / 조제를 통과시키지 않아야 하고, 내구성이 있어야 한다.
 테스트를 하지 않았기 때문에 제품 / 조제 / 화학 혼합물에 적합한 장갑재질에 대한 추천이 없다.
 투과 시간, 침투율과 저하를 고려해서 장갑 재료를 선택한다.

· 장갑의 재료

적합한 장갑의 선정은 재질 차이뿐만 아니라 품질 기준의 차이도 고려하여 이루어져야 하고 제조업종에 따라서도 다르게 선정되어야 한다. 제품은 다양한 재료로부터의 조제가 이루어지는 것이기 때문에, 장갑재질의 안정성은 사전에 예측되어질 수 있는 것이 아니고, 반드시 사용 전에 (그 안전성이) 체크되어야 한다.

· 장갑 재료의 투과 시간 정확한 관통 시간은 보호 장갑 제조자에 의하여 인지되고, 준수되어야 한다.

· 눈 보호:



확조이는 보안경

9 물리화학적 특성

· 기본 물리 및 화학적 특성에 대한 정보

· 일반정보

· 외형

· 물리적 상태:	부풀은
· 색:	은회색
· 냄새:	강력한
· 후각역치	알맞지 않다.

· pH:	알맞지 않다.
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· 상태변화

· 녹는점/어는점:	맞지 않는
· 초기 끓는점과 끓는점 범위:	75 °C

· 인화점:	해당 사항 없음.
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· 인화성(고체, 기체):	해당 사항 없음.
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· 점화온도:	270 °C
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· 분해 온도:	알맞지 않다.
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· 자기점화:	이 제품은 자연발화성이 없다.
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· 폭발위험:	이 제품은 폭발위험성이 없다
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(6 쪽에계속)

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(5 쪽부터계속)

· 인화 또는 폭발 범위의 상한/하한 아래로:	1.2 Vol %
위로:	20.0 Vol %
· 증기압 의경우 20 °C:	59 hPa
· 밀도:	맞지않는다.
· 비중:	알맞지않다.
· 증기밀도:	알맞지않다.
· 증발 속도:	알맞지않다.
· 용해도: 물:	각각의경우에따라서는거의혼합할수없는
· n 옥탄올/물 분배계수:	알맞지않다.
· 점도:	
· 역학성:	알맞지않다.
· 동점성:	알맞지않다.
· 용매내용물 유기용매:	40.0 %
VOC (EU)	40.00 %
· 고체의 함량:	60.0 %
· 기타 정보	추가적인 정보가 존재하지 않습니다.

10 안정성 및 반응성

- 반응성
- 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:

· LD/LC50-수치에 따른 분류:		
108-88-3 toluene		
구강의	LD50	5000 mg/kg (rat)
피부의	LD50	12124 mg/kg (rabbit)
흡입의	LC50/4 h	5320 mg/l (mouse)

- 일차적 자극 효과:
- 피부 부식성 또는 자극성: 무자극
- 심한 눈 손상 또는 자극성: 자극
- 감각화: 민감한영향이없는것으로알려져있다.
- 추가적인 독성에 관한 정보:

이제품은유럽공동체의공동분류원칙의합법적인절차에근거하여최근에발효된원고에서아래위험들의사전 준비에대하여제시하고있다.

(7 쪽에계속)

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(6 쪽부터계속)

- 자극적인
- **다음 종류의 잠재적인 효과에 대한 정보**
- **CMR-효과 (암 유발, 돌연변이성 그리고 생식 독성)**
- 생식 독성 구분2

12 환경에 미치는 영향

- **독성**
- **수생독성:** 추가적인 정보가 존재하지 않습니다.
- **지속성 및 분해성** 추가적인 정보가 존재하지 않습니다.
- **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:** 생활쓰레기와함께처리되어서는 안된다. 하수도망으로유입되어서는 안된다.
- **비위생적 포장:**
- **권고:** 당국의지침에입각한쓰레기처리.

14 운송에 필요한 정보

· 유엔 번호	
· ADR, IMDG, IATA	UN1993
· UN 적정 선적명	
· ADR	1993 FLAMMABLE LIQUID, N.O.S.
· IMDG, IATA	FLAMMABLE LIQUID, N.O.S.
· 교통 위험 클래스	
· ADR, IMDG, IATA	
· 등급	3 발화성용액
· 용기등급	
· ADR, IMDG, IATA	III
· 환경적 유해물질:	
· 해양오염물질:	아니오
· 이용자 특별 예방조치	경고: 발화성용액
· MARPOL73/78(선박으로부터의 해양오염방지협약) 부속서2 및 IBC Code(국제선적화물코드)에 따른 벌크(bulk) 운송	해당사항 없음.

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· 운 송/추가 정보:

· **ADR**
 · **한정 수량 (LQ)** 5L
 · **Excepted quantities (EQ)** Code: E1
 Maximum net quantity per inner packaging: 30 ml
 Maximum net quantity per outer packaging: 1000 ml

· **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 "모범 규제":** UN1993, FLAMMABLE LIQUID, N.O.S., 3, III

15 법적 규제현황

· 해당 순물질 또는 혼합물에 대한 안전, 보건 및 환경 규제/법률

· Korean Existing Chemical Inventory		
7440-22-4	silver	KE-31261
64-17-5	Ethyl Alcohol, Absolute, 200 Proof Reagent, ACS (Ethanol) 15055	KE-13217
107-98-2	1-methoxy-2-propanol	KE-23379
108-88-3	toluene	KE-33936
141-78-6	ethyl acetate	KE-00047

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

· 위험 도표



GHS02 GHS07 GHS08

· 표지어 위험

· 상표상에명확히위험성이표시된성분:

toluene

· 위험 문구

인화성 액체 및 증기
 눈에 심한 자극을 일으킴
 태아 또는 생식능력에 손상을 일으킬 것으로 의심됨
 장기간 또는 반복노출 되면 신체 중에 손상을 일으킬 수 있음
 삼켜서 기도로 유입되면 치명적일 수 있음

· 주의 문구

열 스파크, 화염, 고열로부터 멀리하십시오 - 금연
 삼켰을 시: 즉시 독성물질센터/병원 연락 필요.
 피부(또는 머리카락)에 묻으면 오염된 모든 의복은 벗거나 제거하십시오. 피부를 물로 씻으시오/샤워하십시오.
 눈에 묻으면 몇 분간 물로 조심해서 씻으시오. 가능하면 콘택트렌즈를 제거하십시오. 계속 씻으시오.
 잠금장치가 있는 저장장소에 저장하십시오.

(9 쪽에계속)

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- 현지/지역/국가/국제 규정에 따라서 내용물/용기 노출
· **화학물질 안전성 평가: 화학물질 안전성 평가가 수행되지 않음**

16 그 밖의 참고사항

이보고는우리지식에대한오늘날의상태에대하여평가하고있다, 하지만이보고서는생산특성에관한보증은
기술하지않았으며계약적인법률관계에기반을두고있지도않다

- **최초 작성일자:** 2015.05.11
- **개정 횟수 및 최종 개정일자:** 1 / 2015.05.11
- **약어와 두문자어:**

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

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)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

인화성 액체 구분2: Flammable liquids, Hazard Category 2

인화성 액체 구분3: Flammable liquids, Hazard Category 3

피부 부식성/자극성 구분2: Skin corrosion/irritation, Hazard Category 2

심한 눈 손상/자극성 구분2: Serious eye damage/eye irritation, Hazard Category 2

생식 독성 구분2: Reproductive toxicity, Hazard Category 2

표적장기-1회노출 구분3: Specific target organ toxicity - Single exposure, Hazard Category 3

표적장기-반복노출 구분2: Specific target organ toxicity - Repeated exposure, Hazard Category 2

흡인 유해성 구분1: Aspiration hazard, Hazard Category 1

KR

Ficha de dados de segurança

Em conformidade com 1907/2006/CE, Artigo 31.º

data da impressão 11.05.2015

Revisão: 11.05.2015

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

- **1.1 Identificador do produto**
- **Nome comercial:** COLLOIDAL SILVER PASTE
- **Código do produto:** 12640
- **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: sgkcck@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

- Repr. 2 H361d Suspeito de afectar o nascituro.
 STOT RE 2 H373 Pode afectar os órgãos após exposição prolongada ou repetida.
 Asp. Tox. 1 H304 Pode ser mortal por ingestão e penetração nas vias respiratórias.



GHS07

- Acute Tox. 4 H302 Nocivo por ingestão.
 Acute Tox. 4 H332 Nocivo por inalação.
 Skin Irrit. 2 H315 Provoca irritação 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**
- **Componentes determinantes para os perigos constantes do rótulo:**
tolueno

(continuação na página 2)

Ficha de dados de segurança

Em conformidade com 1907/2006/CE, Artigo 31.º

data da impressão 11.05.2015

Revisão: 11.05.2015

Nome comercial: COLLOIDAL SILVER PASTE

(continuação da página 1)

· Frases de perigo

- H302+H332 Nocivo por ingestão ou inalação.
 H315 Provoca irritação cutânea.
 H361d Suspeito de afectar o nascituro.
 H373 Pode afectar os órgãos após exposição prolongada ou repetida.
 H304 Pode ser mortal por ingestão e penetração nas vias respiratórias.

· Frases de prudência

- P260 Não respirar as poeiras/fumos/gases/névoas/vapores/aerossóis.
 P280 Usar luvas de protecção/vestuário de protecção/protecção ocular/protecção facial.
 P301+P310 EM CASO DE INGESTÃO: contacte imediatamente um CENTRO DE INFORMAÇÃO ANTIVENENOS/médico.
 P321 Tratamento específico (ver no presente rótulo).
 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: 64-17-5 EINECS: 200-578-6	etanol Flam. Líq. 2, H225	10-25%
CAS: 107-98-2 EINECS: 203-539-1	1-metoxi-2-propanol Flam. Líq. 3, H226; STOT SE 3, H336	2,5-10%
CAS: 108-88-3 EINECS: 203-625-9	tolueno Flam. Líq. 2, H225; Repr. 2, H361d; STOT RE 2, H373; Asp. Tox. 1, H304; Skin Irrit. 2, H315; STOT SE 3, H336	2,5-10%
CAS: 141-78-6 EINECS: 205-500-4	acetato de etilo Flam. Líq. 2, H225; Eye Irrit. 2, H319; STOT SE 3, H336	2,5-10%

SECÇÃO 4: 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:** Entrada de ar fresco; em caso de queixas consultar o médico.

· **Em caso de contacto com a pele:** Em geral o produto não é irritante para a pele.

· 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.

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- **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:**
CO₂, pó extintor ou jacto de água. Um incêndio de grandes dimensões deve ser combatido com jacto de água ou espuma resistente ao álcool.
- **5.2 Perigos especiais decorrentes da substância ou mistura**
Não existe mais nenhuma informação relevante disponível.
- **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 accidentais

- **6.1 Precauções individuais, equipamento de protecção e procedimentos de emergência** Não necessário.
- **6.2 Precauções a nível ambiental:** 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.
Abrir e manusear o recipiente com cuidado
Evitar a formação de aerossóis.
- **Precauções para prevenir incêndios e explosões:**
Proteger do calor.
Proteger contra descargas electrostáticas.
Manter uma máscara de respiração sempre preparada.
- **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.
Proteger do calor e da radiação directa do sol.
- **7.3 Utilizações finais específicas** Não existe mais nenhuma informação relevante disponível.

SECÇÃO 8: Controlo da exposição/protecção individual

- **Indicações adicionais para concepção de instalações técnicas:** Não existem outras informações, ver ponto 7.
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· 8.1 Parâmetros de controlo

· Componentes cujo valor do limite de exposição no local de trabalho deve ser monitorizado:

64-17-5 etanol

VLE Valor para exposição longa: 1000 ppm
A4; ; Irritação ocular, do TRS; lesão do SNC

107-98-2 1-metoxi-2-propanol

VLE Valor para exposição curta: 150 ppm
Valor para exposição longa: 100 ppm
Irritação ocular;afecção do SNC

108-88-3 tolueno

VLE Valor para exposição longa: (50) ppm
(P); A4;(IBE); (Irrit. TRS, ocular;afecção do SNC)

141-78-6 acetato de etilo

VLE Valor para exposição longa: 400 ppm
Irritação ocular e do TRS

· **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.
Guardar o vestuário de protecção separadamente.
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.

· 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.

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· **Protecção dos olhos:**

Óculos de protecção totalmente fechados

SECÇÃO 9: Propriedades físicas e químicas

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

Forma:	Pastoso
Cor:	Cinzento prateado
· Odor:	Forte
· Limiar olfactivo:	Não classificado.

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

Ponto / intervalo de fusão:	Não classificado.
Ponto / intervalo de ebulição:	75 °C

· **Ponto de inflamação:** Não aplicável.· **Inflamabilidade (sólido, gás):** Não aplicável.· **Temperatura de ignição:** 270 °C· **Temperatura de decomposição:** Não classificado.· **Auto-inflamabilidade:** O produto não é auto-inflamável.· **Perigos de explosão:** O produto não corre o risco de explosão.· **Limites de explosão:**

Inferior:	1,2 Vol %
Superior:	20,0 Vol %

· **Pressão de vapor em 20 °C:** 59 hPa· **Densidade:** Não classificado.· **Densidade relativa** Não classificado.· **Densidade de vapor** Não classificado.· **Velocidade de evaporação** Não classificado.· **Solubilidade em / miscibilidade com água:**

Pouco misturável.

· **Coefficiente de distribuição (n-octanol/água):** Não classificado.· **Viscosidade:**

Dinâmico:	Não classificado.
Cinemático:	Não classificado.

· **Percentagem de solvente:**

Solventes orgânicos:	40,0 %
VOC (UE)	40,00 %

· **Percentagem de substâncias sólidas:** 60,0 %

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· 9.2 Outras informações

Não existe mais nenhuma informação relevante disponível.

SECÇÃO 10: Estabilidade e reactividade

- 10.1 Reactividade
- 10.2 Estabilidade química
- **Decomposição térmica / condições a evitar:** Não existe decomposição se usado de acordo com as especificações.
- 10.3 Possibilidade de reacções perigosas Não se conhecem reacções 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:

· Valores LD/LC50 relevantes para a classificação:

108-88-3 tolueno

por via oral	LD50	5000 mg/kg (rat)
por via dérmica	LD50	12124 mg/kg (rabbit)
por inalação	LC50/4 h	5320 mg/l (mouse)

- **Efeito de irritabilidade primário:**
- **sobre a pele:** Não irritante.
- **sobre os olhos:** Efeito irritante.
- **sensibilização:** Não são conhecidos efeitos sensibilizantes.
- **Avisos adicionais de toxicologia:**
O produto apresenta os seguintes perigos com base no método de cálculo utilizado na Directiva comunitária de classificação de preparações, nos termos da última versão em vigor.
Irritante
- **Efeitos CMR (carcinogenicidade, mutagenicidade e efeitos tóxicos na reprodução)**
Repr. 2

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.

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· 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.

SECÇÃO 14: Informações relativas ao transporte

- | | |
|--|--|
| · 14.1 N.º UN | |
| · ADR, IMDG, IATA | UN1993 |
| · 14.2 Designação oficial de transporte da ONU | |
| · ADR | 1993 LÍQUIDO INFLAMÁVEL, N.S.A. |
| · IMDG, IATA | FLAMMABLE LIQUID, N.O.S. |
| · 14.3 Classes de perigo para efeitos de transporte | |
| · ADR, IMDG, IATA | |
| · Classe | 3 Líquidos inflamáveis |
| · 14.4 Tipo de embalagem | |
| · ADR, IMDG, IATA | III |
| · 14.5 Perigos para o ambiente: | |
| · Poluente das águas: | Não |
| · 14.6 Precauções especiais para o utilizador | Atenção: Líquidos inflamáveis |
| · 14.7 Transporte a granel em conformidade com o anexo II da Convenção Marpol 73/78 e o Código IBC | Não aplicável. |
| · Transporte/outras informações: | |
| · ADR | |
| · Quantidades Limitadas (LQ) | 5L |
| · Quantidades exceptuadas (EQ) | Código: E1
Quantidade líquida máxima por embalagem interior: 30 ml
Quantidade líquida máxima por embalagem exterior: 1000 ml |
| · 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": | UN1993, LÍQUIDO INFLAMÁVEL, N.S.A., 3, III |

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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**

Não existe mais nenhuma informação relevante disponível.

· **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**

H225 Líquido e vapor facilmente inflamáveis.

H226 Líquido e vapor inflamáveis.

H304 Pode ser mortal por ingestão e penetração nas vias respiratórias.

H315 Provoca irritação cutânea.

H319 Provoca irritação ocular grave.

H336 Pode provocar sonolência ou vertigens.

H361d Suspeito de afectar o nascituro.

H373 Pode afectar os órgãos após exposição prolongada ou repetida.

· **Abreviaturas e acrónimos:**

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

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)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

Flam. Liq. 2: Flammable liquids, Hazard Category 2

Flam. Liq. 3: Flammable liquids, Hazard Category 3

Acute Tox. 4: Acute toxicity, Hazard Category 4

Skin Irrit. 2: Skin corrosion/irritation, Hazard Category 2

Eye Irrit. 2: Serious eye damage/eye irritation, Hazard Category 2

Repr. 2: Reproductive toxicity, Hazard Category 2

STOT SE 3: Specific target organ toxicity - Single exposure, Hazard Category 3

STOT RE 2: Specific target organ toxicity - Repeated exposure, Hazard Category 2

Asp. Tox. 1: Aspiration hazard, Hazard Category 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:** COLLOIDAL SILVER PASTE

· **Número del artículo:** 12640

· 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: sgkcck@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

Repr. 2 H361d Se sospecha que daña al feto.

STOT RE 2 H373 Puede provocar daños en los órganos tras exposiciones prolongadas o repetidas.

Asp. Tox. 1 H304 Puede ser mortal en caso de ingestión y penetración en las vías respiratorias.



GHS07

Acute Tox. 4 H302 Nocivo en caso de ingestión.

Acute Tox. 4 H332 Nocivo en caso de inhalación.

Skin Irrit. 2 H315 Provoca irritación cutánea.

· 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**· **Componentes peligrosos a indicar en el etiquetaje:**

tolueno

· **Indicaciones de peligro**

H302+H332 Nocivo en caso de ingestión o inhalación.

H315 Provoca irritación cutánea.

H361d Se sospecha que daña al feto.

H373 Puede provocar daños en los órganos tras exposiciones prolongadas o repetidas.

H304 Puede ser mortal en caso de ingestión y penetración en las vías respiratorias.

· **Consejos de prudencia**

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

P280 Llevar guantes/prendas/gafas/máscara de protección.

P301+P310 EN CASO DE INGESTIÓN: Llamar inmediatamente a un CENTRO DE TOXICOLOGÍA/médico.

P321 Se necesita un tratamiento específico (ver en esta etiqueta).

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: 64-17-5 EINECS: 200-578-6	etanol Flam. Liq. 2, H225	10-25%
CAS: 107-98-2 EINECS: 203-539-1	1-metoxi-2-propanol Flam. Liq. 3, H226; STOT SE 3, H336	2,5-10%
CAS: 108-88-3 EINECS: 203-625-9	tolueno Flam. Liq. 2, H225; Repr. 2, H361d; STOT RE 2, H373; Asp. Tox. 1, H304; Skin Irrit. 2, H315; STOT SE 3, H336	2,5-10%
CAS: 141-78-6 EINECS: 205-500-4	acetato de etilo Flam. Liq. 2, H225; Eye Irrit. 2, H319; STOT SE 3, H336	2,5-10%

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.

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- **En caso de inhalación del producto:** Suministrar aire fresco. En caso de trastornos, consultar al médico.
- **En caso de contacto con la piel:** Por regla general, el producto no irrita la piel.
- **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.
- **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:**
CO2, polvo extintor o chorro de agua rociada. Combatir incendios mayores con chorro de agua rociada o espuma resistente al alcohol.
- **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:**
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.
Abrir y manejar el recipiente con cuidado.
Evitar la formación de aerosoles.
- **Prevención de incendios y explosiones:**
Proteger del calor.
Tomar medidas contra las cargas electrostáticas.
Tener preparados los aparatos respiratorios.
- **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.
Proteger del calor y de la luz directa del sol.

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· 7.3 Usos específicos finales No existen más datos relevantes disponibles.

SECCIÓN 8: Controles de exposición/protección individual

· **Instrucciones adicionales para el acondicionamiento de instalaciones técnicas:**

Sin datos adicionales, ver punto 7.

· **8.1 Parámetros de control**· **Componentes con valores límite admisibles que deben controlarse en el puesto de trabajo:**

64-17-5 etanol

LEP Valor de corta duración: 1910 mg/m³, 1000 ppm
s

107-98-2 1-metoxi-2-propanol

LEP Valor de corta duración: 568 mg/m³, 150 ppm
Valor de larga duración: 375 mg/m³, 100 ppm
vía dérmica, VLI

108-88-3 tolueno

LEP Valor de corta duración: 384 mg/m³, 100 ppm
Valor de larga duración: 192 mg/m³, 50 ppm
vía dérmica, VLB, VLI, r

141-78-6 acetato de etilo

LEP Valor de larga duración: 1460 mg/m³, 400 ppm· **Componentes con valores límite biológicos:**

108-88-3 tolueno

VLB 0,5 mg/l
Muestra: orina
Momento de Muestero: Final de la jornada laboral
Indicador Biológico: o-Cresol1,6 g/g creatinina
Muestra: orina
Momento de Muestero: Final de la jornada laboral
Indicador Biológico: Ácido hipúrico0,05 mg/l
Muestra: sangre
Momento de Muestero: Principio de la última jornada de la semana laboral
Indicador Biológico: Tolueno· **Indicaciones adicionales:** Como base se han utilizado las listas vigentes en el momento de la elaboración.· **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.

Guardar la ropa protectora por separado.

Evitar el contacto con los ojos.

Evitar el contacto con los ojos y la piel.

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· **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: Pastoso
Color: Gris plateado

· **Olor:** Intenso

· **Umbral olfativo:** No determinado.

· **valor pH:** No determinado.

· **Cambio de estado**

Punto de fusión /campo de fusión: Indeterminado.

Punto de ebullición /campo de ebullición: 75 °C

· **Punto de inflamación:** No aplicable.

· **Inflamabilidad (sólido, gaseiforme):** No aplicable.

· **Temperatura de ignición:** 270 °C

· **Temperatura de descomposición:** No determinado.

· **Autoinflamabilidad:** El producto no es autoinflamable.

· **Peligro de explosión:** El producto no es explosivo.

· **Límites de explosión:**

Inferior: 1,2 Vol %

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Superior:	20,0 Vol %
· Presión de vapor a 20 °C:	59 hPa
· Densidad:	Indeterminado.
· Densidad relativa	No determinado.
· Densidad de vapor	No determinado.
· Velocidad de evaporación	No determinado.
· Solubilidad en / miscibilidad con agua:	Poco o no mezclable.
· Coefficiente de reparto (n-octanol/agua):	No determinado.
· Viscosidad:	
Dinámica:	No determinado.
Cinemática:	No determinado.
· Concentración del disolvente:	
Disolventes orgánicos:	40,0 %
VOC (CE)	40,00 %
· Contenido de cuerpos sólidos:	60,0 %
· 9.2 Información adicional	No existen más datos relevantes disponibles.

SECCIÓN 10: Estabilidad y reactividad

- **10.1 Reactividad**
- **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:**

· **Valores LD/LC50 (dosis letal /dosis letal = 50%) relevantes para la clasificación:**

108-88-3 tolueno

Oral	LD50	5000 mg/kg (rat)
Dermal	LD50	12124 mg/kg (rabbit)
Inhalatorio	LC50/4 h	5320 mg/l (mouse)

- **Efecto estimulante primario:**
- **en la piel:** No produce irritaciones.
- **en el ojo:** Produce irritaciones.
- **Sensibilización:** No se conoce ningún efecto sensibilizante.
- **Indicaciones toxicológicas adicionales:**

En conformidad con el procedimiento de cálculo contenido en la última versión de la Normativa General de Clasificación de la CE para Preparados, el producto tiene los siguientes riesgos:
Irritante

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· **Efectos CMR (carcinogenicidad, mutagenicidad y toxicidad para la reproducción)**
Repr. 2

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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 (autoclasificación): 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.

SECCIÓN 14: Información relativa al transporte

- | | |
|--|---------------------------------|
| · 14.1 Número UN | UN1993 |
| · ADR, IMDG, IATA | |
| · 14.2 Designación oficial de transporte de las Naciones Unidas | |
| · ADR | 1993 LÍQUIDO INFLAMABLE, N.E.P. |
| · IMDG, IATA | FLAMMABLE LIQUID, N.O.S. |
| · 14.3 Clase(s) de peligro para el transporte | |
| · ADR, IMDG, IATA | |
| · Clase | 3 Líquidos inflamables |
| · 14.4 Grupo de embalaje | |
| · ADR, IMDG, IATA | III |
| · 14.5 Peligros para el medio ambiente: | |
| · Contaminante marino: | No |
| · 14.6 Precauciones particulares para los usuarios | Atención: Líquidos inflamables |
| · 14.7 Transporte a granel con arreglo al anexo II del Convenio Marpol 73/78 y del Código IBC | No aplicable. |

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· **Transporte/datos adicionales:**

· **ADR**

· **Cantidades limitadas (LQ)**

5L

· **Cantidades exceptuadas (EQ)**

Código: E1

Cantidad neta máxima por envase interior: 30 ml

Cantidad neta máxima por embalaje exterior: 1000 ml

· **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

· **"Reglamentación Modelo" de la UNECE:**

UN1993, LÍQUIDO INFLAMABLE, N.E.P., 3, III

SECCIÓN 15: Información reglamentaria

· **15.1 Reglamentación y legislación en materia de seguridad, salud y medio ambiente específicas para la sustancia o la mezcla**

No existen más datos relevantes disponibles.

· **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**

H225 Líquido y vapores muy inflamables.

H226 Líquidos y vapores inflamables.

H304 Puede ser mortal en caso de ingestión y penetración en las vías respiratorias.

H315 Provoca irritación cutánea.

H319 Provoca irritación ocular grave.

H336 Puede provocar somnolencia o vértigo.

H361d Se sospecha que daña al feto.

H373 Puede provocar daños en los órganos tras exposiciones prolongadas o repetidas.

· **Abreviaturas y acrónimos:**

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

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)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

Flam. Liq. 2: Flammable liquids, Hazard Category 2

Flam. Liq. 3: Flammable liquids, Hazard Category 3

Acute Tox. 4: Acute toxicity, Hazard Category 4

Skin Irrit. 2: Skin corrosion/irritation, Hazard Category 2

Eye Irrit. 2: Serious eye damage/eye irritation, Hazard Category 2

Repr. 2: Reproductive toxicity, Hazard Category 2

STOT SE 3: Specific target organ toxicity - Single exposure, Hazard Category 3

STOT RE 2: Specific target organ toxicity - Repeated exposure, Hazard Category 2

Asp. Tox. 1: Aspiration hazard, Hazard Category 1

Säkerhetsdatablad

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AVSNITT 1: Namnet på ämnet/blandningen och bolaget/företaget

- **1.1 Produktbeteckning**
- **Handelsnamn:** COLLOIDAL SILVER PASTE
- **Artikelnummer:** 12640
- **1.2 Relevanta identifierade användningar av ämnet eller blandningen och användningar som det avråds från**
Ingen ytterligare relevant information finns till förfogande.
- **Ämnets användning / tillredningen** Laboratoriekemikalier
- **1.3 Närmare upplysningar om den som tillhandahåller säkerhetsdatablad**
- **Tillverkare/leverantör:**
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
- **Område där upplysningar kan inhämtas:** Product safety department
- **1.4 Telefonnummer för nödsituationer:**
ChemTrec 1-800-424-9300 Contract CCN7661
1-703-527-3887

AVSNITT 2: Farliga egenskaper

- **2.1 Klassificering av ämnet eller blandningen**
- **Klassificering enligt förordning (EG) nr 1272/2008**



GHS08 hälsofara

- Repr. 2 H361d Misstänks kunna skada det ofödda barnet.
 STOT RE 2 H373 Kan orsaka organskador genom lång eller upprepad exponering.
 Asp. Tox. 1 H304 Kan vara dödligt vid förtäring om det kommer ner i luftvägarna.



GHS07

- Acute Tox. 4 H302 Skadligt vid förtäring.
 Acute Tox. 4 H332 Skadligt vid inandning.
 Skin Irrit. 2 H315 Irriterar huden.

- **2.2 Märkningsuppgifter**
- **Märkning enligt förordning (EG) nr 1272/2008** Produkten är klassificerad och märkt enligt CLP-förordningen.
- **Farosymboler**



GHS07



GHS08

- **Signalord Fara**
- **Riskbestämmande komponenter för etikettering:**
toluen
- **Faroangivelser**
H302+H332 Skadligt vid förtäring eller inandning.

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- H315 Irriterar huden.
 H361d Misstänks kunna skada det ofödda barnet.
 H373 Kan orsaka organskador genom lång eller upprepade exponering.
 H304 Kan vara dödligt vid förtäring om det kommer ner i luftvägarna.
- **Skyddsangivelser**
 P260 Inandas inte damm/rök/gaser/dimma/ångor/sprej.
 P280 Använd skyddshandskar/skyddskläder/ögonskydd/ansiktsskydd.
 P301+P310 VID FÖRTÄRING: Kontakta genast GIFTINFORMATIONSCENTRALEN/läkare.
 P321 Särskild behandling (se på etiketten).
 P405 Förvaras inlåst.
 P501 Innehållet / behållaren avfallshanteras enligt lokala / regionala / nationella / internationella föreskrifter.
- **2.3 Andra faror**
 · **Resultat av PBT- och vPvB-bedömningen**
 · **PBT:** Ej användbar.
 · **vPvB:** Ej användbar.

AVSNITT 3: Sammansättning/information om beståndsdelar

- **3.2 Kemisk karakterisering: Blandningar**
 · **Beskrivning:** Blandning bestående av nedan upplistade ämnen med ofarliga tillsatser.

· **Farliga ingredienser:**

CAS: 64-17-5 EINECS: 200-578-6	etanol Flam. Liq. 2, H225	10-25%
CAS: 107-98-2 EINECS: 203-539-1	1-metoxi-2-propanol Flam. Liq. 3, H226; STOT SE 3, H336	2,5-10%
CAS: 108-88-3 EINECS: 203-625-9	toluen Flam. Liq. 2, H225; Repr. 2, H361d; STOT RE 2, H373; Asp. Tox. 1, H304; Skin Irrit. 2, H315; STOT SE 3, H336	2,5-10%
CAS: 141-78-6 EINECS: 205-500-4	etylacetat Flam. Liq. 2, H225; Eye Irrit. 2, H319; STOT SE 3, H336	2,5-10%

AVSNITT 4: Åtgärder vid första hjälpen

- **4.1 Beskrivning av åtgärder vid första hjälpen**
 · **Allmänna hänvisningar:**
 Förgiftningssymptom kan uppträda först efter många timmar. Av denna anledning krävs läkarövervakning i minst 48 timmar efter ett olycksfall.
 · **Vid inandning:** Tillförsel av friskluft, vid besvär kontakta läkare.
 · **Vid kontakt med huden:** I allmänhet kan produkten ej irritera huden.
 · **Vid kontakt med ögonen:**
 Spola ögonen öppna i flera minuter under rinnande vatten. Om besvär kvarstår, kontakta läkare.
 · **Vid förtäring:** Om besvär kvarstår, kontakta läkare.
- **4.2 De viktigaste symptomen och effekterna, både akuta och fördröjda**
 Ingen ytterligare relevant information finns till förfogande.
- **4.3 Angivande av omedelbar medicinsk behandling och särskild behandling som eventuellt krävs**
 Ingen ytterligare relevant information finns till förfogande.

SE

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AVSNITT 5: Brandbekämpningsåtgärder

- **5.1 Släckmedel**
- **Lämpliga släckningsmedel:**
CO₂, släckningspulver eller spridd vattenstråle. Större bränder skall bekämpas med spridd vattenstråle eller alkoholbeständigt skum.
- **5.2 Särskilda faror som ämnet eller blandningen kan medföra**
Ingen ytterligare relevant information finns till förfogande.
- **5.3 Råd till brandbekämpningspersonal**
- **Speciell skyddsutrustning:** Inga speciella åtgärder krävs.

AVSNITT 6: Åtgärder vid oavsiktliga utsläpp

- **6.1 Personliga skyddsåtgärder, skyddsutrustning och åtgärder vid nödsituationer** Erfordras ej.
- **6.2 Miljöskyddsåtgärder:** Förhindra produkten att tränga ner i avloppsnät/ytvatten/grundvatten.
- **6.3 Metoder och material för inneslutning och sanering:**
Sug upp med vätskebindande material (sand, kiselgur, syrabindemedel, universalbindemedel, sågspån). Omhändertata förorenat material som avfall enligt punkt 13.
Se till att ventilationen är tillräcklig.
- **6.4 Hänvisning till andra avsnitt**
Information beträffande säker hantering se kapitel 7.
Information beträffande personlig skyddsutrustning se kapitel 8.
Information beträffande avfallshantering se kapitel 13.

AVSNITT 7: Hantering och lagring

- **7.1 Försiktighetsmått för säker hantering**
Sörj för god ventilation/utsug på arbetsplatsen.
Öppna behållaren försiktigt och hantera den varsamt.
Undvik bildning av aerosol.
- **Hänvisningar beträffande brand- och explosionsskydd:**
Skyddas mot värme.
Vidta åtgärder mot elektrostatisk uppladdning.
Håll andningsskyddsutrustning i beredskap.
- **7.2 Förhållanden för säker lagring, inklusive eventuell oförenlighet**
- **Lagring:**
- **Krav på lagerutrymmen och behållare:** Inga speciella krav.
- **Hänvisningar beträffande sammanlagring:** Erfordras ej.
- **Ytterligare uppgifter till lagringsvillkoren:**
Förvara behållaren tätt tillsluten.
Skyddas mot värme och direkt solljus.
- **7.3 Specifik slutanvändning** Ingen ytterligare relevant information finns till förfogande.

AVSNITT 8: Begränsning av exponeringen/personligt skydd

- **Ytterligare hänvisningar beträffande utformning av tekniska anläggningar:** Inga övriga uppgifter, se punkt 7.

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· 8.1 Kontrollparametrar**· Ämnen med yrkeshygieniska gränsvärden som bör övervakas:****64-17-5 etanol**

OEL Korttidsvärde: 1900 mg/m³, 1000 ppm
Nivågränsvärde: 1000 mg/m³, 500 ppm

107-98-2 1-metoxi-2-propanol

OEL Korttidsvärde: 300 mg/m³, 75 ppm
Nivågränsvärde: 190 mg/m³, 50 ppm
H

108-88-3 toluen

OEL Korttidsvärde: 384 mg/m³, 100 ppm
Nivågränsvärde: 192 mg/m³, 50 ppm
B, H

141-78-6 etylacetat

OEL Korttidsvärde: 1100 mg/m³, 300 ppm
Nivågränsvärde: 500 mg/m³, 150 ppm

· Ytterligare hänvisningar: De vid framställningen gällande listorna har använts som utgångspunkt.**· 8.2 Begränsning av exponeringen****· Personlig skyddsutrustning:****· Allmänna skydds- och hygienåtgärder:**

Undvik kontakt med livsmedel, drycker och fodermedel.

Nedsmutsade, indränkta klädesplagg skall omedelbart tas av.

Tvätta händerna före raster och efter arbetet.

Skyddsdräkter förvaras separat.

Undvik kontakt med ögonen.

Undvik kontakt med ögonen och huden.

· Andningsskydd:

Vid kortvarig eller ringa belastning - använd andningsfilterutrustning; vid intensiv resp. längre exponering - använd andningsskyddsutrustning som är oberoende av omgivningsluften.

· Handskydd:

Skyddshandskar

Handskmaterialet måste vara tätt och beständigt mot produkt/ämne/tillredning.

Handskmaterialrekommendationer kan inte ges för produkt/tillredning/kemikalielösning, då inga tester genomförts.

Val av handskmaterial beaktande penetrationstider, permeationskvoter och degradation.

· Handskmaterial

Val av lämplig handske är inte enbart beroende av material utan även av andra kvalitetskriterier och varierar från en tillverkare till nästa. Då produkten bereds av flera material, kan handskmaterialets beständighet inte förutses och måste därför kontrolleras före användningen.

· Handskmaterialets penetreringstid

Exakt penetrationstid fastställs av skyddshandskarnas tillverkare och skall beaktas.

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(Fortsättning från sida 4)



Tättslutande skyddsglasögon

AVSNITT 9: Fysikaliska och kemiska egenskaper

9.1 Information om grundläggande fysikaliska och kemiska egenskaper**Allmänna uppgifter****Utseende:****Form:** Trögflytande**Färg:** Silvergrå**Lukt:** Stark**Luktröskel:** Ej bestämd.**pH-värde:** Ej bestämd.**Tillståndsändring****Smältpunkt/smältområde:** Ej bestämd.**Kokpunkt / kokområde:** 75 °C**Flampunkt:** Ej användbar.**Lättantändlighet (fast, gasformig):** Ej användbar.**Tändtemperatur:** 270 °C**Sönderdelningstemperatur:** Ej bestämd.**Självantändbarhet:** Produkten är ej självantändande.**Explosionsfara:** Produkten är ej explosiv.**Explosionsgränser:****Nedre:** 1,2 Vol %**Övre:** 20,0 Vol %**Ångtryck vid 20 °C:** 59 hPa**Densitet:** Ej bestämd.**Relativ densitet** Ej bestämd.**Ångdensitet** Ej bestämd.**Förångningshastighet** Ej bestämd.**Löslighet i / blandbarhet med****Vatten:** Ej resp. föga blandbar.**Fördelningskoefficient (n-octanol/vatten):** Ej bestämd.**Viskositet:****Dynamisk:** Ej bestämd.**Kinematisk:** Ej bestämd.**Lösningsmedelhalt:****Organiska lösningsmedel:** 40,0 %**VOC (EG)** 40,00 %**Andel av fasta partiklar:** 60,0 %

(Fortsättning på sida 6)

Säkerhetsdatablad

Enligt 1907/2006/EG, Artikel 31

Datum för utskrift: 11.05.2015

Omarbetad: 11.05.2015

Handelsnamn: COLLOIDAL SILVER PASTE

(Fortsättning från sida 5)

· 9.2 Annan information

Ingen ytterligare relevant information finns till förfogande.

AVSNITT 10: Stabilitet och reaktivitet

- **10.1 Reaktivitet**
- **10.2 Kemisk stabilitet**
- **Termisk sönderdelning / förhållanden som bör undvikas:** Inget sönderfall vid ändamålsenlig användning.
- **10.3 Risken för farliga reaktioner** Inga farliga reaktioner kända.
- **10.4 Förhållanden som ska undvikas** Ingen ytterligare relevant information finns till förfogande.
- **10.5 Oförenliga material:** Ingen ytterligare relevant information finns till förfogande.
- **10.6 Farliga sönderdelningsprodukter:** Inga farliga sönderfallsprodukter kända.

AVSNITT 11: Toxikologisk information

- **11.1 Information om de toxikologiska effekterna**
- **Akut toxicitet:**

· Klassificeringsrelevanta LD/LC50-värden:**108-88-3 toluen**

Oral	LD50	5000 mg/kg (rat)
Dermal	LD50	12124 mg/kg (rabbit)
Inhalativ	LC50/4 h	5320 mg/l (mouse)

- **Primär retningseffekt:**
- **på huden:** Ingen irriteringsrisk.
- **på ögat:** Irriterande.
- **Sensibilisering:** Ingen sensibiliserande effekt känd.
- **Ytterligare toxikologiska hänvisningar:**
Enligt beräkningsmetoden i EG's Allmänna klassificeringsriktlinjer för tillredningar i den senast giltiga versionen kan produkten medföra följande risker:
Irriterande
- **CMR-effekter (cancerframkallande, mutagena och reproduktionstoxiska egenskaper)**
Repr. 2

AVSNITT 12: Ekologisk information

- **12.1 Toxicitet**
- **Akvatisk toxicitet:** Ingen ytterligare relevant information finns till förfogande.
- **12.2 Persistens och nedbrytbarhet** Ingen ytterligare relevant information finns till förfogande.
- **12.3 Bioackumuleringsförmåga** Ingen ytterligare relevant information finns till förfogande.
- **12.4 Rörligheten i jord** Ingen ytterligare relevant information finns till förfogande.
- **Ytterligare ekologiska hänvisningar:**
- **Allmänna hänvisningar:**
Vattenföroreningsklass 1 (Självtvärdering): liten risk för vattenförorening.
Låt ej tränga ner i grundvatten, vattendrag eller i avloppsnätet i outspätt tillstånd resp. i större mängder.
- **12.5 Resultat av PBT- och vPvB-bedömningen**
- **PBT:** Ej användbar.
- **vPvB:** Ej användbar.

(Fortsättning på sida 7)

Säkerhetsdatablad

Enligt 1907/2006/EG, Artikel 31

Datum för utskrift: 11.05.2015

Omarbetad: 11.05.2015

Handelsnamn: COLLOIDAL SILVER PASTE

(Fortsättning från sida 6)

· 12.6 Andra skadliga effekter Ingen ytterligare relevant information finns till förfogande.

AVSNITT 13: Avfallshantering

- 13.1 Avfallsbehandlingsmetoder
- **Rekommendation:** Får inte deponeras ihop med hushållsavfall. Får inte tömmas i avloppsnätet.
- **Ej rengjorda förpackningar:**
- **Rekommendation:** Avfallshanteras enligt myndigheters föreskrifter.

AVSNITT 14: Transport information

- | | |
|---|--|
| · 14.1 UN-nummer | |
| · ADR, IMDG, IATA | UN1993 |
| · 14.2 Officiell transportbenämning | |
| · ADR | 1993 BRANDFARLIG VÄTSKA, N.O.S. |
| · IMDG, IATA | FLAMMABLE LIQUID, N.O.S. |
| · 14.3 Faroklass för transport | |
| · ADR, IMDG, IATA | |
| · Klass | 3 Brandfarliga vätskor |
| · 14.4 Förpackningsgrupp | |
| · ADR, IMDG, IATA | III |
| · 14.5 Miljöfaror: | |
| · Marine pollutant: | Nej |
| · 14.6 Särskilda försiktighetsåtgärder | Varning: Brandfarliga vätskor |
| · 14.7 Bulktransport enligt bilaga II till MARPOL 73/78 och IBC-koden | Ej användbar. |
| · Transport / ytterligare uppgifter: | |
| · ADR | |
| · Begränsade mängder (LQ) | 5L |
| · Reducerade mängder (EQ) | Kod: E1
Högsta nettomängd per innerförpackning: 30 ml
Högsta nettomängd per ytterförpackning: 1000 ml |
| · 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": | UN1993, BRANDFARLIG VÄTSKA, N.O.S., 3, III |

AVSNITT 15: Gällande föreskrifter

- 15.1 Föreskrifter/lagstiftning om ämnet eller blandningen när det gäller säkerhet, hälsa och miljö
- Ingen ytterligare relevant information finns till förfogande.

(Fortsättning på sida 8)

Säkerhetsdatablad
Enligt 1907/2006/EG, Artikel 31

Datum för utskrift: 11.05.2015

Omarbetad: 11.05.2015

Handelsnamn: COLLOIDAL SILVER PASTE

(Fortsättning från sida 7)

· **15.2 Kemikaliesäkerhetsbedömning:** En kemikaliesäkerhetsbedömning har ej gjorts.**AVSNITT 16: Annan information**

Uppgifterna är baserade på våra aktuella kunskaper. De representerar emellertid ingen som helst garanti beträffande produkttegenskaper och utgör ingen grund för ett avtalat rättsförhållande.

· **Relevanta fraser**

H225 Mycket brandfarlig vätska och ånga.

H226 Brandfarlig vätska och ånga.

H304 Kan vara dödligt vid förtäring om det kommer ner i luftvägarna.

H315 Irriterar huden.

H319 Orsakar allvarlig ögonirritation.

H336 Kan göra att man blir dåsig eller omtöcknad.

H361d Misstänks kunna skada det ofödda barnet.

H373 Kan orsaka organskador genom lång eller upprepad exponering.

· **Förkortningar och akronymer:**

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

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)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

Flam. Liq. 2: Flammable liquids, Hazard Category 2

Flam. Liq. 3: Flammable liquids, Hazard Category 3

Acute Tox. 4: Acute toxicity, Hazard Category 4

Skin Irrit. 2: Skin corrosion/irritation, Hazard Category 2

Eye Irrit. 2: Serious eye damage/eye irritation, Hazard Category 2

Repr. 2: Reproductive toxicity, Hazard Category 2

STOT SE 3: Specific target organ toxicity - Single exposure, Hazard Category 3

STOT RE 2: Specific target organ toxicity - Repeated exposure, Hazard Category 2

Asp. Tox. 1: Aspiration hazard, Hazard Category 1

SE

แผ่นข้อมูลความปลอดภัย

ตาม 1907/2006/EC, มาตรา 31

วันที่พิมพ์ 2015.05.11

การปรับปรุงใหม่ : 2015.05.11

1: การระบุสาร/ การทำ/ และของบริษัท / บริษัทที่เข้าถือครอง

- 1.1 ลักษณะเฉพาะของผลิตภัณฑ์
- ชื่อทางการค้า COLLOIDAL SILVER PASTE
- เลขที่รายชื่อ 12640
- 1.2 สารหรือสารผสมที่เกี่ยวข้องที่ระบุให้ใช้และไม่ควรให้ใช้ ไม่มีข้อมูลที่เกี่ยวข้องนอกเหนือจากนี้
- การประยุกต์ใช้สาร/ การทำ เคมีภัณฑ์ห้องทดลอง
- 1.3 รายละเอียดของผู้จัดหาข้อมูลด้านความปลอดภัย
- ผู้ผลิต/ ผู้จัดหา
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
- ข้อมูลรายละเอียดเพิ่มเติมหาได้จาก Product safety department
- 1.4 หมายเลขโทรศัพท์ฉุกเฉิน:
ChemTrec 1-800-424-9300 Contract CCN7661
1-703-527-3887

2: การระบุสิ่งที่เป็นอันตราย

- 2.1 การจำแนกประเภทของสารหรือสารผสม
- การแบ่งประเภทตามข้อมบังคับ (อีซี) เลขที่ 1272/2008



สิ่งอันตรายต่อสุขภาพ

- Repr. 2 H361d Suspected of damaging the unborn child.
STOT RE 2 H373 อาจเป็นสาเหตุทำให้อวัยวะเสียหายจากการสัมผัสเป็นเวลานานหรือซ้ำๆ
Asp. Tox. 1 H304 อาจเป็นอันตรายถึงชีวิตหากกลืนเข้าไปและเข้าไปในช่องลม



- Acute Tox. 4 H302 เป็นอันตรายหากกลืนเข้าไป
Acute Tox. 4 H332 ให้โทษหากสูดหายใจเข้า
Skin Irrit. 2 H315 เป็นสาเหตุให้เกิดการระคายเคืองผิวหนัง

- 2.2 องค์ประกอบของฉลาก
- ฉลากตามระเบียบ (EC) เลขที่ 1272/2008 ผลิตภัณฑ์ได้รับการจัดประเภทและติดฉลากตามข้อบังคับของ CLP
- ภาพสัญลักษณ์สิ่งที่เป็นอันตราย



GHS07 GHS08

- สัญลักษณ์ คำ อันตราย
- ส่วนประกอบที่ระบุอันตรายบนฉลาก
toluene
- ประกาศสิ่งที่เป็นอันตราย
H302+H332 อันตรายหากมีการกลืนกิน หรือ หากมีการสูดดม.
H315 เป็นสาเหตุให้เกิดการระคายเคืองผิวหนัง

(ต่อที่หน้า 2)

แผ่นข้อมูลความปลอดภัย

ตาม 1907/2006/EC, มาตรา 31

วันที่พิมพ์ 2015.05.11

การปรับปรุงใหม่ : 2015.05.11

ชื่อทางการค้า COLLOIDAL SILVER PASTE

(ต่อที่หน้า 1)

- H361d Suspected of damaging the unborn child.
 H373 อาจเป็นสาเหตุทำให้อวัยวะเสียหายจากการสัมผัสเป็นเวลานานหรือซ้ำๆ
 H304 อาจเป็นอันตรายถึงชีวิตหากกลืนเข้าไปและเข้าไปในช่องลม
- **ประกาศการป้องกันระดับระวังภัย**
 - P260 ห้ามสูดหายใจเอาฝุ่น/ไอสาร/แก๊ส/หมอก/ไอ/ละอองฟุ้ง
 - P280 สวมถุงมือป้องกัน/เสื้อผ้าป้องกัน/ที่ป้องกันตา/ที่ป้องกันหน้า
 - P301+P310 หากกลืนลงไป: โทรศัพทถึงศูนย์พิษวิทยา/แพทย์ ทันที
 - P321 หากกลืนลงไป: โทรศัพทถึงศูนย์พิษวิทยา/แพทย์ ทันที
 - P405 เก็บในที่ใส่กุญแจมิด
 - P501 ทิ้งสิ่งที่บรรจุ/ภาชนะที่บรรจุตามกฎหมายของท้องถิ่น/แคว้น/ในประเทศ/ระหว่างประเทศ
- **2.3 อันตรายอื่นๆ**
 - **ผลของ PBT และการประเมิน vPvB**
 - **PBT:** ไม่สามารถใช้ได้
 - **vPvB:** ไม่สามารถใช้ได้

3: ส่วนประกอบ/ ขอมูลรายละเอียดของส่วนผสมต่างๆ

- **3.2 คุณลักษณะทางเคมี: ส่วนผสม**
- **คำอธิบาย** ส่วนผสมของสารในรายการข้างล่างพร้อมสารเติมแต่งที่ไม่เป็นอันตราย

• ส่วนประกอบที่มีอันตราย

CAS: 64-17-5 EINECS: 200-578-6	Ethyl Alcohol, Absolute, 200 Proof Reagent, ACS (Ethanol) 15055 ⚠ Flam. Liq. 2, H225	10-25%
CAS: 107-98-2 EINECS: 203-539-1	1-methoxy-2-propanol ⚠ Flam. Liq. 3, H226; ⚠ STOT SE 3, H336	2.5-10%
CAS: 108-88-3 EINECS: 203-625-9	toluene ⚠ Flam. Liq. 2, H225; ⚠ Repr. 2, H361d; STOT RE 2, H373; Asp. Tox. 1, H304; ⚠ Skin Irrit. 2, H315; STOT SE 3, H336	2.5-10%
CAS: 141-78-6 EINECS: 205-500-4	ethyl acetate ⚠ Flam. Liq. 2, H225; ⚠ Eye Irrit. 2, H319; STOT SE 3, H336	2.5-10%

4: มาตรการการปฐมพยาบาลเบื้องต้น

- **4.1 คำอธิบายถึงมาตรการปฐมพยาบาล**
- **ขอมูลรายละเอียดทั่วไป**
อาการจากพิษอาจเกิดขึ้นหลังจากนั้นหลายชั่วโมงดังนั้นจะต้องเฝ้าติดตามอาการทางการแพทย์
อย่างน้อย 48 ชั่วโมงหลังจากอุบัติเหตุ
- **หลังจากการสูดหายใจเข้าไป** หากบริเวณที่มีอากาศบริสุทธิ์ปรึกษาแพทย์ในกรณีมีอาการไม่ดีขึ้น
- **หลังจากการสัมผัสผิวหนัง** โดยทั่วไปไปผลดีทันทีไม่ก่อความระคายเคืองต่อผิวหนัง
- **หลังจากการสัมผัสสู่ดวงตา** ชูตาที่เปิดอยู่ใต้น้ำที่กำลัังไหลเป็นเวลาหลายนาที่ถ้าอาการไม่ดีขึ้นให้ปรึกษาแพทย์
- **หลังจากการกลืนเข้าไป:** ถ้าอาการยังไม่บรรเทาให้ปรึกษาแพทย์
- **4.2 อาการสำคัญส่วนใหญ่และผลกระทบ ทั้งชนิดเฉียบพลันและค่อยๆ แสดงอาการ**
ไม่มีข้อมูลที่เกี่ยวข้องของนอกเหนือจากนี้
- **4.3 ขอมองชี้ของอาการที่ต้องเข้ารับการรักษาจากแพทย์ทันทีและการบำบัดพิเศษที่จำเป็น**
ไม่มีข้อมูลที่เกี่ยวข้องของนอกเหนือจากนี้

TH

(ต่อที่หน้า 3)

แผ่นข้อมูลความปลอดภัย

ตาม 1907/2006/EC, มาตรา 31

วันที่พิมพ์ 2015.05.11

การปรับปรุงใหม่ : 2015.05.11

ชื่อทางการค้า COLLOIDAL SILVER PASTE

(ต่อที่หน้า 2)

5: มาตรการการดับเพลิง

- 5.1 สารที่ใช้ดับเพลิง
- สารดับเพลิงที่เหมาะสม
คาร์บอนไดออกไซด์สเปรย์ผงหรือน้ำดับเพลิงขนาดใหญ่ด้วยการฉีดน้ำหรือโฟมแอลกอฮอล์ที่ทนทาน
- 5.2 อันตรายเฉพาะอย่างที่เกิดจากสารหรือส่วนผสม ไม่มีข้อมูลที่เกี่ยวข้องของนอกเหนือจากนี้
- 5.3 คำแนะนำสำหรับพนักงานดับเพลิง
- อุปกรณ์ป้องกันภัย ไม่ต้องมีมาตรการพิเศษ

6: มาตรการลดอุบัติเหตุ

- 6.1 การป้องกันส่วนบุคคล อุปกรณ์ป้องกัน และขั้นตอนดำเนินการเมื่อเกิดกรณีฉุกเฉิน ไม่ได้กำหนด
- 6.2 การให้ความคุ้มครองสิ่งแวดล้อมทางน้ำ: อย่าปล่อยให้เขาไปในท่อน้ำทิ้ง/ น้ำบนดินหรือใต้ดิน
- 6.3 วิธีดำเนินการและวัสดุสำหรับการบรรจุและการทำความสะอาด:
ดูดซับด้วยวัสดุที่สามารถยึดของเหลวไว้ (ทรายโดอะโตไมท์ตัวยึดเกาะกรดตัวยึดทั่วๆไปซึ่ง
ลือย)
ทิ้งวัสดุที่ปนเปื้อนเป็นของเสียตามรายการในบัญชี 13
ตรวจให้แน่ใจว่ามีภาวะระบายอากาศที่ดีพอ
- 6.4 การอ้างอิงถึงส่วนอื่น
ดูข้อมูลรายละเอียดเรื่องความปลอดภัยในการขนถ่ายจากส่วนที่ 7
ดูข้อมูลรายละเอียดเรื่องอุปกรณ์ป้องกันส่วนบุคคลจากส่วนที่ 8
ดูข้อมูลรายละเอียดเรื่องการจัดจากส่วนที่ 13

7: การขนถ่ายและการจัดเก็บ

- 7.1 การป้องกันล่วงหน้าสำหรับการจัดการด้านความปลอดภัย
ทำให้แน่ใจว่าสถานที่ทำงานมีการระบายอากาศ/ ไล่เสียที่ดี
เปิดและถือภาชนะรองรับอย่างระมัดระวัง
ป้องกันการเกิดละอองสารฟุ้ง
- ข้อมูลรายละเอียดเกี่ยวกับการป้องกันอัคคีภัยและการระเบิด
ป้องกันให้พ้นจากความร้อน
ป้องกันให้พ้นจากประจุไฟฟ้าสถิตย์
เก็บอุปกรณ์ป้องกันสำหรับการช่วยหายใจให้มีพร้อมใช้งาน
- 7.2 เงื่อนไขในการเก็บรักษาอย่างปลอดภัย, รวมถึงสิ่งที่เข้ากันไม่ได้ใดๆ
- การจัดเก็บ
- ข้อกำหนดที่ต้องปฏิบัติตามสำหรับห้องเก็บและภาชนะบรรจุ ไม่มีข้อกำหนดพิเศษ
- ข้อมูลรายละเอียดด้านการจัดเก็บในสถานที่จัดเก็บรวม ไม่ได้กำหนด
- ข้อมูลรายละเอียดเพิ่มเติมด้านสภาพการจัดเก็บ
เก็บโดยปิดฝุนี้อย่างแน่นหนา
ป้องกันให้พ้นจากความร้อนและแสงแดดส่อง
- 7.3 การระบุดังการสิ้นสุดการใช้ ไม่มีข้อมูลที่เกี่ยวข้องของนอกเหนือจากนี้

8: การควบคุมการทิ้งในลักษณะเปิด / การป้องกันภัยสำหรับบุคคล

- ข้อมูลรายละเอียดเสริมสำหรับการออกแบบสิ่งอำนวยความสะดวกทางเทคนิค ไม่มีข้อมูลนอกเหนือจากนี้ดูรายการ 7
(ต่อที่หน้า 4)

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แผ่นข้อมูลความปลอดภัย

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(ต่อที่หน้า 3)

· 8.1 การควบคุมตัวแปร

· ส่วนผสมพร้อมค่าขอบเขตที่ต้องเฝ้าดูในสถานที่ปฏิบัติงาน

64-17-5 Ethyl Alcohol, Absolute, 200 Proof Reagent, ACS (Ethanol) 15055	
PEL (USA)	ค่าระยะยาว: 1900 mg/m ³ , 1000 ppm
REL (USA)	ค่าระยะยาว: 1900 mg/m ³ , 1000 ppm
TLV (USA)	ค่าระยะสั้น: 1880 mg/m ³ , 1000 ppm
107-98-2 1-methoxy-2-propanol	
REL (USA)	ค่าระยะสั้น: 540 mg/m ³ , 150 ppm ค่าระยะยาว: 360 mg/m ³ , 100 ppm
TLV (USA)	ค่าระยะสั้น: 369 mg/m ³ , 100 ppm ค่าระยะยาว: 184 mg/m ³ , 50 ppm
108-88-3 toluene	
PEL (USA)	ค่าระยะยาว: 200 ppm Ceiling limit value: 300; 500* ppm *10-min peak per 8-hr shift
REL (USA)	ค่าระยะสั้น: 560 mg/m ³ , 150 ppm ค่าระยะยาว: 375 mg/m ³ , 100 ppm
TLV (USA)	ค่าระยะยาว: 75 mg/m ³ , 20 ppm BEI
141-78-6 ethyl acetate	
PEL (USA)	ค่าระยะยาว: 1400 mg/m ³ , 400 ppm
REL (USA)	ค่าระยะยาว: 1400 mg/m ³ , 400 ppm
TLV (USA)	ค่าระยะยาว: 1440 mg/m ³ , 400 ppm

· ข้อมูลรายละเอียดเสริม รายการถูกต้องระหว่างที่จัดทำโดยอาศัยการใช้งานเป็นหลัก

· 8.2 การควบคุมการสัมผัส

· อุปกรณ์ป้องกันภัยส่วนบุคคล

· มาตรการการป้องกันและสุขอนามัยทั่วไป

เก็บให้ห่างจากสิ่งของที่เป็นอาหาร เครื่องดื่ม และอาหารสัตว์

ใช้ถุงมือที่สะอาดและเปลี่ยนถุงมือทันที

ล้างมือก่อนที่จะหยุดพักและเมื่อสิ้นสุดเวลาทำงาน

เก็บชุดป้องกันแยกต่างหาก

หลีกเลี่ยงการสัมผัสถูกตา

หลีกเลี่ยงการสัมผัสถูกตาและผิวหนัง

· การป้องกันการสูดหายใจเข้าไป

ในกรณีที่อยู่เป็นเวลานานหรืออากาศเป็นพิษระดับต่ำ ใช้หน้ากากกรองเพื่อช่วยหายใจในกรณีที่มีความเข้มข้นสูงหรืออยู่เป็นเวลานานให้ใช้เครื่องป้องกันที่มีอุปกรณ์ช่วยหายใจในตัว

ตัว

· การป้องกันมือ



ถุงมือป้องกัน

วัสดุของถุงมือจะต้องไม่ให้อากาศผ่านเข้าออกและทนทานต่อผลิตภัณฑ์/ สาร/ การผลิต

เนื่องจากขาดการทดสอบจึงไม่มีคำแนะนำสำหรับวัสดุที่ใช่ทำถุงมือสำหรับผลิตภัณฑ์ / การผลิต /

ของผสมเคมี

เลือกวัสดุสำหรับถุงมือโดยพิจารณาจากเวลาที่ใช้ในการซึมผ่านอัตราการแพร่และการเสื่อม

การผลิต /

(ต่อที่หน้า 5)

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(ต่อที่หน้า 4)

· วัสดุที่ใช้ทำถุงมือ

การเลือกใช้ถุงมือที่เหมาะสมไม่เพียงแต่ขึ้นอยู่กับวัสดุแต่ยังขึ้นกับมาตรฐานด้านคุณภาพ และขอแตกต่างระหว่างผู้ผลิตแต่ละแห่งโดยที่ผลิตภัณฑ์เตรียมมาจากสารหลายชนิดความทนทานของวัสดุถุงมือไม่สามารถที่จะคำนวณล่วงหน้าดังนั้นจึงต้องตรวจสอบกับการใช้งาน

· เวลาที่ใช้ในการทะลุผ่านวัสดุที่ใช้ทำถุงมือ

ผู้ผลิตถุงมือป้องกันจะต้องทดสอบหาเวลาแน่นอนที่ใช้ในการทะลุผ่านและจะต้องมีการตรวจสอบติดตาม

· การป้องกันตา



แว่นตาที่ขอบปิดสนิท

9: คุณสมบัติทางกายภาพและเคมี

· 9.1 ข้อมูลคุณสมบัติพื้นฐานทางกายภาพและเคมี

· ข้อมูลรายละเอียดทั่วไป

· ลักษณะ :

รูปลักษณะ
สี

เหมือนแป้งเปียก
สีเทาเงิน

· กลิ่น

แรง

· เกณฑ์กลิ่น :

ไม่ได้กำหนดไว้.

· ค่า pH

ไม่ได้กำหนดไว้.

· การเปลี่ยนสภาวะ

จุดหลอมเหลว/ ขอบเขตการหลอมละลาย
จุดเดือด/ ขอบเขตการเดือด

ไม่ได้กำหนด
75 °C

· จุดวาบไฟ

ไม่สามารถใช้ได้

· ความสามารถติดไฟ (ของแข็งแกส)

ไม่สามารถใช้ได้

· อุณหภูมิจุดระเบิด

270 °C

· อุณหภูมิละลายตัว

ไม่ได้กำหนดไว้.

· การเผาไหม้ด้วยตัวเอง

ผลิตภัณฑ์ไม่เป็นสารจุดไฟติดด้วยตัวเอง

· อันตรายนจากการระเบิด

ผลิตภัณฑ์ไม่มีอันตรายนจากการระเบิด

· ขอบเขตการระเบิด

ขั้นต่ำ
ขั้นสูง

1.2 Vol %
20.0 Vol %

· ความดันไอ ที่ 20 °C

59 hPa

· ความหนาแน่น

ไม่ได้กำหนด

· ความหนาแน่นสัมพัทธ์

ไม่ได้กำหนดไว้.

· ความหนาแน่นของไอ

ไม่ได้กำหนดไว้.

· อัตราการระเหย

ไม่ได้กำหนดไว้.

· ความสามารถในการละลายใน / ความสามารถผสมเป็นสารละลายเนื้อเดียวทุกส่วนผสมกับน้ำ

ไม่สามารถผสมกันได้หรือยากที่จะผสม

· สัมประสิทธิ์การแยกตัว (เอ็น-ออกทานอล/น้ำ)

ไม่ได้กำหนดไว้.

(ต่อที่หน้า 6)

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(ต่อที่หน้า 5)

· ความหนืด (ไดนามิค) พลศาสตร์ (คิเนเมติก) จลนศาสตร์	ไม่ได้กำหนดไว้. ไม่ได้กำหนดไว้.
· ปริมาณส่วนประกอบตัวทำละลาย ตัวทำละลายอินทรีย์ VOC (EC)	40.0 % 40.00 %
· ส่วนประกอบที่เป็นของแข็ง · 9.2 ข้อมูลอื่นๆ	60.0 % ไม่มีข้อมูลที่เกี่ยวข้องนอกเหนือจากนี้

10: ความเสถียรและความสามารถในการทำปฏิกิริยา

- 10.1 ปฏิกิริยาโต้ตอบ
- 10.2 เสถียรภาพทางเคมี
- การสลายตัวด้วยความร้อน / เงื่อนไขที่ต้องหลีกเลี่ยง ไม่มีการสลายตัวถ้าใช้ตามรายละเอียดที่ระบุไว้
- 10.3 ความเป็นไปได้อันตรายจากการเกิดปฏิกิริยาอันตราย ไม่มีปฏิกิริยาเป็นอันตรายที่รู้จัก
- 10.4 เงื่อนไขเพื่อการหลีกเลี่ยง ไม่มีข้อมูลที่เกี่ยวข้องนอกเหนือจากนี้
- 10.5 วัสดุที่เข้ากันไม่ได้: ไม่มีข้อมูลที่เกี่ยวข้องนอกเหนือจากนี้
- 10.6 อันตรายจากการสลายตัวของผลิตภัณฑ์: ไม่มีสารจากการสลายตัวที่เป็นอันตรายที่รู้จัก

11: ข้อมูลรายละเอียดเกี่ยวกับพิษวิทยา

- 11.1 ข้อมูลเกี่ยวกับผลกระทบทางพิษวิทยา
- ความเป็นพิษอย่างสาหัส:

- การจัดแบ่งตามค่า LD/LC50

108-88-3 toluene

ทางปาก	LD50	5000 mg/kg (rat)
ทางผิวหนัง	LD50	12124 mg/kg (rabbit)
ทางการสูดหายใจ	LC50/4 h	5320 mg/l (mouse)

- อาการระคายเคืองเบื้องต้น
- บนผิวหนัง ไม่มีผลทำให้ระคายเคือง
- ที่ดวงตา ทำให้ระคายเคือง
- การทำให้แพ้ ไม่มีรายงานเรื่องการแพ้
- ข้อมูลรายละเอียดเสริมเกี่ยวกับพิษวิทยา
ผลิตภัณฑ์จะระบุถึงอันตรายต่างๆตามวิธีการที่กำหนดไว้ในต้นแบบการจัดแบ่งประเภททั่วไปสำหรับ
รับการผลผลิตของ EU ที่ออกฉบับล่าสุด
ทำให้ระคายเคือง
- ผลกระทบ CMR (การทำให้เกิดมะเร็งการผ่าเหล่าและพิษต่อการสืบพันธุ์)
Repr. 2

12: ข้อมูลรายละเอียดเกี่ยวกับนิเวศวิทยา

- 12.1 ความเป็นพิษ
- ความเป็นพิษที่เกี่ยวข้องกับน้ำ ไม่มีข้อมูลที่เกี่ยวข้องนอกเหนือจากนี้
- 12.2 การคงอยู่และการย่อยสลาย ไม่มีข้อมูลที่เกี่ยวข้องนอกเหนือจากนี้
- 12.3 การสะสมทางชีวภาพที่อาจเกิดขึ้น ไม่มีข้อมูลที่เกี่ยวข้องนอกเหนือจากนี้
- 12.4 การเปลี่ยนแปลงในดิน ไม่มีข้อมูลที่เกี่ยวข้องนอกเหนือจากนี้

(ต่อที่หน้า 7)

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(ต่อที่หน้า 6)

- ข้อมูลรายละเอียดเสริมเกี่ยวกับนิเวศวิทยา
- **หมายเหตุทั่วไป**
เป็นอันตรายต่อน้ำชั้น 1 (กฎข้อบังคับของเยอรมัน) (การประเมินค่าด้วยตัวเอง) : เป็นอันตรายเล็กน้อยกับน้ำ
อาจปล่อยให้ผลิตภัณฑ์ที่ยังไม่ได้เจือจางหรือผลิตภัณฑ์เป็นจำนวนมากไปถึงน้ำผิวดินเส้นทางการน้ำหรือระบบระบายน้ำเสีย
- **12.5 ผลของ PBT และการประเมิน vPvB**
- PBT: ไม่สามารถใช้ได้
- vPvB: ไม่สามารถใช้ได้
- **12.6 ผลข้างเคียงอื่นๆ** ไม่มีข้อมูลที่เกี่ยวข้องนอกเหนือจากนี้

13: การพิจารณาการกำจัด

- **13.1 วิธีการกำจัดของเสีย**
- **คำแนะนำ** ต้องไม่ทิ้งไปพร้อมกับขยะจากบ้านเรือนอย่าปล่อยให้ผลิตภัณฑ์เข้าถึงระบบระบายน้ำเสีย
- **ภาชนะบรรจุที่ยังไม่ได้ล้างทำความสะอาด**
- **คำแนะนำ** การกำจัดจะต้องทำตามกฎระเบียบที่เป็นทางการ

14: ข้อมูลรายละเอียดในการขนส่ง

- **14.1 เลขที่ UN**
- ADR, IMDG, IATA UN1993
- **14.2 ชื่อการจัดส่งสินค้าที่เหมาะสมของ UN**
- ADR 1993 FLAMMABLE LIQUID, N.O.S.
- IMDG, IATA FLAMMABLE LIQUID, N.O.S.
- **14.3 ชั้นเรียนอันตรายจากการขนส่ง**
- ADR, IMDG, IATA
- **ประเภท** 3 ของเหลวติดไฟได้
- **14.4 กลุ่มของภาชนะบรรจุ**
- ADR, IMDG, IATA III
- **14.5 สิ่งที่เป็นอันตรายต่อสภาพแวดล้อม**
- **สารที่เป็นพิษต่อทะเล** ไม่ใช่
- **14.6 การป้องกันพิเศษล่วงหน้าสำหรับผู้ใช้** คำเตือน !: ของเหลวติดไฟได้
- **14.7 การขนส่งขนาดใหญ่ตามภาคผนวก 2 ของ MARPOL73/78 และรหัส IBC** ไม่สามารถใช้ได้
- **การขนส่ง/ข้อมูลรายละเอียดเสริม**
- ADR
- **ปริมาณที่จำกัด (LQ)** 5L
- **Excepted quantities (EQ)** Code: E1
Maximum net quantity per inner packaging: 30 ml
Maximum net quantity per outer packaging: 1000 ml
- **IMDG**
- **Limited quantities (LQ)** 5L

(ต่อที่หน้า 8)

TH

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· Excepted quantities (EQ)

Code: E1

Maximum net quantity per inner packaging: 30 ml

Maximum net quantity per outer packaging: 1000 ml

· “□□□□□□□□□□□□□□□□” ของ UN

UN1993, FLAMMABLE LIQUID, N.O.S., 3, III

15: ข้อมูลรายละเอียดของกฎระเบียบ

- 15.1 ความปลอดภัย สุขภาพและระเบียบ/กฎหมายสิ่งแวดล้อมโดยเฉพาะของสารหรือสารผสม
ไม่มีข้อมูลที่เกี่ยวข้องนอกเหนือจากนี้
- 15.2 การประเมินความปลอดภัยของสารเคมี: ไม่ได้ดำเนินการตามการประเมินความปลอดภัยของสารเคมี

16: ข้อมูลรายละเอียดอื่นๆ

ข้อมูลรายละเอียดนี้ใช้ความรู้ปัจจุบันของเราเป็นหลักอย่างไรก็ตามข้อมูลนี้ไม่ใช่การรับประกันจากสถาบันต่อคุณสมบัติเฉพาะของผลิตภัณฑ์และไม่สามารถยืนยันการบังคับใช้ตามกฎหมายที่เกี่ยวข้องกับสัญญา

· รหัสที่เกี่ยวข้องกับ

H225 ของเหลวและไอที่ไวไฟสูง

H226 ของเหลวและไอที่ไวไฟ

H304 อาจเป็นอันตรายถึงชีวิตหากกลืนเข้าไปและเข้าไปในช่องลม

H315 เป็นสาเหตุให้เกิดการระคายเคืองผิวหนัง

H319 เป็นสาเหตุให้เกิดการระคายเคืองอย่างรุนแรงที่ตา

H336 อาจเป็นสาเหตุให้เซื่องซึมหรือหนามืดเวียนศีรษะ

H373 อาจเป็นสาเหตุทำให้อวัยวะเสียหายจากการสัมผัสเป็นเวลานานหรือซ้ำๆ

· คำย่อและชื่อย่อที่ผสมขึ้น

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

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)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

Flam. Liq. 2: Flammable liquids, Hazard Category 2

Flam. Liq. 3: Flammable liquids, Hazard Category 3

Acute Tox. 4: Acute toxicity, Hazard Category 4

Skin Irrit. 2: Skin corrosion/irritation, Hazard Category 2

Eye Irrit. 2: Serious eye damage/eye irritation, Hazard Category 2

Repr. 2: Reproductive toxicity, Hazard Category 2

STOT SE 3: Specific target organ toxicity - Single exposure, Hazard Category 3

STOT RE 2: Specific target organ toxicity - Repeated exposure, Hazard Category 2

Asp. Tox. 1: Aspiration hazard, Hazard Category 1

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Yeniden düzenleme tarihi: 18.01.2016

Bölüm 1: Maddenin/karışımın ve şirketin/dağıtıcının kimliği

- **1.1 Madde/Karışım kimliği**
- **Ticari adı:** COLLOIDAL SILVER PASTE
- **Mal numarası:** 12640
- **1.2 Madde veya karışımın belirlenmiş kullanımları ve tavsiye edilmeyen kullanımları**
Daha başka önemli bilgi mevcut değildir.
- **Maddenin Kullanımı / Hazırlanması** Laboratuarda kullanılan kimyasal maddeler
- **1.3 Güvenlik bilgi formu tedarikçisinin bilgileri**
- **Üretici / Teslimatı yapan:**
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
- **Güvenlik hakkında bilgiler veren kesim:** Product safety department
- **1.4 Acil durum telefon numarası**
ChemTrec 1-800-424-9300 Contract CCN7661
1-703-527-3887

Bölüm 2: Zararlılık tanımlanması

- **2.1 Madde veya karışımın sınıflandırılması**
- **Düzenlemeye göre sınıflandırma (EC) No 1272/2008**



GHS08 Sağlık zararlılığı

- Repr. 2 H361d Doğmamış çocukta hasara yol açma şüphesi var.
STOT RE 2 H373 Uzun süreli veya tekrarlı maruz kalma sonucu organlarda hasara yol açabilir.
Asp. Tox. 1 H304 Solunum yoluna nüfuzu ve yutulması halinde öldürücüdür.



GHS07

- Acute Tox. 4 H302 Yutulması halinde zararlıdır.
Acute Tox. 4 H332 Solunması halinde zararlıdır.
Skin Irrit. 2 H315 Cilt tahrişine yol açar.

- **2.2 Etiket unsurları**
- **Yönetmelik (EC) No 1272/2008'e göre etiketleme**
Ürün SEA yönetmeliğine göre sınıflandırılmış ve etiketlenmiştir.
- **Zararlılık İşaretleri**



GHS07



GHS08

- **Uyarı Kelimesi** Tehlike
- **Etiketlendirme için tehlikeyi belirleyici bileşenler:**
toluen

(Devamı sayfa 2 'da)

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Ticari adı: COLLOIDAL SILVER PASTE

(Sayfa 1 'nin devamı)

Zararlılık İfadesi

H302+H332 Yutulduğunda veya solunduğunda zararlıdır.

H315 Cilt tahrişine yol açar.

H361d Doğmamış çocukta hasara yol açma şüphesi var.

H373 Uzun süreli veya tekrarlı maruz kalma sonucu organlarda hasara yol açabilir.

H304 Solunum yoluna nüfuzu ve yutulması halinde öldürücüdür.

Önlem İfadesi

P260 Tozunu/dumanını/gazını/sisini/buharını/spreyini solumayın.

P280 Koruyucu eldiven/koruyucu kıyafet/göz koruyucu/yüz koruyucu kullanın.

P301+P310 YUTULDUĞUNDA: ULUSAL ZEHİR DANIŞMA MERKEZİNİN 114 NOLU TELEFONUNU/doktoru arayın.

P321 Özel müdahale gerekli (etikete bakın)

P405 Kilit altında saklayın.

P501 İçeriği/kabı yerel/bölgesel/ulusal/uluslararası mevzuata uygun şekilde bertaraf edin.

2.3 Diğer zararlar**PBT ve vPvB değerlendirmesi sonuçları****PBT:** Uygulanamaz.**vPvB:** Uygulanamaz.**Bölüm 3: Bileşimi/İçindekiler hakkında bilgi****3.2 Karışımlar****Tarifi:** Tehlikesiz katkılar ihtiva eden ve aşağıda belirtilen maddelerden oluşan karışım.**İhtiva ettiği tehlikeli maddeler:**

CAS: 64-17-5 EINECS: 200-578-6	etanol Flam. Liq. 2, H225	%10-25
CAS: 107-98-2 EINECS: 203-539-1	1-metoksi-2-propanol Flam. Liq. 3, H226; STOT SE 3, H336	%2,5-10
CAS: 108-88-3 EINECS: 203-625-9	toluen Flam. Liq. 2, H225; Repr. 2, H361d; STOT RE 2, H373; Asp. Tox. 1, H304; Skin Irrit. 2, H315; STOT SE 3, H336	%2,5-10
CAS: 141-78-6 EINECS: 205-500-4	etil asetat Flam. Liq. 2, H225; Eye Irrit. 2, H319; STOT SE 3, H336	%2,5-10

Ek uyarılar: belirtilmiş olan tehlike işaretlerinin metnini Bölüm 16'dan alınız**Bölüm 4: İlk yardım önlemleri****4.1 İlk yardım önlemlerinin açıklaması****Genel uyarılar:**

Zehirlenme belirtileri birçok saat sonra baş gösterebilir. Bu nedenle doktor kontrolü bir kazadan en az 48 saat sonrasında kadar sürdürülmelidir.

Teneffüs ettikten sonra: Temiz hava alması sağlanmalı, sikâyetler halinde doktora gitmelidir.**Cilde temas ettikten sonra:** Ürün, genelde cildi tahriş etmez.**Gözlere temas ettikten sonra:**

Gözleri, gözkapakları açık bir şekilde birkaç dakika süreyle akan suyun altına tutunuz. Sikâyetlerin devam etmesi halinde doktora başvurunuz.

Yuttuktan sonra: Şikâyetlerin devamı halinde doktora başvurunuz.**4.2 Akut ve sonradan görülen önemli belirtiler ve etkiler** Daha başka önemli bilgi mevcut değildir.

(Devamı sayfa 3 'da)

TR

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(Sayfa 2 'nin devamı)

· **4.3 Tıbbi müdahale ve özel tedavi gereği için ilk işaretler** Daha başka önemli bilgi mevcut değildir.

Bölüm 5: Yangınla mücadele önlemleri

- **5.1 Yangın söndürücüler**
- **Elverişli söndürücü maddeler:**
CO₂, söndürme tozu ya da püskürtme su. Daha büyük yangınlarla püskürtme su ve alkole mukavim köpükle mücadele ediniz.
- **5.2 Madde veya karışımdan kaynaklanan özel zararlar** Daha başka önemli bilgi mevcut değildir.
- **5.3 Yangın söndürme ekipleri için tavsiyeler**
- **Özel koruyucu teçhizat:** Özel önlemlerin alınması gerekmez.

Bölüm 6: Kaza sonucu yayılmaya karşı önlemler

- **6.1 Kişisel önlemler, koruyucu donanım ve acil durum prosedürleri** Gerekli değildir.
- **6.2 Çevresel önlemler** Kanalizasyona/Yüzeysel suya/Yeraltı suyuna karışmasını önleyiniz.
- **6.3 Muhafaza etme ve temizleme için yöntemler ve materyaller**
Sıvı bağlayıcı malzemeye (Kum, diyatomit, asit bağlayıcı, genel bağlayıcı, un halinde testere talaşı) ile eminiz. Zararlı madde karışmış malzemeyi çöp olarak madde 13 'e göre tasfiye ediniz.
Yeterli havalandırma sağlayınız.
- **6.4 Diğer bölümlere atflar**
Güvenli kullanım ile ilgili bilgileri 7. bölümden alınız.
Kişisel koruyucu teçhizat ile ilgili bilgileri 8. bölümden alınız.
Tasfiye ile ilgili bilgileri 13. bölümden alınız.

Bölüm 7: Elleçleme ve depolama

- **7.1 Güvenli elleçleme için önlemler**
Çalışılan yerin iyi havalanmasını / havanın iyi emilmesini sağlayınız.
Kaplari açarken, taşırken ya da yere bırakırken dikkatli davranınız.
Aerosol (bir gazın içinde sis şeklinde dağılmış sıvı) oluşumunu önleyiniz.
- **Yangın ve patlamadan korunmak için uyarılar:**
Aşırı sıcaktan koruyunuz.
Elektrostatik dolmaya karşı önlemler alınız.
Nefes koruyucu aletleri hazır bulundurunuz.
- **7.2 Uyuşmazlıkları da içeren güvenli depolama için koşullar**
- **Depolama:**
- **Depolarda ve kaplarda aranan özellikler:** Belirli şartlar aranmaz.
- **Birarada depolama ile ilgili uyarılar:** Gerekli değil.
- **Depolama şartları ile ilgili diğer bilgiler:**
Kabı sızdırmayacak şekilde kapalı tutunuz.
Sıcaktan ve güneş ışınlarından koruyunuz.
- **7.3 Belirli son kullanımlar** Daha başka önemli bilgi mevcut değildir.

Bölüm 8: Maruz kalma kontrolleri/kişisel korunma

- **Teknik tesisatların şekillendirilmesi ile ilgili ek bilgiler:** Başka bilgi yoktur, madde 7 'den bakınız.

(Devamı sayfa 4 'da)

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(Sayfa 3 'nin devamı)

8.1 Kontrol parametreleri**Çalışma yeri ile ilgili, kontrol edilmesi gereken sınır değerleri olan bileşenler:****107-98-2 1-metoksi-2-propanol**

MMSD (TR)	Kısa zaman değeri: 568 mg/m ³ , 150 ppm Uzun zaman değeri: 375 mg/m ³ , 100 ppm Deri
IOELV (EU)	Kısa zaman değeri: 568 mg/m ³ , 150 ppm Uzun zaman değeri: 375 mg/m ³ , 100 ppm Skin

108-88-3 toluen

MMSD (TR)	Kısa zaman değeri: 384 mg/m ³ , 100 ppm Uzun zaman değeri: 192 mg/m ³ , 50 ppm Deri
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• **Ek uyarılar:** Düzenlendiği tarihte geçerli listeler esas alınmıştır.

8.2 Maruz kalma kontrolleri**Kişisel koruyucu teçhizat:****Genel koruyucu ve sıhhi önlemler:**

Gıda maddelerinden, içeceklerden ve yem maddelerinden uzak tutunuz.

Kirlenmiş, sıvı bulaşmış giyim eşyalarını derhal çıkartınız.

Molalardan önce ve mesai sonunda ellerinizi yıkayınız.

Koruyucu giyimi ayrı yerde muhafaza ediniz.

Gözlerinize değmesinden kaçınınız.

Gözlerinize ve cildinize değmesinden kaçınınız.

Nefes koruyucu önlemler:

Kısa süreli ya da düşük ölçüde olumsuz tesir altında kalındığında nefes filtre aleti, yoğun bir şekilde ya da uzun süre etkisi altında kalındığında çevredeki havadan bağımsız olan nefes koruyucu cihaz kullanınız.

Elleri koruyucu:

Koruyucu eldivenler

Eldiven malzemesi ürün / malzeme / hazırlanan madde ile ilgili olarak geçirmez ve dayanıklı olmalıdır.

Testlerin yapılmamış olması nedeni ile ürün / hazırlanmış madde / kimyasal karışım için lâzım olan eldiven imalatında kullanılması gereken malzeme ile ilgili herhangi bir tavsiye yapılamamaktadır.

Eldiven imalatı için kullanılan malzemelerin seçiminde delinme sürelerinin, geçirgenlik oranlarının ve bozulmanın göz önüne alınması gereklidir.

Eldiven malzemesi

Uygun eldivenin seçiminde yalnız imalat malzemesi değil, aynı zamanda diğer kalite özellikleri de dikkate alınmalıdır ve bunlar imalatçıdan imalatçıya değişiklik göstermektedir. Her ürün birçok malzemenin birleşiminden meydana geldiği için eldivenlerin dayanıklılığı önceden hesaplanamamaktadır ve dolayısı ile her eldiven kullanılmadan önce kontrole tabi tutulmalıdır.

Eldiven malzemesine nüfuz etme süresi

Kesin delinme (aşınma) süresi eldiven imalatçısından öğrenilmeli ve bu sürelere riayet edilmelidir.

(Devamı sayfa 5 'da)

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(Sayfa 4 'nin devamı)

· Gözleri koruyucu:



Kenarları tam kapatan koruyucu gözlük

Bölüm 9: Fiziksel ve kimyasal özellikler

· 9.1 Temel fiziksel ve kimyasal özellikler hakkında bilgi

· Genel bilgiler

· Görünüm

· Biçim:	Macun gibi
· Renk:	Gümüş grisi
· Koku:	Şiddetli
· Koku eşığı	Belirli değil.

· pH - değeri: Belirli değil.

· Durum değişikliği

· Erime ısısı / Erime ısı alanı:	Belirlenmemiştir.
· Kaynama ısısı / Kaynama ısı alanı:	75 °C

· Alev alma ısısı: Uygulanamaz.

· Tutuşabilme özelliği (katı, gaz şeklinde): Uygulanamaz.

· Tutuşma ısısı: 270 °C

· Çözülme ısısı: Belirli değil.

· Kendiliğinden tutuşabilme özelliği: Ürün kendiliğinden tutuşmaz niteliktedir.

· Patlama tehlikesi: Ürünün patlama tehlikesi yoktur.

· Patlama sınırları:

· Alt:	1.2 Vol %
· Üst:	20.0 Vol %

· Buhar basıncı 20 °C'de: 59 hPa

· Yoğunluk: Belirlenmemiştir.

· Nisbi yoğunluk: Belirli değil.

· Buhar yoğunluğu: Belirli değil.

· Buharlaşma hızı: Belirli değil.

· Çözülme kabiliyeti / karışma kabiliyeti suyla:

Karıştırılmaz ya da düşük ölçüde karıştırılabilir.

· Dağılım katsayısı (n-Octanol/Su): Belirli değil.

· Viskozitesi:

· Dinamik:	Belirli değil.
· Kinematik:	Belirli değil.

· Çözücü madde oranı:

· Organik çözücü madde:	%40.0
· VOC (CE)	40,00 %

· Katı madde oranı: %60.0

(Devamı sayfa 6 'da)

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(Sayfa 5 'nin devamı)

· 9.2 Diğer bilgiler

Daha başka önemli bilgi mevcut değildir.

Bölüm 10: Kararlılık ve tepkime

- 10.1 Tepkime Daha başka önemli bilgi mevcut değildir.
- 10.2 Kimyasal kararlılık
- Termik ayrışma / kaçınılması gereken şartlar: Usulüne uygun şekilde kullanıldığında ayrışma olmaz.
- 10.3 Zararlı tepkime olasılığı Tehlikeli reaksiyonları duyulmamıştır.
- 10.4 Kaçınılması gereken durumlar Daha başka önemli bilgi mevcut değildir.
- 10.5 Kaçınılması gereken maddeler Daha başka önemli bilgi mevcut değildir.
- 10.6 Zararlı bozunma ürünleri Ayrışmada oluşan tehlikeli ürünler duyulmamıştır.

Bölüm 11: Toksikolojik bilgiler

- 11.1 Toksik etkiler hakkında bilgi
- Akut toksik
Yutulduğunda veya solunduğunda zararlıdır.

· Sınıflandırma için önemli olan LD/LC50 - değerleri (toksikolojik deney değerleri)

108-88-3 toluen

Ağızdan	LD50	5000 mg/kg (rat)
Ciltten	LD50	12124 mg/kg (rabbit)
Nefesle	LC50/4 h	5320 mg/l (mouse)

- Asli tahriş edici etkisi:
- Cilt aşınması/tahrişi
Cilt tahrişine yol açar.
- Ciddi göz hasarları/tahrişi Mevcut bilgilere göre, sınıflandırma kriterlerini karşılamamaktadır.
- Solunum yolları veya cilt hassaslaşması Mevcut bilgilere göre, sınıflandırma kriterlerini karşılamamaktadır.
- Aşağıdaki grupların potansiyel etkilerine dair bilgiler:
- CMR-etkileri (kanser üretici, irsiyet değiştirici ve üremeyi tehdit edici etki)
- Eşey hücre mutajenitesi Mevcut bilgilere göre, sınıflandırma kriterlerini karşılamamaktadır.
- Kanserojenite Mevcut bilgilere göre, sınıflandırma kriterlerini karşılamamaktadır.
- Üreme toksisitesi
Doğmamış çocukta hasara yol açma şüphesi var.
- Belirli Hedef Organ Toksisitesi - tek maruz kalma
Mevcut bilgilere göre, sınıflandırma kriterlerini karşılamamaktadır.
- Belirli Hedef Organ Toksisitesi - tekrarlı maruz kalma
Uzun süreli veya tekrarlı maruz kalma sonucu organlarda hasara yol açabilir.
- Aspirasyon zararı
Solunum yoluna nüfuzu ve yutulması halinde öldürücüdür.

Bölüm 12: Ekolojik bilgiler

- 12.1 Toksisite
- Su toksisitesi: Daha başka önemli bilgi mevcut değildir.
- 12.2 Kalıcılık ve bozunabilirlik Daha başka önemli bilgi mevcut değildir.
- 12.3 Biyobirikim potansiyeli Daha başka önemli bilgi mevcut değildir.
- 12.4 Toprakta hareketlilik Daha başka önemli bilgi mevcut değildir.

(Devamı sayfa 7 'da)

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(Sayfa 6'nın devamı)

- **Diğer ökolojik uyarılar:**
- **Genel uyarılar:**
Suyu tehdit sınıfı 1 (:): suyu hafif tehdit edicidir
Sulandırılmamış vaziyette ya da büyük miktarlarda yeraltı suyuna, duran ve akan sulara ve kanalizasyona ulaşmasını " önleyiniz.
- **12.5 PBT ve vPvB değerlendirmesinin sonuçları**
- **PBT:** Uygulanamaz.
- **vPvB:** Uygulanamaz.
- **12.6 Diğer olumsuz etkiler** Daha başka önemli bilgi mevcut değildir.

Bölüm 13: Bertaraf etme bilgileri

- **13.1 Atık işleme yöntemleri**
- **Tavsiye:** Ev çöpüyle beraber tasfiye edilmesi yasaktır. Kanalizasyona ulaşmasını önleyiniz.
- **Temizlenmemiş ambalajlar:**
- **Tavsiye:** Tasfiyesi resmi makamların yönetmeliklerine göre yapılır.

Bölüm 14: Taşımacılık bilgileri

· 14.1 UN numarası	UN1993
· ADR, IMDG, IATA	
· 14.2 Uygun UN taşımacılık adı	
· ADR	1993 ALEVLENİR SIVI, B.B.B.
· IMDG, IATA	FLAMMABLE LIQUID, N.O.S.
· 14.3 Taşımacılık zararlılık sınıf(lar)ı	
· ADR, IMDG, IATA	
· sınıfı	3 Tutuşabilir sıvı maddeler
· 14.4 Ambalajlama grubu	
· ADR, IMDG, IATA	III
· 14.5 Çevresel zararlar	
· Marine pollutant:	Hayır
· 14.6 Kullanıcı için özel önlemler	Uyarı: Tutuşabilir sıvı maddeler
· 14.7 MARPOL 73/78 ek II ve IBC koduna göre dökme taşımacılık	Uygulanamaz.
· Nakliyat/diğer bilgiler:	
· ADR	
· Sınırlı Miktarlar	5L
· İstisnai miktarlar (EQ)	Kod: E1 İç ambalaj başına maksimum net miktar: 30 ml Dış ambalaj başına maksimum net miktar: 1000 ml
· 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

(Devamı sayfa 8 'da)

Güvenlik Bilgi Formu

1907/2006/AT uyarınca, Madde 31

Baskı tarihi: 18.01.2016

Yeniden düzenleme tarihi: 18.01.2016

Ticari adı: COLLOIDAL SILVER PASTE

(Sayfa 7'nin devamı)

· UN "Model Düzenleme":

UN 1993 ALEVLENİR SIVI, B.B.B., 3, III

Bölüm 15: Mevzuat bilgileri

- 15.1 Madde veya karışıma özgü güvenlik, sağlık ve çevre mevzuatı Daha başka önemli bilgi mevcut değildir.
- 15.2 Kimyasal güvenlik değerlendirmesi: Bir Kimyasal güvenlik değerlendirmesi yapılmamıştır.

Bölüm 16: Diğer bilgiler

Veriler bugünkü bilgi durumumuza istinat etmektedir, ancak ürün özellikleri ile ilgili teminat teşkil etmezler ve akdî bir hukuki ilişki tesis etmezler.

· Önemli terkipleri

H225 Kolay alevlenir sıvı ve buhar.

H226 Alevlenir sıvı ve buhar.

H304 Solunum yoluna nüfuzu ve yutulması halinde öldürücüdür.

H315 Cilt tahrişine yol açar.

H319 Ciddi göz tahrişine yol açar.

H336 Rehavete veya baş dönmesine yol açabilir.

H361d Doğmamış çocukta hasara yol açma şüphesi var.

H373 Uzun süreli veya tekrarlı maruz kalma sonucu organlarda hasara yol açabilir.

· Kısaltmalar ve:

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

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)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

Flam. Liq. 2: Alevlenir sıvı, Kategori 2

Flam. Liq. 3: Alevlenir sıvı, Kategori 3

Acute Tox. 4: Akut toksisite, Kategori 4

Skin Irrit. 2: Cilt aşınması/tahrişi, Kategori 2

Eye Irrit. 2: Ciddi göz hasarı/göz tahrişi, Kategori 2

Repr. 2: Üreme Sistemi Toksikitesi, Kategori 2

STOT SE 3: Belirli Hedef Organ Toksikitesi – Tek maruz kalma, Kategori 3

STOT RE 2: Belirli Hedef Organ Toksikitesi – Tekrarlı maruz kalma, Kategori 2

Asp. Tox. 1: Aspirasyon zararı, Kategori 1