

# Safety Data Sheet

acc. to OSHA HCS

Printing date 01/19/2016

Reviewed on 01/19/2016

## 1 Identification

- **Product identifier**
- **Trade name:** COLLODION, 5% SOLUTION, USP
- **Article number:** 12600, 12600-30
- **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. 1 H224 Extremely flammable liquid and vapor.



GHS08 Health hazard

Carc. 1A H350 May cause cancer.



GHS07

Acute Tox. 4 H302 Harmful if swallowed.

STOT SE 3 H336 May cause drowsiness or dizziness.

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



GHS02



GHS07



GHS08

- **Signal word** Danger
- **Hazard-determining components of labeling:**  
 diethyl ether  
 Ethyl Alcohol, Absolute, 200 Proof  
 Reagent, ACS (Ethanol)  
 15055

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**Trade name: COLLODION, 5% SOLUTION, USP**

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- **Hazard statements**

*Extremely flammable liquid and vapor.*

*Harmful if swallowed.*

*May cause cancer.*

*May cause drowsiness or dizziness.*

- **Precautionary statements**

*Keep away from heat/sparks/open flames/hot surfaces. No smoking.*

*Use explosion-proof electrical/ventilating/lighting/equipment.*

*Avoid breathing dust/fume/gas/mist/vapors/spray*

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

*Ground/bond container and receiving equipment.*

*Use only non-sparking tools.*

*Take precautionary measures against static discharge.*

*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 on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.*

*IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell.*

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

*IF exposed or concerned: Get medical advice/attention.*

*Rinse mouth.*

*In case of fire: Use for extinction: CO2, powder or water spray.*

*Store locked up.*

*Store in a well-ventilated place. Keep container tightly closed.*

*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 = 3*

*Reactivity = 3*

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



*Health = 2*

*Fire = 3*

*Reactivity = 3*

- **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.

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· <b>Dangerous components:</b>		
60-29-7	diethyl ether	50-100%
64-17-5	Ethyl Alcohol, Absolute, 200 Proof Reagent, ACS (Ethanol) 15055	25-50%

## 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.
- **After swallowing:** Immediately call a 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:** CO<sub>2</sub>, sand, extinguishing powder. Do not use water.
- **For safety reasons unsuitable extinguishing agents:** Water with full jet
- **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**  
Wear protective equipment. Keep unprotected persons away.
- **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.  
Do not flush with water or aqueous cleansing agents
- **Reference to other sections**  
See Section 7 for information on safe handling.  
See Section 8 for information on personal protection equipment.  
See Section 13 for disposal information.

## 7 Handling and storage

- **Handling:**
- **Precautions for safe handling**  
Ensure good ventilation/exhaustion at the workplace.

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Open and handle receptacle with care.

Prevent formation of aerosols.

· **Information about protection against explosions and fires:**

Keep ignition sources away - Do not smoke.

Protect from heat.

Protect against electrostatic charges.

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

· **Storage:**

· **Requirements to be met by storerooms and receptacles:** Store in a cool location.

· **Information about storage in one common storage facility:** Not required.

· **Further information about storage conditions:**

Keep receptacle tightly sealed.

Do not gas tight seal receptacle.

Store in cool, dry conditions in well sealed receptacles.

Protect from heat and direct sunlight.

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

## 8 Exposure controls/personal protection

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

· **Control parameters**

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

**60-29-7 diethyl ether**

PEL Long-term value: 1200 mg/m<sup>3</sup>, 400 ppm

TLV Short-term value: 1520 mg/m<sup>3</sup>, 500 ppm

Long-term value: 1210 mg/m<sup>3</sup>, 400 ppm

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

PEL Long-term value: 1900 mg/m<sup>3</sup>, 1000 ppm

REL Long-term value: 1900 mg/m<sup>3</sup>, 1000 ppm

TLV Short-term value: 1880 mg/m<sup>3</sup>, 1000 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.

Wash hands before breaks and at the end of work.

· **Breathing equipment:**

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

· **Protection of hands:**

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

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

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

· **Material of gloves**

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. 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.

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· **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:**

<b>Form:</b>	Liquid
<b>Color:</b>	Colorless
<b>Odor:</b>	Characteristic
<b>Odor threshold:</b>	Not determined.

· **pH-value:** Not determined.

· **Change in condition**

<b>Melting point/Melting range:</b>	Undetermined.
<b>Boiling point/Boiling range:</b>	35 °C (95 °F)

· **Flash point:** -52 °C (-62 °F)

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

· **Ignition temperature:** 170 °C (338 °F)

· **Decomposition temperature:** Not determined.

· **Auto igniting:** Product is not selfigniting.

· **Danger of explosion:** May form explosive peroxides.

· **Explosion limits:**

<b>Lower:</b>	1.7 Vol %
<b>Upper:</b>	36.0 Vol %

· **Vapor pressure at 20 °C (68 °F):** 587 hPa (440 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:**

<b>Dynamic:</b>	Not determined.
<b>Kinematic:</b>	Not determined.

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- **Solvent content:**
  - Organic solvents:** 95.0 %
  - VOC content:** 95.0 %
  - 950.0 g/l / 7.93 lb/gl
- **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:**

60-29-7 diethyl ether

Oral	LD50	1215 mg/kg (rat)
Inhalative	LC50/4 h	73000 mg/l (rat)

- **Primary irritant effect:**
  - **on the skin:** No irritant effect.
  - **on the eye:** No irritating effect.
- **Sensitization:** No sensitizing effects known.
- **Additional toxicological information:**  
The product shows the following dangers according to internally approved calculation methods for preparations:  
Harmful
- **Carcinogenic categories**

- **IARC (International Agency for Research on Cancer)**

64-17-5	Ethyl Alcohol, Absolute, 200 Proof Reagent, ACS (Ethanol) 15055	1
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- **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.

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- **Behavior in environmental systems:**
- **Bioaccumulative potential** No further relevant information available.
- **Mobility in soil** No further relevant information available.
- **Additional ecological information:**
- **General notes:**  
*Water hazard class 1 (Self-assessment): slightly hazardous for water*  
*Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.*
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **Other adverse effects** No further relevant information available.

## 13 Disposal considerations

- **Waste treatment methods**
- **Recommendation:**  
*Must not be disposed of together with household garbage. Do not allow product to reach sewage system.*
- **Uncleaned packagings:**
- **Recommendation:** *Disposal must be made according to official regulations.*

## 14 Transport information

- |  |   |
|--|---|
| <ul style="list-style-type: none"> <li>· <b>UN-Number</b></li> <li>· <b>DOT, ADR, IMDG, IATA</b></li> </ul>  | <p style="margin-left: 20px;">UN1993</p>  |
| <ul style="list-style-type: none"> <li>· <b>UN proper shipping name</b></li> <li>· <b>DOT</b></li> <li>· <b>ADR</b></li> <li>· <b>IMDG</b></li> <li>· <b>IATA</b></li> </ul> | <p style="margin-left: 20px;">Flammable liquids, n.o.s. (Diethyl ether, Ethanol)<br/>           1993 Flammable liquids, n.o.s. (Diethyl ether, Ethanol)<br/>           FLAMMABLE LIQUID, N.O.S. (DIETHYL ETHER (ETHYL ETHER), ETHANOL (ETHYL ALCOHOL))<br/>           Flammable liquid, n.o.s. (Diethyl ether, Ethanol)</p> |
| <ul style="list-style-type: none"> <li>· <b>Transport hazard class(es)</b></li> <li>· <b>DOT</b></li> </ul>  | <p style="margin-left: 20px;"></p>   |
| <ul style="list-style-type: none"> <li>· <b>Class</b></li> <li>· <b>Label</b></li> </ul>   | <p style="margin-left: 20px;">3 Flammable liquids<br/>3</p>   |
| <ul style="list-style-type: none"> <li>· <b>ADR, IMDG, IATA</b></li> </ul>   | <p style="margin-left: 20px;"></p>   |
| <ul style="list-style-type: none"> <li>· <b>Class</b></li> <li>· <b>Label</b></li> </ul>   | <p style="margin-left: 20px;">3 Flammable liquids<br/>3</p>   |
| <ul style="list-style-type: none"> <li>· <b>Packing group</b></li> <li>· <b>DOT, ADR, IMDG, IATA</b></li> </ul>  | <p style="margin-left: 20px;">I</p>   |

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· <b>Environmental hazards:</b>	Not applicable.
· <b>Special precautions for user</b>	Warning: Flammable liquids
· <b>Danger code (Kemler):</b>	33
· <b>EMS Number:</b>	F-E, <u>S-E</u>
· <b>Stowage Category</b>	E
· <b>Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code</b>	Not applicable.
· <b>Transport/Additional information:</b>	
· <b>DOT</b>	
· <b>Quantity limitations</b>	On passenger aircraft/rail: 1 L On cargo aircraft only: 30 L
· <b>ADR</b>	
· <b>Excepted quantities (EQ)</b>	Code: E3 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 300 ml
· <b>IMDG</b>	
· <b>Limited quantities (LQ)</b>	0
· <b>Excepted quantities (EQ)</b>	Code: E3 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 300 ml
· <b>UN "Model Regulation":</b>	UN 1993 FLAMMABLE LIQUIDS, N.O.S. (DIETHYL ETHER, ETHANOL), 3, 1

## 15 Regulatory information

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

· Sara

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

None of the ingredients is listed.

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

None of the ingredients is listed.

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

All ingredients are listed.

· **Proposition 65**

· **Chemicals known to cause cancer:**

None of the ingredients is listed.

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

None of the ingredients is listed.

· **Chemicals known to cause reproductive toxicity for males:**

None of the ingredients is listed.

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

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

· **EPA (Environmental Protection Agency)**

None of the ingredients is listed.

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

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

A3

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

None of the ingredients is listed.

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

· **Hazard pictograms**



GHS02

GHS07

GHS08

· **Signal word** Danger

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

diethyl ether

Ethyl Alcohol, Absolute, 200 Proof

Reagent, ACS (Ethanol)

15055

· **Hazard statements**

Extremely flammable liquid and vapor.

Harmful if swallowed.

May cause cancer.

May cause drowsiness or dizziness.

· **Precautionary statements**

Keep away from heat/sparks/open flames/hot surfaces. No smoking.

Use explosion-proof electrical/ventilating/lighting/equipment.

Avoid breathing dust/fume/gas/mist/vapors/spray

Wear protective gloves / eye protection / face protection.

Ground/bond container and receiving equipment.

Use only non-sparking tools.

Take precautionary measures against static discharge.

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 on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.

IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell.

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

IF exposed or concerned: Get medical advice/attention.

Rinse mouth.

In case of fire: Use for extinction: CO<sub>2</sub>, powder or water spray.

Store locked up.

Store in a well-ventilated place. Keep container tightly closed.

Store in a well-ventilated place. Keep cool.

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

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· **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** 01/19/2016 / -

· **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**

**Flam. Liq. 1: Flammable liquids, Hazard Category 1**

**Acute Tox. 4: Acute toxicity, Hazard Category 4**

**Carc. 1A: Carcinogenicity, Hazard Category 1A**

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

US

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

Printing date 19.01.2016

Revision: 19.01.2016

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

- **Product identifier**

- **Trade name:** COLLODION, 5% SOLUTION, USP

- **Article number:** 12600, 12600-30

- **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](mailto:sgkcck@aol.com)

[www.emsdiasum.com](http://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](http://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**



GHS02 flame

Flam. Liq. 1 H224 Extremely flammable liquid and vapour.



GHS08 health hazard

Carc. 1A H350 May cause cancer.



GHS07

Acute Tox. 4 H302 Harmful if swallowed.

STOT SE 3 H336 May cause drowsiness or dizziness.

- **Label elements**

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

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# Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 19.01.2016

Revision: 19.01.2016

Trade name: **COLLODION, 5% SOLUTION, USP**

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· **Hazard pictograms**

GHS02   GHS07   GHS08

· **Signal word** *Danger*· **Hazard-determining components of labelling:**

*diethyl ether*  
*Ethyl Alcohol, Absolute, 200 Proof*  
*Reagent, ACS (Ethanol)*  
*15055*

· **Hazard statements**

*Extremely flammable liquid and vapour.*  
*Harmful if swallowed.*  
*May cause cancer.*  
*May cause drowsiness or dizziness.*

· **Precautionary statements**

*Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.*  
*Use explosion-proof electrical/ventilating/lighting/equipment.*  
*Avoid breathing dust/fume/gas/mist/vapours/spray.*  
*Wear protective gloves / eye protection / face protection.*  
*Ground/bond container and receiving equipment.*  
*Use only non-sparking tools.*  
*Take precautionary measures against static discharge.*  
*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 ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.*  
*IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell.*  
*IF INHALED: Remove person to fresh air and keep comfortable for breathing.*  
*IF exposed or concerned: Get medical advice/attention.*  
*Rinse mouth.*  
*In case of fire: Use for extinction: CO2, powder or water spray.*  
*Store locked up.*  
*Store in a well-ventilated place. Keep container tightly closed.*  
*Store in a well-ventilated place. Keep cool.*  
*Dispose of contents/container in accordance with local/regional/national/international regulations.*

· **Additional information:**

*May form explosive peroxides.*

· **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.*

(Contd. on page 3)

# Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 19.01.2016

Revision: 19.01.2016

Trade name: **COLLODION, 5% SOLUTION, USP**

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<b>· Dangerous components:</b>		
60-29-7	diethyl ether	50-100%
64-17-5	Ethyl Alcohol, Absolute, 200 Proof Reagent, ACS (Ethanol) 15055	25-50%

· **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.
- **After swallowing:** Call for a doctor immediately.
- **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 Firefighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:** CO<sub>2</sub>, sand, extinguishing powder. Do not use water.
- **For safety reasons unsuitable extinguishing agents:** Water with full jet
- **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**  
Wear protective equipment. Keep unprotected persons away.
- **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.  
Do not flush with water or aqueous cleansing agents
- **Reference to other sections**  
See Section 7 for information on safe handling.  
See Section 8 for information on personal protection equipment.  
See Section 13 for disposal information.

AU

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**Safety data sheet**  
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Trade name: COLLODION, 5% SOLUTION, USP

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## 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:**  
Keep ignition sources away - Do not smoke.  
Protect from heat.  
Protect against electrostatic charges.
- **Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** Store in a cool location.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:**  
Keep container tightly sealed.  
Do not seal receptacle gas tight.  
Store in cool, dry conditions in well sealed receptacles.  
Protect from heat and direct sunlight.
- **Specific end use(s)** No further relevant information available.

## 8 Exposure controls/personal protection

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

· <b>Ingredients with limit values that require monitoring at the workplace:</b>	
<b>60-29-7 diethyl ether</b>	
NES	Short-term value: 1520 mg/m <sup>3</sup> , 500 ppm Long-term value: 1210 mg/m <sup>3</sup> , 400 ppm
<b>64-17-5 Ethyl Alcohol, Absolute, 200 Proof Reagent, ACS (Ethanol) 15055</b>	
NES	Long-term value: 1880 mg/m <sup>3</sup> , 1000 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.  
Wash hands before breaks and at the end of work.

- **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:**

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

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- **Material of gloves**

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

- **Penetration time of glove material**

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

- **Eye protection:**



Tightly sealed goggles

## 9 Physical and chemical properties

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

- **General Information**

- **Appearance:**

Form:	Liquid
Colour:	Colourless
Odour:	Characteristic
Odour threshold:	Not determined.

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

- **Change in condition**

Melting point/Melting range:	Undetermined.
Boiling point/Boiling range:	35 °C

- **Flash point:** -52 °C

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

- **Ignition temperature:** 170 °C

- **Decomposition temperature:** Not determined.

- **Self-igniting:** Product is not selfigniting.

- **Danger of explosion:** May form explosive peroxides.

- **Explosion limits:**

Lower:	1.7 Vol %
Upper:	36.0 Vol %

- **Vapour pressure at 20 °C:** 587 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.

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<b>Kinematic:</b>	Not determined.
<b>· Solvent content:</b>	
<b>Organic solvents:</b>	95.0 %
<b>VOC (EC)</b>	95.00 %
<b>· Other information</b>	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 relevant for classification:**

**60-29-7 diethyl ether**

Oral	LD50	1215 mg/kg (rat)
Inhalative	LC50/4 h	73000 mg/l (rat)

- **Primary irritant effect:**
- **Skin corrosion/irritation** No irritant effect.
- **Serious eye damage/irritation** No 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:  
Harmful
- **CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)**  
Carc. 1A

### 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.

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AU



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Trade name: COLLODION, 5% SOLUTION, USP


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- **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.

### 14 Transport information

· <b>UN-Number</b> · <b>ADG, IMDG, IATA</b>	UN1993
· <b>UN proper shipping name</b> · <b>ADG</b> · <b>IMDG</b> · <b>IATA</b>	1993 FLAMMABLE LIQUID, N.O.S. (DIETHYL ETHER (ETHYL ETHER), ETHANOL (ETHYL ALCOHOL)) FLAMMABLE LIQUID, N.O.S. (DIETHYL ETHER (ETHYL ETHER), ETHANOL (ETHYL ALCOHOL)) Flammable liquid, n.o.s. (Diethyl ether, Ethanol)
· <b>Transport hazard class(es)</b> · <b>ADG, IMDG, IATA</b>	
	
· <b>Class</b> · <b>Label</b>	3 Flammable liquids. 3
· <b>Packing group</b> · <b>ADG, IMDG, IATA</b>	I
· <b>Environmental hazards:</b>	Not applicable.
· <b>Special precautions for user</b> · <b>Danger code (Kemler):</b> · <b>EMS Number:</b> · <b>Stowage Category</b>	Warning: Flammable liquids. 33 F-E, <u>S</u> -E E
· <b>Transport in bulk according to Annex II of Marpol and the IBC Code</b>	Not applicable.
· <b>Transport/Additional information:</b>	
· <b>ADG</b> · <b>Limited quantities (LQ)</b> · <b>Excepted quantities (EQ)</b>	0 Code: E3 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 300 ml
· <b>Transport category</b>	1

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· <b>Tunnel restriction code</b>	D/E
· <b>IMDG</b>	
· <b>Limited quantities (LQ)</b>	0
· <b>Excepted quantities (EQ)</b>	Code: E3 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 300 ml
· <b>UN "Model Regulation":</b>	UN 1993 FLAMMABLE LIQUID, N.O.S. (DIETHYL ETHER (ETHYL ETHER), ETHANOL (ETHYL ALCOHOL)), 3, I

### 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**

60-29-7 | diethyl ether

S2, S4, S5, S6

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

· **Hazard pictograms**



GHS02   GHS07   GHS08

· **Signal word** Danger

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

diethyl ether

Ethyl Alcohol, Absolute, 200 Proof

Reagent, ACS (Ethanol)

15055

· **Hazard statements**

Extremely flammable liquid and vapour.

Harmful if swallowed.

May cause cancer.

May cause drowsiness or dizziness.

· **Precautionary statements**

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

Use explosion-proof electrical/ventilating/lighting/equipment.

Avoid breathing dust/fume/gas/mist/vapours/spray.

Wear protective gloves / eye protection / face protection.

Ground/bond container and receiving equipment.

Use only non-sparking tools.

Take precautionary measures against static discharge.

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.

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*IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.*

*IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell.*

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

*IF exposed or concerned: Get medical advice/attention.*

*Rinse mouth.*

*In case of fire: Use for extinction: CO<sub>2</sub>, powder or water spray.*

*Store locked up.*

*Store in a well-ventilated place. Keep container tightly closed.*

*Store in a well-ventilated place. Keep cool.*

*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.
- **Seveso category P5a FLAMMABLE LIQUIDS**
- **Qualifying quantity (tonnes) for the application of lower-tier requirements 10 t**
- **Qualifying quantity (tonnes) for the application of upper-tier requirements 50 t**
- **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

## 16 Other information

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

### · 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*

*PBT: Persistent, Bioaccumulative and Toxic*

*vPvB: very Persistent and very Bioaccumulative*

*Flam. Liq. 1: Flammable liquids, Hazard Category 1*

*Acute Tox. 4: Acute toxicity, Hazard Category 4*

*Carc. 1A: Carcinogenicity, Hazard Category 1A*

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

# Safety Data Sheet

acc. to OSHA HCS

Printing date 01/19/2016

Reviewed on 01/19/2016

## 1 Identification

- **Product identifier**
- **Trade name:** COLLODION, 5% SOLUTION, USP
- **Article number:** 12600, 12600-30
- **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

Flammable Liquids - Category 1

H224 Extremely flammable liquid and vapour.



GHS08 Health hazard

Carcinogenicity - Category 1A

H350 May cause cancer.



GHS07

Acute Toxicity (Oral) - Category 4

H302 Harmful if swallowed.

Specific Target Organ Toxicity - Single Exposure -  
Category 3

H336 May cause drowsiness or dizziness.

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



GHS02



GHS07



GHS08

- **Signal word** Danger
- **Hazard-determining components of labeling:**  
diethyl ether

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**Trade name: COLLODION, 5% SOLUTION, USP**

(Contd. of page 1)

Ethyl Alcohol, Absolute, 200 Proof  
Reagent, ACS (Ethanol)  
15055

· **Hazard statements**

Extremely flammable liquid and vapour.  
Harmful if swallowed.  
May cause cancer.  
May cause drowsiness or dizziness.

· **Precautionary statements**

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.  
Use explosion-proof [electrical/ventilating/lighting] equipment.  
Avoid breathing dust/fume/gas/mist/vapours/spray.  
Wear protective gloves/protective clothing/eye protection/face protection.  
Ground and bond container and receiving equipment.  
Use non-sparking tools.  
Take actions to prevent static discharges.  
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 ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].  
IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell.  
IF INHALED: Remove person to fresh air and keep comfortable for breathing.  
IF exposed or concerned: Get medical advice/attention.  
Rinse mouth.  
In case of fire: Use for extinction: CO<sub>2</sub>, powder or water spray.  
Store locked up.  
Store in a well-ventilated place. Keep container tightly closed.  
Store in a well-ventilated place. Keep cool.  
Dispose of contents/container in accordance with local/regional/national/international regulations.

· **Hazard description:**

· **WHMIS-symbols:**

B2 - Flammable liquid



· **Classification system:**

· **NFPA ratings (scale 0 - 4)**



Health = 2  
Fire = 3  
Reactivity = 3

· **HMIS-ratings (scale 0 - 4)**



Health = 2  
Fire = 3  
Reactivity = 3

· **Other hazards**

· **Results of PBT and vPvB assessment**

· **PBT:** Not applicable.

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Trade name: COLLODION, 5% SOLUTION, USP

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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:**

60-29-7	diethyl ether	40-70% w/w
64-17-5	Ethyl Alcohol, Absolute, 200 Proof Reagent, ACS (Ethanol) 15055	10-30% w/w

### 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.
- **After swallowing:** Immediately call a 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:** CO<sub>2</sub>, sand, extinguishing powder. Do not use water.
- **For safety reasons unsuitable extinguishing agents:** Water with full jet
- **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**  
Wear protective equipment. Keep unprotected persons away.
- **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.  
Do not flush with water or aqueous cleansing agents
- **Reference to other sections**  
See Section 7 for information on safe handling.  
See Section 8 for information on personal protection equipment.

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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:**  
 Keep ignition sources away - Do not smoke.  
 Protect from heat.  
 Protect against electrostatic charges.
- **Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** Store in a cool location.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:**  
 Keep receptacle tightly sealed.  
 Do not gas tight seal receptacle.  
 Store in cool, dry conditions in well sealed receptacles.  
 Protect from heat and direct sunlight.
- **Specific end use(s)** No further relevant information available.

## 8 Exposure controls/personal protection

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

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

### 60-29-7 diethyl ether

EL	Short-term value: 500 ppm Long-term value: 400 ppm
EV	Short-term value: 1,515 mg/m <sup>3</sup> , 500 ppm Long-term value: 1,210 mg/m <sup>3</sup> , 400 ppm

### 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/m <sup>3</sup> , 1,000 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.  
 Wash hands before breaks and at the end of work.
- **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.

(Contd. on page 5)

CA

# Safety Data Sheet

acc. to OSHA HCS

Printing date 01/19/2016

Reviewed on 01/19/2016

**Trade name: COLLODION, 5% SOLUTION, USP**

(Contd. of page 4)

· **Protection of hands:**

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

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

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

· **Material of gloves**

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. 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:**

<b>Form:</b>	Liquid
<b>Color:</b>	Colorless
<b>Odor:</b>	Characteristic
<b>Odor threshold:</b>	Not determined.

· **pH-value:** Not determined.

· **Change in condition**

<b>Melting point/Melting range:</b>	Undetermined.
<b>Boiling point/Boiling range:</b>	35 °C

· **Flash point:** -52 °C

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

· **Ignition temperature:** 170 °C

· **Decomposition temperature:** Not determined.

· **Auto igniting:** Product is not selfigniting.

· **Danger of explosion:** May form explosive peroxides.

· **Explosion limits:**

<b>Lower:</b>	1.7 Vol %
<b>Upper:</b>	36.0 Vol %

· **Vapor pressure at 20 °C:** 587 hPa

· **Density:** Not determined.

· **Relative density** Not determined.

· **Vapor density** Not determined.

· **Evaporation rate** Not determined.

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Trade name: COLLODION, 5% SOLUTION, USP

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- |   |  |
|---|--|
| <b>· Solubility in / Miscibility with Water:</b>  | Not miscible or difficult to mix.          |
| <b>· Partition coefficient (n-octanol/water):</b> | Not determined.                            |
| <b>· Viscosity:</b>                               |  |
| <b>Dynamic:</b>                                   | Not determined.                            |
| <b>Kinematic:</b>                                 | Not determined.                            |
| <b>· Solvent content:</b>                         |  |
| <b>Organic solvents:</b>                          | 95.0 %                                     |
| <b>· Other information</b>                        | 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:**

### 60-29-7 diethyl ether

Oral	LD50	1215 mg/kg (rat)
Inhalative	LC50/4 h	73000 mg/l (rat)

- **Primary irritant effect:**
- **on the skin:** No irritant effect.
- **on the eye:** No irritating effect.
- **Sensitization:** No sensitizing effects known.
- **Additional toxicological information:**

The product shows the following dangers according to internally approved calculation methods for preparations:  
Harmful

- **Carcinogenic categories**

- **IARC (International Agency for Research on Cancer)**

64-17-5	Ethyl Alcohol, Absolute, 200 Proof Reagent, ACS (Ethanol) 15055	I
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- **NTP (National Toxicology Program)**

None of the ingredients is listed.

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**Trade name: COLLODION, 5% SOLUTION, USP**

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

None of the ingredients is listed.


## 12 Ecological information

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

## 13 Disposal considerations

- **Waste treatment methods**
- **Recommendation:**  
Must not be disposed of together with household garbage. Do not allow product to reach sewage system.
- **Uncleaned packagings:**
- **Recommendation:** Disposal must be made according to official regulations.

## 14 Transport information

- |   |   |
|---|---|
| · <b>UN-Number</b>  | UN1993  |
| · <b>DOT, TDG, IMDG, IATA</b>   |   |
| · <b>UN proper shipping name</b>  | Flammable liquids, n.o.s. (Diethyl ether, Ethanol)                              |
| · <b>DOT</b>  | 1993 Flammable liquids, n.o.s. (Diethyl ether, Ethanol)                         |
| · <b>TDG</b>  | FLAMMABLE LIQUID, N.O.S. (DIETHYL ETHER (ETHYL ETHER), ETHANOL (ETHYL ALCOHOL)) |
| · <b>IMDG</b>   |   |
| · <b>IATA</b>   | Flammable liquid, n.o.s. (Diethyl ether, Ethanol)                               |
| · <b>Transport hazard class(es)</b>   |   |
| · <b>DOT</b>  |   |
|  |   |
| · <b>Class</b>  | 3 Flammable liquids   |

(Contd. on page 8)

# Safety Data Sheet

acc. to OSHA HCS

Printing date 01/19/2016

Reviewed on 01/19/2016

Trade name: COLLODION, 5% SOLUTION, USP

(Contd. of page 7)

· **Label** 3  
 · **TDG, IMDG, IATA**



· **Class** 3 Flammable liquids  
 · **Label** 3

· **Packing group**  
 · **DOT, TDG, IMDG, IATA** I

· **Environmental hazards:** Not applicable.

· **Special precautions for user** Warning: Flammable liquids  
 · **Danger code (Kemler):** 33  
 · **EMS Number:** F-E,S-E  
 · **Stowage Category** E

· **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: 1 L  
 On cargo aircraft only: 30 L

· **TDG**  
 · **Excepted quantities (EQ)** Code: E3  
 Maximum net quantity per inner packaging: 30 ml  
 Maximum net quantity per outer packaging: 300 ml

· **IMDG**  
 · **Limited quantities (LQ)** 0  
 · **Excepted quantities (EQ)** Code: E3  
 Maximum net quantity per inner packaging: 30 ml  
 Maximum net quantity per outer packaging: 300 ml

· **UN "Model Regulation":** UN 1993 FLAMMABLE LIQUIDS, N.O.S. (DIETHYL ETHER, ETHANOL), 3, I

## 15 Regulatory information

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

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

None of the ingredients is listed.

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

None of the ingredients is listed.

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

All ingredients are listed.

(Contd. on page 9)

CA

# Safety Data Sheet

acc. to OSHA HCS

Printing date 01/19/2016

Reviewed on 01/19/2016

Trade name: COLLODION, 5% SOLUTION, USP

(Contd. of page 8)

· **Proposition 65**

· **Chemicals known to cause cancer:**

None of the ingredients is listed.

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

None of the ingredients is listed.

· **Chemicals known to cause reproductive toxicity for males:**

None of the ingredients is listed.

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

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

· **Carcinogenic categories**

· **EPA (Environmental Protection Agency)**

None of the ingredients is listed.

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

64-17-5	Ethyl Alcohol, Absolute, 200 Proof Reagent, ACS (Ethanol) 15055	A3
---------	---	----

· **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%)**

60-29-7	diethyl ether
---------	---------------

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

· **Hazard pictograms**



GHS02   GHS07   GHS08

· **Signal word** *Danger*

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

diethyl ether  
Ethyl Alcohol, Absolute, 200 Proof  
Reagent, ACS (Ethanol)  
15055

· **Hazard statements**

Extremely flammable liquid and vapour.  
Harmful if swallowed.  
May cause cancer.

(Contd. on page 10)

# Safety Data Sheet

## acc. to OSHA HCS

Printing date 01/19/2016

Reviewed on 01/19/2016

**Trade name: COLLODION, 5% SOLUTION, USP**

(Contd. of page 9)

*May cause drowsiness or dizziness.*

· **Precautionary statements**

*Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.*

*Use explosion-proof [electrical/ventilating/lighting] equipment.*

*Avoid breathing dust/fume/gas/mist/vapours/spray.*

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

*Ground and bond container and receiving equipment.*

*Use non-sparking tools.*

*Take actions to prevent static discharges.*

*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 ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].*

*IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell.*

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

*IF exposed or concerned: Get medical advice/attention.*

*Rinse mouth.*

*In case of fire: Use for extinction: CO2, powder or water spray.*

*Store locked up.*

*Store in a well-ventilated place. Keep container tightly closed.*

*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** 01/19/2016 / -

· **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*

*PBT: Persistent, Bioaccumulative and Toxic*

*vPvB: very Persistent and very Bioaccumulative*

*NIOSH: National Institute for Occupational Safety*

*OSHA: Occupational Safety **Health***

**Flammable Liquids - Category 1: Flammable liquids, Hazard Category 1**

**Acute Toxicity (Oral) - Category 4: Acute toxicity, Hazard Category 4**

**Carcinogenicity - Category 1A: Carcinogenicity, Hazard Category 1A**

**Specific Target Organ Toxicity - Single Exposure - Category 3: Specific target organ toxicity - Single exposure, Hazard Category 3**

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

Printing date 19.01.2016

Revision: 19.01.2016

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

- **1.1 Product identifier**
- **Trade name:** COLLODION, 5% SOLUTION, USP
- **Article number:** 12600, 12600-30
- **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**



GHS02 flame

Flam. Liq. 1 H224 Extremely flammable liquid and vapour.



GHS07

Acute Tox. 4 H302 Harmful if swallowed.

STOT SE 3 H336 May cause drowsiness or dizziness.

- **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**



GHS02



GHS07

- **Signal word** *Danger*
- **Hazard-determining components of labelling:**  
*diethyl ether*
- **Hazard statements**  
H224 Extremely flammable liquid and vapour.  
H302 Harmful if swallowed.  
H336 May cause drowsiness or dizziness.

(Contd. on page 2)

# Safety data sheet

## according to 1907/2006/EC, Article 31

Printing date 19.01.2016

Revision: 19.01.2016

Trade name: **COLLODION, 5% SOLUTION, USP**

(Contd. of page 1)

- **Precautionary statements**

- P210                    *Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.*
- P241                    *Use explosion-proof electrical/ventilating/lighting/equipment.*
- P261                    *Avoid breathing dust/fume/gas/mist/vapours/spray.*
- P303+P361+P353 *IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.*
- P405                    *Store locked up.*
- P501                    *Dispose of contents/container in accordance with local/regional/national/international regulations.*

- **Additional information:**

EUH019 *May form explosive peroxides.*

- **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: 60-29-7	diethyl ether	50-100%
EINECS: 200-467-2	 <i>Flam. Liq. 1, H224;  <i>Acute Tox. 4, H302; STOT SE 3, H336</i></i>	
CAS: 64-17-5	Ethyl Alcohol, Absolute, 200 Proof	25-50%
EINECS: 200-578-6	Reagent, ACS (Ethanol) 15055	
	 <i>Flam. Liq. 2, H225</i>	

- **Additional information:** *For the wording of the listed risk phrases refer to section 16.*

### SECTION 4: First aid measures

- **4.1 Description of first aid measures**

- **General information:**

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

- **After inhalation:** *Supply fresh air; 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.*

- **After swallowing:** *Call for a doctor immediately.*

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

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

*No further relevant information available.*

### SECTION 5: Firefighting measures

- **5.1 Extinguishing media**

- **Suitable extinguishing agents:** *CO<sub>2</sub>, sand, extinguishing powder. Do not use water.*

- **For safety reasons unsuitable extinguishing agents:** *Water with full jet*

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

(Contd. on page 3)



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

Printing date 19.01.2016

Revision: 19.01.2016

Trade name: COLLODION, 5% SOLUTION, USP

(Contd. of page 2)

- **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**  
Wear protective equipment. Keep unprotected persons away.
- **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.  
Do not flush with water or aqueous cleansing agents
- **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:**  
Keep ignition sources away - Do not smoke.  
Protect from heat.  
Protect against electrostatic charges.
- **7.2 Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** Store in a cool location.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:**  
Keep container tightly sealed.  
Do not seal receptacle gas tight.  
Store in cool, dry conditions in well sealed receptacles.  
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.
- **8.1 Control parameters**

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

**60-29-7 diethyl ether**

WEL	Short-term value: 620 mg/m <sup>3</sup> , 200 ppm
	Long-term value: 310 mg/m <sup>3</sup> , 100 ppm

(Contd. on page 4)



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

Printing date 19.01.2016

Revision: 19.01.2016

Trade name: COLLODION, 5% SOLUTION, USP

(Contd. of page 3)

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

WEL Long-term value: 1920 mg/m<sup>3</sup>, 1000 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.

Wash hands before breaks and at the end of work.

· **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:**

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

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

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

· **Material of gloves**

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

· **Penetration time of glove material**

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

· **Eye protection:**



Tightly sealed goggles

## SECTION 9: Physical and chemical properties

· **9.1 Information on basic physical and chemical properties**

· **General Information**

· **Appearance:**

**Form:** Liquid

**Colour:** Colourless

· **Odour:** Characteristic

· **Odour threshold:** Not determined.

· **pH-value:** Not determined.

· **Change in condition**

**Melting point/Melting range:** Undetermined.

**Boiling point/Boiling range:** 35 °C

· **Flash point:** -52 °C

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

· **Ignition temperature:** 170 °C

(Contd. on page 5)

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

Printing date 19.01.2016

Revision: 19.01.2016

Trade name: COLLODION, 5% SOLUTION, USP

(Contd. of page 4)

· <b>Decomposition temperature:</b>	Not determined.
· <b>Self-igniting:</b>	Product is not selfigniting.
· <b>Danger of explosion:</b>	May form explosive peroxides.
· <b>Explosion limits:</b>	
<b>Lower:</b>	1.7 Vol %
<b>Upper:</b>	36.0 Vol %
· <b>Vapour pressure at 20 °C:</b>	587 hPa
· <b>Density:</b>	Not determined.
· <b>Relative density</b>	Not determined.
· <b>Vapour density</b>	Not determined.
· <b>Evaporation rate</b>	Not determined.
· <b>Solubility in / Miscibility with water:</b>	Not miscible or difficult to mix.
· <b>Partition coefficient (n-octanol/water):</b>	Not determined.
· <b>Viscosity:</b>	
<b>Dynamic:</b>	Not determined.
<b>Kinematic:</b>	Not determined.
· <b>Solvent content:</b>	
<b>Organic solvents:</b>	95.0 %
<b>VOC (EC)</b>	95.00 %
· <b>9.2 Other information</b>	No further relevant information available.

### SECTION 10: Stability and reactivity

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

### SECTION 11: Toxicological information

- **11.1 Information on toxicological effects**
- **Acute toxicity**  
Harmful if swallowed.

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

**60-29-7 diethyl ether**

Oral	LD50	1215 mg/kg (rat)
Inhalative	LC50/4 h	73000 mg/l (rat)

- **Primary irritant effect:**
- **Skin corrosion/irritation** Based on available data, the classification criteria are not met.
- **Serious eye damage/irritation** Based on available data, the classification criteria are not met.
- **Respiratory or skin sensitisation** Based on available data, the classification criteria are not met.

(Contd. on page 6)

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

Printing date 19.01.2016

Revision: 19.01.2016

Trade name: COLLODION, 5% SOLUTION, USP

(Contd. of page 5)

- **CMR effects (carcinogenity, mutagenicity and toxicity for reproduction)**
- **Germ cell mutagenicity** Based on available data, the classification criteria are not met.
- **Carcinogenicity** Based on available data, the classification criteria are not met.
- **Reproductive toxicity** Based on available data, the classification criteria are not met.
- **STOT-single exposure**  
May cause drowsiness or dizziness.
- **STOT-repeated exposure** Based on available data, the classification criteria are not met.
- **Aspiration hazard** Based on available data, the classification criteria are not met.

### SECTION 12: Ecological information

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

### SECTION 13: Disposal considerations

- **13.1 Waste treatment methods**
- **Recommendation**  
Must not be disposed together with household garbage. Do not allow product to reach sewage system.
- **Uncleaned packaging:**
- **Recommendation:** Disposal must be made according to official regulations.

### SECTION 14: Transport information

- |                                       |  |
|---------------------------------------|--|
| · <b>14.1 UN-Number</b>               |  |
| · <b>ADR, IMDG, IATA</b>              | UN1993   |
| · <b>14.2 UN proper shipping name</b> |  |
| · <b>ADR</b>                          | 1993 FLAMMABLE LIQUID, N.O.S. (DIETHYL ETHER (ETHYL ETHER), ETHANOL (ETHYL ALCOHOL)) |
| · <b>IMDG</b>                         | FLAMMABLE LIQUID, N.O.S. (DIETHYL ETHER (ETHYL ETHER), ETHANOL (ETHYL ALCOHOL))      |
| · <b>IATA</b>                         | Flammable liquid, n.o.s. (Diethyl ether, Ethanol)                                    |

(Contd. on page 7)

GB

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

Printing date 19.01.2016

Revision: 19.01.2016

Trade name: COLLODION, 5% SOLUTION, USP

(Contd. of page 6)

· 14.3 Transport hazard class(es)

· ADR, IMDG, IATA



· Class 3 Flammable liquids.  
· Label 3

· 14.4 Packing group

· ADR, IMDG, IATA I

· 14.5 Environmental hazards: Not applicable.

· 14.6 Special precautions for user

Warning: Flammable liquids.

· Danger code (Kemler): 33

· EMS Number: F-E, S-E

· Stowage Category E

· 14.7 Transport in bulk according to Annex II of Marpol and the IBC Code

Not applicable.

· Transport/Additional information:

· ADR

· Limited quantities (LQ) 0

· Excepted quantities (EQ) Code: E3

Maximum net quantity per inner packaging: 30 ml

Maximum net quantity per outer packaging: 300 ml

· Transport category 1

· Tunnel restriction code D/E

· IMDG

· Limited quantities (LQ) 0

· Excepted quantities (EQ) Code: E3

Maximum net quantity per inner packaging: 30 ml

Maximum net quantity per outer packaging: 300 ml

· UN "Model Regulation":

UN 1993 FLAMMABLE LIQUID, N.O.S. (DIETHYL ETHER (ETHYL ETHER), ETHANOL (ETHYL ALCOHOL)), 3, 1

### SECTION 15: Regulatory information

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

· Directive 2012/18/EU

· Named dangerous substances - ANNEX I None of the ingredients is listed.

· Seveso category P5a FLAMMABLE LIQUIDS

· Qualifying quantity (tonnes) for the application of lower-tier requirements 10 t

· Qualifying quantity (tonnes) for the application of upper-tier requirements 50 t

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

GB

(Contd. on page 8)

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

Printing date 19.01.2016

Revision: 19.01.2016

**Trade name: COLLODION, 5% SOLUTION, USP**

(Contd. of page 7)

**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**

*H224 Extremely flammable liquid and vapour.*

*H225 Highly flammable liquid and vapour.*

*H302 Harmful if swallowed.*

*H336 May cause drowsiness or dizziness.*

**· 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*

*PBT: Persistent, Bioaccumulative and Toxic*

*vPvB: very Persistent and very Bioaccumulative*

*Flam. Liq. 1: Flammable liquids, Hazard Category 1*

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

*Acute Tox. 4: Acute toxicity, Hazard Category 4*

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

GB

# Veiligheidsinformatieblad volgens 1907/2006/EG, Artikel 31

datum van de druk: 19.01.2016

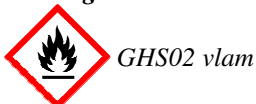
Herziening van: 19.01.2016

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

- **1.1 Productidentificatie**
- **Handelsnaam:** COLLODION, 5% SOLUTION, USP
- **Artikelnummer:** 12600, 12600-30
- **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**



Flam. Liq. 1 H224 Zeer licht ontvlambare vloeistof en damp.



Acute Tox. 4 H302 Schadelijk bij inslikken.  
STOT SE 3 H336 Kan slaperigheid of duizeligheid veroorzaken.

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



(Vervolg op blz. 2)

# Veiligheidsinformatieblad

## volgens 1907/2006/EG, Artikel 31

datum van de druk: 19.01.2016

Herziening van: 19.01.2016

**Handelsnaam: COLLODION, 5% SOLUTION, USP**

(Vervolg van blz. 1)

- **Signaalwoord** Gevaar
- **Gevaaraanduidende componenten voor de etikettering:**  
diethylether
- **Gevenaanduidingen**  
H224 Zeer licht ontvlambare vloeistof en damp.  
H302 Schadelijk bij inslikken.  
H336 Kan slaperigheid of duizeligheid veroorzaken.
- **Veiligheidsaanbevelingen**  
P210 Verwijderd houden van warmte, hete oppervlakken, vonken, open vuur en andere ontstekingsbronnen. Niet roken.  
P241 Explosieveilige elektrische/ventilatie-/verlichtings- apparatuur gebruiken.  
P261 Inademing van stof/rook/gas/nevel/damp/spuitnevel vermijden.  
P303+P361+P353 BIJ CONTACT MET DE HUID (of het haar): verontreinigde kleding onmiddellijk uittrekken. Huid met water afspoelen/afdouchen.  
P405 Achter slot bewaren.  
P501 De inhoud en de verpakking verwerken volgens de plaatselijke/regionale/nationale/internationale voorschriften.
- **Aanvullende gegevens:**  
EUH019 Kan ontplofbare peroxiden vormen.
- **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: 60-29-7	diethylether	50-100%
EINECS: 200-467-2	Flam. Liq. 1, H224;  Acute Tox. 4, H302; STOT SE 3, H336	
CAS: 64-17-5	ethanol	25-50%
EINECS: 200-578-6	Flam. Liq. 2, H225	

- **Aanvullende gegevens:**  
De woordelijke inhoud van de opgegeven aanwijzingen inzake de mogelijke gevaren is te vinden in hoofdstuk 16.

### RUBRIEK 4: Eerstehulpmaatregelen

- **4.1 Beschrijving van de eerstehulpmaatregelen**
- **Algemene informatie:**  
Het is mogelijk dat vergiftigingssymptomen pas na vele uren optreden. Om deze reden is medische controle gedurende minstens 48 uur na een ongeval noodzakelijk.
- **Na het inademen:** Frisse lucht toedienen; bij klachten arts ontbieden.
- **Na huidcontact:** Over het algemeen is het produkt niet prikkelend voor de huid
- **Na oogcontact:** Ogen bij geopend ooglid meerdere minuten met stromend water spoelen
- **Na inslikken:** Onmiddellijk arts raadplegen.
- **4.2 Belangrijkste acute en uitgestelde symptomen en effecten** Geen verdere relevante informatie verkrijgbaar.

(Vervolg op blz. 3)



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

### RUBRIEK 5: Brandbestrijdingsmaatregelen

- **5.1 Blusmiddelen**
- **Geschikte blusmiddelen:** CO<sub>2</sub>, zand, bluspoeder. Geen water gebruiken.
- **Blusmiddelen die uit veiligheidsoogpunt niet geschikt zijn:** Krachtige waterstraal
- **5.2 Speciale gevaren die door de stof of het mengsel worden veroorzaakt**  
Geen verdere relevante informatie verkrijgbaar.
- **5.3 Advies voor brandweertieners**
- **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**  
Beschermende kleding aantrekken. Niet beschermde personen op afstand houden.
- **6.2 Milieuvoorzorgsmaatregelen:** Niet in de riolering/het oppervlaktewater/het grondwater laten terechtkomen.
- **6.3 Insluitings- 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.  
Niet met water of waterachtige reinigingsmiddelen wegspoelen.
- **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:**  
Onststekingsbronnen op afstand houden - niet roken.  
Beschermen tegen hitte.  
Maatregelen treffen tegen ontlading van statische elektriciteit.
- **7.2 Voorwaarden voor een veilige opslag, met inbegrip van incompatibele producten**
- **Opslag:**
- **Eisen ten opzichte van opslagruimte en tanks:** Op een koele plaats bewaren.
- **Informatie m.b.t. gezamenlijke opslag:** Niet noodzakelijk.
- **Verdere inlichtingen over eisen m.b.t. de opslag:**  
Tanks ondoordringbaar gesloten houden.  
Tanks niet gasdicht afsluiten.  
Koel en droog bewaren in goed gesloten vaten.  
Tegen hitte en directe zonnestralen beschermen.
- **7.3 Specifiek eindgebruik** Geen verdere relevante informatie verkrijgbaar.

NL

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## 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:**

#### 60-29-7 diethylether

WGW	Korte termijn waarde: 616 mg/m <sup>3</sup> , 200 ppm Lange termijn waarde: 308 mg/m <sup>3</sup> , 100 ppm
-----	--

#### 64-17-5 ethanol

WGW	Korte termijn waarde: 1900 mg/m <sup>3</sup> , 990 ppm Lange termijn waarde: 260 mg/m <sup>3</sup> , 35 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.

Vóór de pauze en aan het einde van werktijd handen wassen.

· **Ademhalingsbescherming:**

Bij korte of geringe belasting ademfiltertoestel; bij intensieve resp. langdurige expositie een van de omringende lucht onafhankelijk ademhalingsstoestel gebruiken.

· **Handbescherming:**

Het handschoenmateriaal moet ondoorlatend en bestand zijn tegen het product / de stof / de bereiding.

Op grond van falende testen kan geen aanbeveling voor handschoenmateriaal voor het product / de bereiding / het chemicaliënmengsel afgegeven worden.

Kies handschoenmateriaal rekening houdend met de penetratietijden, de permeatiegraden en de degradatie.

· **Handschoenmateriaal**

De keuze van een geschikte handschoen is niet alleen afhankelijk van het materiaal, maar ook van andere kwaliteitskenmerken en verschilt van fabrikant tot fabrikant. Aangezien het product uit meerdere stoffen is samengesteld, is de duurzaamheid van de handschoenmaterialen niet vooraf berekenbaar en moet derhalve vóór het gebruik worden getest.

· **Doordringingstijd van het handschoenmateriaal**

De precieze penetratietijd kunt u te weten komen bij de handschoenfabrikant; houd er rekening mee.

· **Oogbescherming:**



Nauw aansluitende veiligheidsbril

## RUBRIEK 9: Fysische en chemische eigenschappen

· **9.1 Informatie over fysische en chemische basiseigenschappen**

· **Algemene gegevens**

· **Voorkomen:**

<b>Vorm:</b>	Vloeistof
<b>Kleur:</b>	Kleurloos
<b>Reuk:</b>	Karakteristiek
<b>Geurdrempelwaarde:</b>	Niet bepaald.

· **pH-waarde:** Niet bepaald.

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· <b>Toestandsverandering</b>	
<b>Smelpunt/smeltbereik:</b>	Niet bepaald.
<b>Kookpunt/kookpuntbereik:</b>	35 °C
· <b>Vlampunt:</b>	-52 °C
· <b>Ontvlambaarheid (vast, gasvormig):</b>	Niet bruikbaar.
· <b>Ontstekingstemperatuur:</b>	170 °C
· <b>Ontbindingstemperatuur:</b>	Niet bepaald.
· <b>Zelfonsteking:</b>	Het produkt ontbrandt niet uit zichzelf.
· <b>Ontploffingsgevaar:</b>	Kan ontplofbare peroxiden vormen.
· <b>Ontploffingsgrenzen:</b>	
<b>Onderste:</b>	1.7 Vol %
<b>Bovenste:</b>	36.0 Vol %
· <b>Dampspanning bij 20 °C:</b>	587 hPa
· <b>Dichtheid:</b>	Niet bepaald.
· <b>Relatieve dichtheid</b>	Niet bepaald.
· <b>Dampdichtheid</b>	Niet bepaald.
· <b>Verdampingsnelheid</b>	Niet bepaald.
· <b>Oplosbaarheid in/mengbaarheid met Water:</b>	Niet resp. gering mengbaar.
· <b>Verdelingscoëfficiënt (n-octanol/water):</b>	Niet bepaald.
· <b>Viscositeit</b>	
<b>Dynamisch:</b>	Niet bepaald.
<b>Kinematisch:</b>	Niet bepaald.
· <b>Oplosmiddelgehalte:</b>	
<b>Organisch oplosmiddel:</b>	95.0 %
<b>VOC (EG)</b>	95,00 %
· <b>9.2 Overige informatie</b>	Geen verdere relevante informatie verkrijgbaar.

### RUBRIEK 10: Stabiliteit en reactiviteit

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

### RUBRIEK 11: Toxicologische informatie

- **11.1 Informatie over toxicologische effecten**
- **Acute toxiciteit**  
Schadelijk bij inslikken.

(Vervolg op blz. 6)

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**Indelingsrelevantie LD/LC50-waarden:**
**60-29-7 diethylether**

Oraal	LD50	1215 mg/kg (rat)
Inhalatief	LC50/4 h	73000 mg/l (rat)

**Primaire aandoening:**

- **Huidcorrosie/-irritatie** Gebaseerd op beschikbare gegevens; aan de indelingscriteria is niet voldaan.
- **Ernstig oogletsel/oogirritatie** Gebaseerd op beschikbare gegevens; aan de indelingscriteria is niet voldaan.
- **Sensibilisatie van de luchtwegen/de huid**  
Gebaseerd op beschikbare gegevens; aan de indelingscriteria is niet voldaan.
- **CMR-effecten (kankerverwekkendheid, mutageniteit en giftigheid voor de voortplanting)**
- **Mutageniteit in geslachtscellen** Gebaseerd op beschikbare gegevens; aan de indelingscriteria is niet voldaan.
- **Kankerverwekkendheid** Gebaseerd op beschikbare gegevens; aan de indelingscriteria is niet voldaan.
- **Giftigheid voor de voortplanting** Gebaseerd op beschikbare gegevens; aan de indelingscriteria is niet voldaan.
- **STOT bij eenmalige blootstelling**  
Kan slaperigheid of duizeligheid veroorzaken.
- **STOT bij herhaalde blootstelling** Gebaseerd op beschikbare gegevens; aan de indelingscriteria is niet voldaan.
- **Gevaar bij inademing** Gebaseerd op beschikbare gegevens; aan de indelingscriteria is niet voldaan.

### RUBRIEK 12: Ecologische informatie

- **12.1 Toxiciteit**
- **Aquatische toxiciteit:** Geen verdere relevante informatie verkrijgbaar.
- **12.2 Persistentie en afbreekbaarheid** Geen verdere relevante informatie verkrijgbaar.
- **12.3 Bioaccumulatie** Geen verdere relevante informatie verkrijgbaar.
- **12.4 Mobiliteit in de bodem** Geen verdere relevante informatie verkrijgbaar.
- **Verdere ecologische informatie:**
- **Algemene informatie:**  
Waterbezwaarlijkheid (NL) 10: Kan in het aquatisch milieu op lange termijn schadelijke effecten veroorzaken.  
Gevaar voor water klasse 1 (D) (Zelfclassificatie): gevaar voor water klein  
Niet onverdund of in grote hoeveelheden lozen in grondwater, in oppervlaktewater of in de riolering.
- **12.5 Resultaten van PBT- en zPzB-beoordeling**
- **PBT:** Niet bruikbaar.
- **zPzB:** Niet bruikbaar.
- **12.6 Andere schadelijke effecten** Geen verdere relevante informatie verkrijgbaar.

### RUBRIEK 13: Instructies voor verwijdering

- **13.1 Afvalverwerkingsmethoden**
- **Aanbeveling:** Mag niet tesamen met huisvuil gestort worden of in de riolering terecht komen.
- **Niet gereinigde verpakkingen:**
- **Aanbeveling:** Afvalverwijdering volgens overheidsbepalingen.

### RUBRIEK 14: Informatie met betrekking tot het vervoer

- **14.1 VN-nummer**
- **ADR, IMDG, IATA**

UNI993

(Vervolg op blz. 7)

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· **14.2 Juiste ladingnaam overeenkomstig de modelreglementen van de VN**  
 · **ADR** 1993 BRANDBARE VLOEISTOF, N.E.G. (DIETHYLETHER (ETHYLETHER), ETHANOL (ETHYLALCOHOL))  
 · **IMDG** FLAMMABLE LIQUID, N.O.S. (DIETHYL ETHER (ETHYL ETHER), ETHANOL (ETHYL ALCOHOL))  
 · **IATA** Flammable liquid, n.o.s. (Diethyl ether, Ethanol)

· **14.3 Transportgevaar(n)**· **ADR, IMDG, IATA**

· **klasse** 3 Brandbare vloeistoffen  
 · **Etiket** 3

· **14.4 Verpakkingsgroep:**· **ADR, IMDG, IATA**

I

· **14.5 Milieugevaren:**

Niet bruikbaar.

· **14.6 Bijzondere voorzorgen voor de gebruiker**

Waarschuwing: Brandbare vloeistoffen

· **Kemler-getal:**

33

· **EMS-nummer:**

F-E,S-E

· **Stowage Category**

E

· **14.7 Vervoer in bulk overeenkomstig bijlage II bij Marpol en de IBC-code**

Niet bruikbaar.

· **Transport/verdere gegevens:**· **ADR**· **Bepaalde hoeveelheden (LQ)**

0

· **Uitzonderde hoeveelheden (EQ)**

Code: E3

Grootste netto hoeveelheid per binnenverpakking: 30 ml

Grootste netto hoeveelheid per buitenverpakking: 300 ml

· **Vervoerscategorie**

1

· **Tunnelbeperkingscode**

D/E

· **IMDG**· **Limited quantities (LQ)**

0

· **Excepted quantities (EQ)**

Code: E3

Maximum net quantity per inner packaging: 30 ml

Maximum net quantity per outer packaging: 300 ml

· **VN "Model Regulation":**

UN 1993 BRANDBARE VLOEISTOF, N.E.G. (DIETHYLETHER (ETHYLETHER), ETHANOL (ETHYLALCOHOL)), 3, I

### 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

(Vervolg op blz. 8)

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**· 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

I

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

64-17-5 ethanol

I

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

64-17-5 ethanol

x

**· Richtlijn 2012/18/EU**
**· Gevaarlijke stoffen die met naam genoemd worden - BIJLAGE I** geen der bestanddelen staat op de lijst.

**· Seveso-categorie P5a ONTVLAMBARE VLOEISTOFFEN**
**· Drempelwaarde (ton) voor toepassing van voorschriften voor lagedrempelinrichtingen 10 t**
**· Drempelwaarde (ton) voor toepassing van voorschriften voor hogedrempelinrichtingen 50 t**
**· Nationale voorschriften:**
**· Gevaarklasse v. water:** Waterbezwaarlijkheid (NL) 10: 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 produkteigenschappen en vestigen geen contractuele rechtsbetrekking.

**· Relevante zinnen**

H224 Zeer licht ontvlambare vloeistof en damp.

H225 Licht ontvlambare vloeistof en damp.

H302 Schadelijk bij inslikken.

H336 Kan slaperigheid of duizeligheid veroorzaken.

**· 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

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

Flam. Liq. 1: Flammable liquids, Hazard Category 1

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

Acute Tox. 4: Acute toxicity, Hazard Category 4

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

# Fiche de données de sécurité

## selon 1907/2006/CE, Article 31

Date d'impression : 19.01.2016

Révision: 19.01.2016

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

- **1.1 Identificateur de produit**
- **Nom du produit:** COLLODION, 5% SOLUTION, USP
- **Code du produit:** 12600, 12600-30
- **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

### RUBRIQUE 2: Identification des dangers

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



GHS02 flamme

Flam. Liq. 1 H224 Liquide et vapeurs extrêmement inflammables.



GHS07

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

STOT SE 3 H336 Peut provoquer somnolence ou vertiges.

- **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**



GHS02



GHS07

- **Mention d'avertissement** Danger
- **Composants dangereux déterminants pour l'étiquetage:**  
oxyde de diéthyle
- **Mentions de danger**  
H224 Liquide et vapeurs extrêmement inflammables.  
H302 Nocif en cas d'ingestion.  
H336 Peut provoquer somnolence ou vertiges.

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# Fiche de données de sécurité

## selon 1907/2006/CE, Article 31

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**Nom du produit: COLLODION, 5% SOLUTION, USP**

(suite de la page 1)

· **Conseils de prudence**

- P210 Tenir à l'écart de la chaleur, des surfaces chaudes, des étincelles, des flammes nues et de toute autre source d'inflammation. Ne pas fumer.
- P241 Utiliser du matériel électrique/de ventilation/d'éclairage/antidéflagrant.
- P261 Éviter de respirer les poussières/fumées/gaz/brouillards/vapeurs/aérosols.
- P303+P361+P353 EN CAS DE CONTACT AVEC LA PEAU (ou les cheveux): Enlever immédiatement tous les vêtements contaminés. Rincer la peau à l'eau/Se doucher.
- P405 Garder sous clef.
- P501 Éliminer le contenu/récipient conformément à la réglementation locale/régionale/nationale/internationale.

· **Indications complémentaires:**

EUH019 Peut former des peroxydes explosifs.

· **2.3 Autres dangers**

· **Résultats des évaluations PBT et vPvB**

· **PBT:** Non applicable.

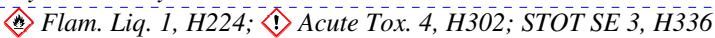

· **vPvB:** Non applicable.

### RUBRIQUE 3: Composition/informations sur les composants

· **3.2 Caractérisation chimique: Mélanges**

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

· **Composants dangereux:**

CAS: 60-29-7	oxyde de diéthyle	50-100%
EINECS: 200-467-2		
CAS: 64-17-5	éthanol	25-50%
EINECS: 200-578-6		

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

### RUBRIQUE 4: Premiers secours

· **4.1 Description des premiers secours**

· **Remarques générales:**

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

· **Après inhalation:** Donner de l'air frais, 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, sous l'eau courante, pendant plusieurs minutes, en écartant bien les paupières.

· **Après ingestion:** Consulter immédiatement un médecin.

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

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

Pas d'autres informations importantes disponibles.

### RUBRIQUE 5: Mesures de lutte contre l'incendie

· **5.1 Moyens d'extinction**

· **Moyens d'extinction:** CO<sub>2</sub>, sable, poudre d'extinction. Ne pas utiliser d'eau.

· **Produits extincteurs déconseillés pour des raisons de sécurité:** Jet d'eau à grand débit

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

Pas d'autres informations importantes disponibles.

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

### RUBRIQUE 6: Mesures à prendre en cas de dispersion accidentelle

- **6.1 Précautions individuelles, équipement de protection et procédures d'urgence**  
Porter un équipement de sécurité. Eloigner les personnes non protégées.
- **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.  
Ne pas rincer à l'eau ou aux produits nettoyants aqueux.
- **6.4 Référence à d'autres rubriques**  
Afin d'obtenir des informations pour une manipulation sûre, consulter le chapitre 7.  
Afin d'obtenir des informations sur les équipements de protection personnels, consulter le chapitre 8.  
Afin d'obtenir des informations sur l'élimination, consulter le chapitre 13.

### RUBRIQUE 7: Manipulation et stockage

- **7.1 Précautions à prendre pour une manipulation sans danger**  
Veiller à une bonne ventilation/aspiration du poste de travail.  
Ouvrir et manipuler les récipients avec précaution.  
Eviter la formation d'aérosols.
- **Préventions des incendies et des explosions:**  
Tenir à l'abri des sources d'inflammation - ne pas fumer.  
Tenir à l'abri de la chaleur.  
Prendre des mesures contre les charges électrostatiques.
- **7.2 Conditions d'un stockage sûr, y compris d'éventuelles incompatibilités**
- **Stockage:**
- **Exigences concernant les lieux et conteneurs de stockage:** Stocker dans un endroit frais.
- **Indications concernant le stockage commun:** Pas nécessaire.
- **Autres indications sur les conditions de stockage:**  
Tenir les emballages hermétiquement fermés.  
Ne pas fermer les emballages de telle sorte qu'ils soient hermétiques aux gaz.  
Stocker au frais et au sec dans des fûts bien 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.

### RUBRIQUE 8: Contrôles de l'exposition/protection individuelle

- **Indications complémentaires pour l'agencement des installations techniques:**  
Sans autre indication, voir point 7.

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### · 8.1 Paramètres de contrôle

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

##### 60-29-7 oxyde de diéthyle

VME	Valeur momentanée: 616 mg/m <sup>3</sup> , 200 ppm
	Valeur à long terme: 308 mg/m <sup>3</sup> , 100 ppm

##### 64-17-5 éthanol

VME	Valeur momentanée: 9500 mg/m <sup>3</sup> , 5000 ppm
	Valeur à long terme: 1900 mg/m <sup>3</sup> , 1000 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.

Se laver les mains avant les pauses et en fin de travail.

#### · 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:

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

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

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

#### · Matériau des gants

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

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

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

#### · Protection des yeux:



Lunettes de protection hermétiques

## RUBRIQUE 9: Propriétés physiques et chimiques

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

#### · Indications générales

#### · Aspect:

Forme:	Liquide
Couleur:	Incolore
Odeur:	Caractéristique
Seuil olfactif:	Non déterminé.

· valeur du pH:	Non déterminé.
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#### · Changement d'état

Point de fusion:	Non déterminé.
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<b>Point d'ébullition:</b>	35 °C
<b>· Point d'éclair</b>	-52 °C
<b>· Inflammabilité (solide, gazeux):</b>	Non applicable.
<b>· Température d'inflammation:</b>	170 °C
<b>· Température de décomposition:</b>	Non déterminé.
<b>· Auto-inflammation:</b>	Le produit ne s'enflamme pas spontanément.
<b>· Danger d'explosion:</b>	Peut former des peroxydes explosifs.
<b>· Limites d'explosion:</b>	
<b>Inférieure:</b>	1.7 Vol %
<b>Supérieure:</b>	36.0 Vol %
<b>· Pression de vapeur à 20 °C:</b>	587 hPa
<b>· Densité:</b>	Non déterminée.
<b>· Densité relative</b>	Non déterminé.
<b>· Densité de vapeur.</b>	Non déterminé.
<b>· Vitesse d'évaporation</b>	Non déterminé.
<b>· Solubilité dans/miscibilité avec l'eau:</b>	Pas ou peu miscible
<b>· Coefficient de partage (n-octanol/eau):</b>	Non déterminé.
<b>· Viscosité:</b>	
<b>Dynamique:</b>	Non déterminé.
<b>Cinématique:</b>	Non déterminé.
<b>· Teneur en solvants:</b>	
<b>Solvants organiques:</b>	95.0 %
<b>VOC (CE)</b>	95,00 %
<b>· 9.2 Autres informations</b>	Pas d'autres informations importantes disponibles.

### RUBRIQUE 10: Stabilité et réactivité

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

### RUBRIQUE 11: Informations toxicologiques

- **11.1 Informations sur les effets toxicologiques**
- **Toxicité aiguë**  
Nocif en cas d'ingestion.

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

**60-29-7 oxyde de diéthyle**

Oral	LD50	1215 mg/kg (rat)
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Inhalatoire	LC50/4 h	73000 mg/l (rat)
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- **Effet primaire d'irritation:**
- **Corrosion cutanée/irritation cutanée**  
Compte tenu des données disponibles, les critères de classification ne sont pas remplis.
- **Lésions oculaires graves/irritation oculaire**  
Compte tenu des données disponibles, les critères de classification ne sont pas remplis.
- **Sensibilisation respiratoire ou cutanée**  
Compte tenu des données disponibles, les critères de classification ne sont pas remplis.
- **Effets CMR (cancérogène, mutagène et toxique pour la reproduction)**
- **Mutagénicité sur les cellules germinales**  
Compte tenu des données disponibles, les critères de classification ne sont pas remplis.
- **Cancérogénicité** Compte tenu des données disponibles, les critères de classification ne sont pas remplis.
- **Toxicité pour la reproduction**  
Compte tenu des données disponibles, les critères de classification ne sont pas remplis.
- **Toxicité spécifique pour certains organes cibles - exposition unique**  
Peut provoquer somnolence ou vertiges.
- **Toxicité spécifique pour certains organes cibles - exposition répétée**  
Compte tenu des données disponibles, les critères de classification ne sont pas remplis.
- **Danger par aspiration** Compte tenu des données disponibles, les critères de classification ne sont pas remplis.

### RUBRIQUE 12: Informations écologiques

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

### RUBRIQUE 13: Considérations relatives à l'élimination

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

### RUBRIQUE 14: Informations relatives au transport

- |  |        |
|--|--------|
| <ul style="list-style-type: none"> <li>· <b>14.1 Numéro ONU</b></li> <li>· <b>ADR, IMDG, IATA</b></li> </ul> | UN1993 |
|--|--------|

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· 14.2 Désignation officielle de transport de l'ONU	
· ADR	1993 LIQUIDE INFLAMMABLE, N.S.A. (ÉTHÉR DIÉTHYLIQUE (ÉTHÉR ÉTHYLIQUE), ÉTHANOL (ALCOOL ÉTHYLIQUE))
· IMDG	FLAMMABLE LIQUID, N.O.S. (DIETHYL ETHER (ETHYL ETHER), ETHANOL (ETHYL ALCOHOL))
· IATA	Flammable liquid, n.o.s. (Diethyl ether, Ethanol)

## · 14.3 Classe(s) de danger pour le transport

· ADR, IMDG, IATA



· Classe	3 Liquides inflammables.
· Étiquette	3

## · 14.4 Groupe d'emballage

· ADR, IMDG, IATA

I

## · 14.5 Dangers pour l'environnement:

Non applicable.

## · 14.6 Précautions particulières à prendre par l'utilisateur

Attention: Liquides inflammables.

· Indice Kemler:

33

· No EMS:

F-E, S-E

· Stowage Category

E

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

Non applicable.

## · Indications complémentaires de transport:

· ADR

· Quantités limitées (LQ)

0

· Quantités exceptées (EQ)

Code: E3

Quantité maximale nette par emballage intérieur: 30 ml

Quantité maximale nette par emballage extérieur: 300

ml

· Catégorie de transport

1

· Code de restriction en tunnels

D/E

· IMDG

· Limited quantities (LQ)

0

· Excepted quantities (EQ)

Code: E3

Maximum net quantity per inner packaging: 30 ml

Maximum net quantity per outer packaging: 300 ml

· "Règlement type" de l'ONU:

UN 1993 LIQUIDE INFLAMMABLE, N.S.A. (ÉTHÉR DIÉTHYLIQUE (ÉTHÉR ÉTHYLIQUE), ÉTHANOL (ALCOOL ÉTHYLIQUE)), 3, I

FR

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### RUBRIQUE 15: Informations relatives à la réglementation

- **15.1 Réglementations/législation particulières à la substance ou au mélange en matière de sécurité, de santé et d'environnement**
- **Directive 2012/18/UE**
- **Substances dangereuses désignées - ANNEXE I** Aucun des composants n'est compris.
- **Catégorie SEVESO P5a LIQUIDES INFLAMMABLES**
- **Quantité seuil (tonnes) pour l'application des exigences relatives au seuil bas** 10 t
- **Quantité seuil (tonnes) pour l'application des exigences relatives au seuil haut** 50 t
- **15.2 Évaluation de la sécurité chimique:** Une évaluation de la sécurité chimique n'a pas été réalisée.

### RUBRIQUE 16: Autres informations

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

- **Phrases importantes**
- H224 Liquide et vapeurs extrêmement inflammables.
- H225 Liquide et vapeurs très inflammables.
- H302 Nocif en cas d'ingestion.
- H336 Peut provoquer somnolence ou vertiges.
- **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
- PBT: Persistent, Bioaccumulative and Toxic
- vPvB: very Persistent and very Bioaccumulative
- Flam. Liq. 1: Flammable liquids, Hazard Category 1
- Flam. Liq. 2: Flammable liquids, Hazard Category 2
- Acute Tox. 4: Acute toxicity, Hazard Category 4
- STOT SE 3: Specific target organ toxicity - Single exposure, Hazard Category 3

# Sicherheitsdatenblatt

## gemäß 1907/2006/EG, Artikel 31

Druckdatum: 19.01.2016

überarbeitet am: 19.01.2016

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

- **1.1 Produktidentifikator**
- **Handelsname:** COLLODION, 5% SOLUTION, USP
- **Artikelnummer:** 12600, 12600-30
- **1.2 Relevante identifizierte Verwendungen des Stoffs oder Gemischs und Verwendungen, von denen abgeraten wird**  
Keine weiteren relevanten Informationen verfügbar.
- **Verwendung des Stoffes / des Gemisches** Laborchemikalien
- **1.3 Einzelheiten zum Lieferanten, der das Sicherheitsdatenblatt bereitstellt**
- **Hersteller/Lieferant:**  
Electron Microscopy Sciences  
1560 Industry Road  
USA-Hatfield, PA 19440  
Tel: 215-412-8400 Fax: 215-412-8450  
email: sgkcck@aol.com  
www.emsdiasum.com  
  
Science Services GmbH  
Unterhachinger Str. 75  
81737 München Germany  
Tel: +49(0)89 18 93 668-0  
safety@scienceservices.de  
  
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**



GHS02 Flamme

Flam. Liq. 1 H224 Flüssigkeit und Dampf extrem entzündbar.



GHS07

Acute Tox. 4 H302 Gesundheitsschädlich bei Verschlucken.

STOT SE 3 H336 Kann Schläfrigkeit und Benommenheit verursachen.

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

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Handelsname: **COLLODION, 5% SOLUTION, USP**

(Fortsetzung von Seite 1)

· **Gefahrenpiktogramme**

GHS02 GHS07

· **Signalwort Gefahr**· **Gefahrbestimmende Komponenten zur Etikettierung:**

Diethylether

· **Gefahrenhinweise**

H224 Flüssigkeit und Dampf extrem entzündbar.

H302 Gesundheitsschädlich bei Verschlucken.

H336 Kann Schläfrigkeit und Benommenheit verursachen.

· **Sicherheitshinweise**

P210 Von Hitze, heißen Oberflächen, Funken, offenen Flammen und anderen Zündquellen fernhalten. Nicht rauchen.

P241 Explosionsgeschützte elektrische Geräte/Lüftungsanlagen/Beleuchtungsanlagen verwenden.

P261 Einatmen von Staub/Rauch/Gas/Nebel/Dampf/Aerosol vermeiden.

P303+P361+P353 BEI BERÜHRUNG MIT DER HAUT (oder dem Haar): Alle kontaminierten Kleidungsstücke sofort ausziehen. Haut mit Wasser abwaschen/duschen.

P405 Unter Verschluss aufbewahren.

P501 Entsorgung des Inhalts / des Behälters gemäß den örtlichen / regionalen / nationalen / internationalen Vorschriften.

· **Zusätzliche Angaben:**

EUH019 Kann explosionsfähige Peroxide bilden.

· **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: 60-29-7	Diethylether	50-100%
EINECS: 200-467-2	Flam. Liq. 1, H224;  Acute Tox. 4, H302; STOT SE 3, H336	
CAS: 64-17-5	Ethanol	25-50%
EINECS: 200-578-6	Flam. Liq. 2, H225	

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

### ABSCHNITT 4: Erste-Hilfe-Maßnahmen

· **4.1 Beschreibung der Erste-Hilfe-Maßnahmen**· **Allgemeine Hinweise:**

Vergiftungssymptome können erst nach vielen Stunden auftreten, deshalb ärztliche Überwachung mindestens 48 Stunden nach einem Unfall.

· **Nach Einatmen:** Frischluftzufuhr, bei Beschwerden Arzt aufsuchen.· **Nach Hautkontakt:** Im allgemeinen ist das Produkt nicht hautreizend.· **Nach Augenkontakt:** Augen bei geöffnetem Lidspalt mehrere Minuten mit fließendem Wasser spülen.

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- **Nach Verschlucken:** Sofort Arzt aufsuchen.
- **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:** CO<sub>2</sub>, Sand, Löschpulver. Kein Wasser verwenden.
- **Aus Sicherheitsgründen ungeeignete Löschmittel:** Wasser im Vollstrahl
- **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**  
Schutzausrüstung tragen. Ungeschützte Personen fernhalten.
- **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.  
Nicht mit Wasser oder wässrigen Reinigungsmitteln wegspülen.
- **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:**  
Zündquellen fernhalten - nicht rauchen.  
Vor Hitze schützen.  
Maßnahmen gegen elektrostatische Aufladung treffen.
- **7.2 Bedingungen zur sicheren Lagerung unter Berücksichtigung von Unverträglichkeiten**
- **Lagerung:**
- **Anforderung an Lagerräume und Behälter:** An einem kühlen Ort lagern.
- **Zusammenlagerungshinweise:** Nicht erforderlich.
- **Weitere Angaben zu den Lagerbedingungen:**  
Behälter dicht geschlossen halten.  
Behälter nicht gasdicht verschließen.  
In gut verschlossenen Gebinden kühl und trocken lagern.  
Vor Hitze und direkter Sonnenbestrahlung schützen.

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- **Lagerklasse:**
- **Klassifizierung nach Betriebsicherheitsverordnung (BetrSichV):** Entzündbare Flüssigkeiten
- **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:**

#### 60-29-7 Diethylether

AGW Langzeitwert: 1200 mg/m<sup>3</sup>, 400 ml/m<sup>3</sup>  
1(I);DFG, EU

#### 64-17-5 Ethanol

AGW Langzeitwert: 960 mg/m<sup>3</sup>, 500 ml/m<sup>3</sup>  
2(II);DFG, Y

- **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.  
Vor den Pausen und bei Arbeitsende Hände waschen.
- **Atemschutz:**  
Bei kurzzeitiger oder geringer Belastung Atemfiltergerät; bei intensiver bzw. längerer Exposition unluftunabhängiges Atemschutzgerät verwenden.
- **Handschutz:**  
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

DE

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### ABSCHNITT 9: Physikalische und chemische Eigenschaften

#### · 9.1 Angaben zu den grundlegenden physikalischen und chemischen Eigenschaften

##### · Allgemeine Angaben

##### · Aussehen:

Form: Flüssigkeit

Farbe: Farblos

· Geruch: Charakteristisch

· Geruchsschwelle: Nicht bestimmt.

· pH-Wert: Nicht bestimmt.

##### · Zustandsänderung

Schmelzpunkt/Schmelzbereich: Nicht bestimmt.

Siedepunkt/Siedebereich: 35 °C

· Flammpunkt: -52 °C

· Entzündlichkeit (fest, gasförmig): Nicht anwendbar.

· Zündtemperatur: 170 °C

· Zersetzungstemperatur: Nicht bestimmt.

· Selbstentzündlichkeit: Das Produkt ist nicht selbstentzündlich.

· Explosionsgefahr: Kann explosionsfähige Peroxide bilden.

##### · Explosionsgrenzen:

Untere: 1.7 Vol %

Obere: 36.0 Vol %

· Dampfdruck bei 20 °C: 587 hPa

· Dichte: Nicht bestimmt.

· Relative Dichte: Nicht bestimmt.

· Damfdichte: 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: 95.0 %

VOC (EU) 95,00 %

· 9.2 Sonstige Angaben: Keine weiteren relevanten Informationen verfügbar.

### ABSCHNITT 10: Stabilität und Reaktivität

· 10.1 Reaktivität: Keine weiteren relevanten Informationen verfügbar.

#### · 10.2 Chemische Stabilität

· Thermische Zersetzung / zu vermeidende Bedingungen:

Keine Zersetzung bei bestimmungsgemäßer Verwendung.

· 10.3 Möglichkeit gefährlicher Reaktionen: Keine gefährlichen Reaktionen bekannt.

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- **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**

Gesundheitsschädlich bei Verschlucken.

- **Einstufungsrelevante LD/LC50-Werte:**

**60-29-7 Diethylether**

Oral	LD50	1215 mg/kg (rat)
Inhalativ	LC50/4 h	73000 mg/l (rat)

- **Primäre Reizwirkung:**
- **Ätz-/Reizwirkung auf die Haut** Aufgrund der verfügbaren Daten sind die Einstufungskriterien nicht erfüllt.
- **Schwere Augenschädigung/-reizung** Aufgrund der verfügbaren Daten sind die Einstufungskriterien nicht erfüllt.
- **Sensibilisierung der Atemwege/Haut** Aufgrund der verfügbaren Daten sind die Einstufungskriterien nicht erfüllt.
- **CMR-Wirkungen (krebserzeugende, erbgutverändernde und fortpflanzungsgefährdende Wirkung)**
- **Keimzell-Mutagenität** Aufgrund der verfügbaren Daten sind die Einstufungskriterien nicht erfüllt.
- **Karzinogenität** Aufgrund der verfügbaren Daten sind die Einstufungskriterien nicht erfüllt.
- **Reproduktionstoxizität** Aufgrund der verfügbaren Daten sind die Einstufungskriterien nicht erfüllt.
- **Spezifische Zielorgan-Toxizität bei einmaliger Exposition**  
Kann Schläfrigkeit und Benommenheit verursachen.
- **Spezifische Zielorgan-Toxizität bei wiederholter Exposition**  
Aufgrund der verfügbaren Daten sind die Einstufungskriterien nicht erfüllt.
- **Aspirationsgefahr** Aufgrund der verfügbaren Daten sind die Einstufungskriterien nicht erfüllt.

### ABSCHNITT 12: Umweltbezogene Angaben

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

### ABSCHNITT 13: Hinweise zur Entsorgung

- **13.1 Verfahren der Abfallbehandlung**
- **Empfehlung:** Darf nicht zusammen mit Hausmüll entsorgt werden. Nicht in die Kanalisation gelangen lassen.

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- **Ungereinigte Verpackungen:**
- **Empfehlung:** Entsorgung gemäß den behördlichen Vorschriften.

### ABSCHNITT 14: Angaben zum Transport

· **14.1 UN-Nummer**

· **ADR, IMDG, IATA** UN1993

· **14.2 Ordnungsgemäße UN-Versandbezeichnung**

· **ADR** 1993 ENTZÜNDBARER FLÜSSIGER STOFF, N.A.G.  
(DIETHYLETHER (ETHYLETHER), ETHANOL  
(ETHYLALKOHOL))

· **IMDG** FLAMMABLE LIQUID, N.O.S. (DIETHYL ETHER (ETHYL  
ETHER), ETHANOL (ETHYL ALCOHOL))

· **IATA** Flammable liquid, n.o.s. (Diethyl ether, Ethanol)

· **14.3 Transportgefahrenklassen**

· **ADR, IMDG, IATA**



· **Klasse** 3 Entzündbare flüssige Stoffe

· **Gefahrzettel** 3

· **14.4 Verpackungsgruppe**

· **ADR, IMDG, IATA** I

· **14.5 Umweltgefahren:** Nicht anwendbar.

· **14.6 Besondere Vorsichtsmaßnahmen für den Verwender**

· **Kemler-Zahl:** Achtung: Entzündbare flüssige Stoffe

· **EMS-Nummer:** 33

· **Stowage Category** F-E,S-E

E

· **14.7 Massengutbeförderung gemäß Anhang II des MARPOL-Übereinkommens und gemäß IBC-Code** Nicht anwendbar.

· **Transport/weitere Angaben:**

· **ADR**

· **Begrenzte Menge (LQ)** 0

· **Freigestellte Mengen (EQ)** Code: E3  
Höchste Nettomenge je Innenverpackung: 30 ml  
Höchste Nettomenge je Außenverpackung: 300 ml

· **Beförderungskategorie** 1

· **Tunnelbeschränkungscode** D/E

· **IMDG**

· **Limited quantities (LQ)** 0

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· <b>Excepted quantities (EQ)</b>	Code: E3 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 300 ml
· <b>UN "Model Regulation":</b>	UN 1993 ENTZÜNDBARER FLÜSSIGER STOFF, N.A.G. (DIETHYLETHER (ETHYLETHER), ETHANOL (ETHYLALKOHOL)), 3, I

### ABSCHNITT 15: Rechtsvorschriften

- **15.1 Vorschriften zu Sicherheit, Gesundheits- und Umweltschutz/spezifische Rechtsvorschriften für den Stoff oder das Gemisch**
  - Richtlinie 2012/18/EU
  - **Namentlich aufgeführte gefährliche Stoffe - ANHANG I** Keiner der Inhaltsstoffe ist enthalten.
  - **Seveso-Kategorie P5a ENTZÜNDBARE FLÜSSIGKEITEN**
  - **Mengenschwelle (in Tonnen) für die Anwendung in Betrieben der unteren Klasse 10 t**
  - **Mengenschwelle (in Tonnen) für die Anwendung in Betrieben der oberen Klasse 50 t**
  - **Nationale Vorschriften:**
  - **Technische Anleitung Luft:**
- | Klasse | Anteil in % |
|--------|-------------|
| NK     | 95,0        |
- **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**
- H224 Flüssigkeit und Dampf extrem entzündbar.
- H225 Flüssigkeit und Dampf leicht entzündbar.
- H302 Gesundheitsschädlich bei Verschlucken.
- H336 Kann Schläfrigkeit und Benommenheit verursachen.
- **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)
- 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. 1: Flammable liquids, Hazard Category 1
- Flam. Liq. 2: Flammable liquids, Hazard Category 2
- Acute Tox. 4: Acute toxicity, Hazard Category 4
- STOT SE 3: Specific target organ toxicity - Single exposure, Hazard Category 3

**Scheda di dati di sicurezza**  
ai sensi del regolamento 1907/2006/CE, Articolo 31

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

- **1.1 Identificatore del prodotto**
- **Denominazione commerciale:** COLLODION, 5% SOLUTION, USP
- **Articolo numero:** 12600, 12600-30
- **1.2 Usi identificati pertinenti della sostanza o della miscela e usi sconsigliati**  
Non sono disponibili altre informazioni.
- **Utilizzazione della Sostanza / del Preparato** Prodotti chimici per laboratorio
- **1.3 Informazioni sul fornitore della scheda di dati di sicurezza**
- **Produttore/fornitore:**  
Electron Microscopy Sciences  
1560 Industry Road  
USA-Hatfield, PA 19440  
Tel: 215-412-8400 Fax: 215-412-8450  
email: 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**



GHS02 fiamma

Flam. Liq. 1 H224 Liquido e vapori altamente infiammabili.



GHS07

Acute Tox. 4 H302 Nocivo se ingerito.

STOT SE 3 H336 Può provocare sonnolenza o vertigini.

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



GHS02



GHS07

- **Avvertenza Pericolo**

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· **Componenti pericolosi che ne determinano l'etichettatura:**

ossido di dietile

· **Indicazioni di pericolo**

H224 Liquido e vapori altamente infiammabili.

H302 Nocivo se ingerito.

H336 Può provocare sonnolenza o vertigini.

· **Consigli di prudenza**

P210 Tenere lontano da fonti di calore, superfici riscaldate, scintille, fiamme e altre fonti di innesco. Vietato fumare.

P241 Utilizzare impianti elettrici/di ventilazione/d'illuminazione/a prova di esplosione.

P261 Evitare di respirare la polvere/i fumi/i gas/la nebbia/i vapori/gli aerosol.

P303+P361+P353 IN CASO DI CONTATTO CON LA PELLE (o con i capelli): togliere immediatamente tutti gli indumenti contaminati. Sciacquare la pelle/fare una doccia.

P405 Conservare sotto chiave.

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

· **Ulteriori dati:**

EUH019 Può formare perossidi esplosivi.

· **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: 60-29-7	ossido di dietile	50-100%
EINECS: 200-467-2	☠ Flam. Liq. 1, H224; ⚠ Acute Tox. 4, H302; STOT SE 3, H336	
CAS: 64-17-5	etanolo	25-50%
EINECS: 200-578-6	☠ Flam. Liq. 2, H225	

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

### SEZIONE 4: Misure di primo soccorso

· **4.1 Descrizione delle misure di primo soccorso**

· **Indicazioni generali:**

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

· **Inalazione:** Portare 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 alcuni minuti tenendo le palpebre ben aperte.

· **Ingestione:** Chiamare subito il medico.

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

· **4.3 Indicazione dell'eventuale necessità di consultare immediatamente un medico e di trattamenti speciali**

Non sono disponibili altre informazioni.

IT

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### **SEZIONE 5: Misure antincendio**

- **5.1 Mezzi di estinzione**
- **Mezzi di estinzione idonei:** CO2, sabbia, polvere. Non usare acqua.
- **Mezzi di estinzione inadatti per motivi di sicurezza:** Getti d'acqua
- **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**  
*Indossare equipaggiamento protettivo. Allontanare le persone non equipaggiate.*
- **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.  
 Non dilavare con acqua o detergenti liquidi.*
- **6.4 Riferimento ad altre sezioni**  
*Per informazioni relative ad un manipolazione sicura, vedere capitolo 7.  
 Per informazioni relative all'equipaggiamento protettivo ad uso personale vedere Capitolo 8.  
 Per informazioni relative allo smaltimento vedere Capitolo 13.*

### **SEZIONE 7: Manipolazione e immagazzinamento**

- **7.1 Precauzioni per la manipolazione sicura**  
*Accurata ventilazione/aspirazione nei luoghi di lavoro.  
 Aprire e manipolare i recipienti con cautela.  
 Evitare la formazione di aerosol.*
- **Indicazioni in caso di incendio ed esplosione:**  
*Tenere lontano da fonti di calore, non fumare.  
 Proteggere dal calore.  
 Adottare provvedimenti contro cariche elettrostatiche.*
- **7.2 Condizioni per lo stoccaggio sicuro, comprese eventuali incompatibilità**
- **Stoccaggio:**
- **Requisiti dei magazzini e dei recipienti:** *Conservare in ambiente fresco.*
- **Indicazioni sullo stoccaggio misto:** *Non necessario.*
- **Ulteriori indicazioni relative alle condizioni di immagazzinamento:**  
*Mantenere i recipienti ermeticamente chiusi.  
 Chiudere i recipienti non a tenuta di gas.  
 Conservare in luogo fresco e asciutto in fusti ben chiusi.  
 Proteggere dal calore e dai raggi diretti del sole.*
- **7.3 Usi finali particolari** *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.*

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**· 8.1 Parametri di controllo**

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

**60-29-7 ossido di dietile**

TWA	Valore a breve termine: 1516 mg/m <sup>3</sup> , 500 ppm Valore a lungo termine: 1213 mg/m <sup>3</sup> , 400 ppm
VL	Valore a breve termine: 616 mg/m <sup>3</sup> , 200 ppm Valore a lungo termine: 308 mg/m <sup>3</sup> , 100 ppm

**64-17-5 etanolo**

TWA	Valore a breve termine: 1884 mg/m <sup>3</sup> , 1000 ppm
A3	

· **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.

Lavarsi le mani prima dell'intervallo o a lavoro terminato.

**· Maschera protettiva:**

Nelle esposizioni brevi e minime utilizzare la maschera; nelle esposizioni più intense e durature indossare l'autorespiratore.

**· Guanti protettivi:**

Il materiale dei guanti deve essere impermeabile e stabile contro il prodotto/ la sostanza/ la formulazione.

A causa della mancanza di tests non può essere consigliato alcun tipo di materiale per i guanti con cui manipolare il prodotto / la formulazione / la miscela di sostanze chimiche.

Scelta del materiale dei guanti in considerazione dei tempi di passaggio, dei tassi di permeazione e della degradazione.

**· Materiale dei guanti**

La scelta dei guanti adatti non dipende soltanto dal materiale bensì anche da altre caratteristiche di qualità variabili da un produttore a un altro. Poiché il prodotto rappresenta una formulazione di più sostanze, la stabilità dei materiali dei guanti non è calcolabile in anticipo e deve essere testata prima dell'impiego

**· Tempo di permeazione del materiale dei guanti**

Richiedere dal fornitore dei guanti il tempo di passaggio preciso il quale deve essere rispettato.

**· Occhiali protettivi:**



Occhiali protettivi a tenuta

**SEZIONE 9: Proprietà fisiche e chimiche**

**· 9.1 Informazioni sulle proprietà fisiche e chimiche fondamentali**

**· Indicazioni generali**

**· Aspetto:**

**Forma:** Liquido

**Colore:** Incolore

**· Odore:** Caratteristico

**· Soglia olfattiva:** Non definito.

**· valori di pH:** Non definito.

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**Scheda di dati di sicurezza**  
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· <b>Cambiamento di stato</b> Temperatura di fusione/ambito di fusione:	Non definito.
Temperatura di ebollizione/ambito di ebollizione:	35 °C
· <b>Punto di infiammabilità:</b>	-52 °C
· <b>Infiammabilità (solido, gassoso):</b>	Non applicabile.
· <b>Temperatura di accensione:</b>	170 °C
· <b>Temperatura di decomposizione:</b>	Non definito.
· <b>Autoaccensione:</b>	Prodotto non autoinfiammabile.
· <b>Pericolo di esplosione:</b>	Può formare perossidi esplosivi.
· <b>Limiti di infiammabilità:</b> Inferiore:	1.7 Vol %
Superiore:	36.0 Vol %
· <b>Tensione di vapore a 20 °C:</b>	587 hPa
· <b>Densità:</b>	Non definito.
· <b>Densità relativa</b>	Non definito.
· <b>Densità del vapore</b>	Non definito.
· <b>Velocità di evaporazione</b>	Non definito.
· <b>Solubilità in/Miscibilità con acqua:</b>	Poco e/o non miscibile.
· <b>Coefficiente di distribuzione (n-Octanol/acqua):</b>	Non definito.
· <b>Viscosità:</b> Dinamica:	Non definito.
Cinematica:	Non definito.
· <b>Tenore del solvente:</b> Solventi organici:	95.0 %
VOC (CE)	95,00 %
· <b>9.2 Altre informazioni</b>	Non sono disponibili altre informazioni.

### SEZIONE 10: Stabilità e reattività

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

### SEZIONE 11: Informazioni tossicologiche

- **11.1 Informazioni sugli effetti tossicologici**
- **Tossicità acuta**  
Nocivo se ingerito.

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**· Valori LD/LC50 rilevanti per la classificazione:**

**60-29-7 ossido di dietile**

Orale	LD50	1215 mg/kg (rat)
Per inalazione	LC50/4 h	73000 mg/l (rat)

**· Irritabilità primaria:**

· **Corrosione/irritazione cutanea** Basandosi sui dati disponibili i criteri di classificazione non sono soddisfatti.

· **Lesioni oculari gravi/irritazioni oculari gravi**

Basandosi sui dati disponibili i criteri di classificazione non sono soddisfatti.

· **Sensibilizzazione respiratoria o cutanea**

Basandosi sui dati disponibili i criteri di classificazione non sono soddisfatti.

· **Effetti CMR (cancerogenicità, mutagenicità e tossicità per la riproduzione)**

· **Mutagenicità delle cellule germinali**

Basandosi sui dati disponibili i criteri di classificazione non sono soddisfatti.

· **Cancerogenicità** Basandosi sui dati disponibili i criteri di classificazione non sono soddisfatti.

· **Tossicità per la riproduzione** Basandosi sui dati disponibili i criteri di classificazione non sono soddisfatti.

· **Tossicità specifica per organi bersaglio (STOT) - esposizione singola**

Può provocare sonnolenza o vertigini.

· **Tossicità specifica per organi bersaglio (STOT) - esposizione ripetuta**

Basandosi sui dati disponibili i criteri di classificazione non sono soddisfatti.

· **Pericolo in caso di aspirazione** Basandosi sui dati disponibili i criteri di classificazione non sono soddisfatti.

## SEZIONE 12: Informazioni ecologiche

· **12.1 Tossicità**

· **Tossicità acquatica:** Non sono disponibili altre informazioni.

· **12.2 Persistenza e degradabilità** Non sono disponibili altre informazioni.

· **12.3 Potenziale di bioaccumulo** Non sono disponibili altre informazioni.

· **12.4 Mobilità nel suolo** Non sono disponibili altre informazioni.

· **Ulteriori indicazioni in materia ambientale:**

· **Ulteriori indicazioni:**

Pericolosità per le acque classe 1 (D) (Autoclassificazione): poco pericoloso

Non immettere nelle acque freatiche, nei corsi d'acqua o nelle fognature non diluito o in grandi quantità.

· **12.5 Risultati della valutazione PBT e vPvB**

· **PBT:** Non applicabile.

· **vPvB:** Non applicabile.

· **12.6 Altri effetti avversi** Non sono disponibili altre informazioni.

## SEZIONE 13: Considerazioni sullo smaltimento

· **13.1 Metodi di trattamento dei rifiuti**

· **Consigli:** Non smaltire il prodotto insieme ai rifiuti domestici Non immettere nelle fognature.

· **Imballaggi non puliti:**

· **Consigli:** Smaltimento in conformità con le disposizioni amministrative.

## SEZIONE 14: Informazioni sul trasporto

· **14.1 Numero ONU**

· **ADR, IMDG, IATA**

UN1993

(continua a pagina 7)


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<ul style="list-style-type: none"> <li>· <b>14.2 Nome di spedizione dell'ONU</b></li> <li>· <b>ADR</b></li> <li>· <b>IMDG</b></li> <li>· <b>IATA</b></li> </ul>	<p>1993 LIQUIDO INFIAMMABILE, N.A.S. (ETERE DIETILICO (ETERE ETILICO), ETANOLO (ALCOL ETILICO))            FLAMMABLE LIQUID, N.O.S. (DIETHYL ETHER (ETHYL ETHER), ETHANOL (ETHYL ALCOHOL))            Flammable liquid, n.o.s. (Diethyl ether, Ethanol)</p>
<ul style="list-style-type: none"> <li>· <b>14.3 Classi di pericolo connesso al trasporto</b></li> <li>· <b>ADR, IMDG, IATA</b></li> </ul>	
	
<ul style="list-style-type: none"> <li>· <b>Classe</b></li> <li>· <b>Etichetta</b></li> </ul>	<p>3 Liquidi infiammabili 3</p>
<ul style="list-style-type: none"> <li>· <b>14.4 Gruppo di imballaggio</b></li> <li>· <b>ADR, IMDG, IATA</b></li> </ul>	I
<ul style="list-style-type: none"> <li>· <b>14.5 Pericoli per l'ambiente:</b></li> </ul>	Non applicabile.
<ul style="list-style-type: none"> <li>· <b>14.6 Precauzioni speciali per gli utilizzatori</b></li> <li>· <b>Numero Kemler:</b></li> <li>· <b>Numero EMS:</b></li> <li>· <b>Stowage Category</b></li> </ul>	<p>Attenzione: Liquidi infiammabili 33 F-E, S-E E</p>
<ul style="list-style-type: none"> <li>· <b>14.7 Trasporto di rifiuti secondo l'allegato II di MARPOL ed il codice IBC</b></li> </ul>	Non applicabile.
<ul style="list-style-type: none"> <li>· <b>Trasporto/ulteriori indicazioni:</b></li> </ul>	
<ul style="list-style-type: none"> <li>· <b>ADR</b></li> <li>· <b>Quantità limitate (LQ)</b></li> <li>· <b>Quantità esenti (EQ)</b></li> <li>· <b>Categoria di trasporto</b></li> <li>· <b>Codice di restrizione in galleria</b></li> </ul>	<p>0 Codice: E3 Quantità massima netta per imballaggio interno: 30 ml Quantità massima netta per imballaggio esterno: 300 ml 1 D/E</p>
<ul style="list-style-type: none"> <li>· <b>IMDG</b></li> <li>· <b>Limited quantities (LQ)</b></li> <li>· <b>Excepted quantities (EQ)</b></li> </ul>	<p>0 Code: E3 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 300 ml</p>
<ul style="list-style-type: none"> <li>· <b>UN "Model Regulation":</b></li> </ul>	<p>UN 1993 LIQUIDO INFIAMMABILE, N.A.S. (ETERE DIETILICO (ETERE ETILICO), ETANOLO (ALCOL ETILICO)), 3, I</p>

### SEZIONE 15: Informazioni sulla regolamentazione

- **15.1 Disposizioni legislative e regolamentari su salute, sicurezza e ambiente specifiche per la sostanza o la miscela**
- **Direttiva 2012/18/UE**
- **Sostanze pericolose specificate - ALLEGATO I** Nessuno dei componenti è contenuto.

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**Scheda di dati di sicurezza**  
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- **Categoria Seveso P5a LIQUIDI INFIAMMABILI**
- **Quantità limite (tonnellate) ai fini dell'applicazione dei requisiti di soglia inferiore 10 t**
- **Quantità limite (tonnellate) ai fini dell'applicazione dei requisiti di soglia superiore 50 t**

- **Disposizioni nazionali:**

- **Istruzione tecnica aria:**

Classe	quota in %
NC	95,0

- **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**

H224 Liquido e vapori altamente infiammabili.  
 H225 Liquido e vapori facilmente infiammabili.  
 H302 Nocivo se ingerito.  
 H336 Può provocare sonnolenza o vertigini.

- **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  
 PBT: Persistent, Bioaccumulative and Toxic  
 vPvB: very Persistent and very Bioaccumulative  
 Flam. Liq. 1: Flammable liquids, Hazard Category 1  
 Flam. Liq. 2: Flammable liquids, Hazard Category 2  
 Acute Tox. 4: Acute toxicity, Hazard Category 4  
 STOT SE 3: Specific target organ toxicity - Single exposure, Hazard Category 3

IT

# 안전지침서

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### 1 화학제품과 회사에 관한 정보

- **제품 식별자**
- **제품명:** COLLODION, 5% SOLUTION, USP
- **상품번호:** 12600, 12600-30
- **해당 순물질이나 혼합물의 관련 하위용도 및 사용금지용도** 추가적인 정보가 존재하지 않습니다.
- **제품의 권고 용도와 사용상의 제한:** 실험실화학품
- **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 구분1      H224 극인화성 액체 및 증기



급성 독성(경구) 구분4    H302 삼키면 유해함  
 표적장기-1회노출 구분3 H336 졸음 또는 현기증을 일으킬 수 있음

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



GHS02    GHS07

- **신호어 위험**
- **상표상에명확히위험성이표시된성분:**  
 diethyl ether

(2 쪽에 계속)

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### 제품명: COLLODION, 5% SOLUTION, USP

(1 쪽부터계속)

- **유해.위험 문구**  
극인화성 액체 및 증기  
삼키면 유해함  
졸음 또는 현기증을 일으킬 수 있음
- **예방조치 문구**  
열·스파크·화염·고열로부터 멀리하시오 – 금연  
폭발 방지용 전기·환기·조명·장비를 사용하시오.  
(분진·흙·가스·미스트·증기·스프레이)의 흡입을 피하시오.  
피부(모발)에 접촉 시: 모든 오염된 옷을 즉시 벗으시오 피부를 물/샤워로 헹구시오.  
잠금장치가 있는 저장장소에 저장하시오.  
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.

· **위험요소:**

60-29-7	diethyl ether ⚠ 인화성 액체 구분1, H224; ⚠ 급성 독성(경구) 구분4, H302; 표적장기-1회노출 구분3, H336	50-100%
64-17-5	Ethyl Alcohol, Absolute, 200 Proof Reagent, ACS (Ethanol) 15055 ⚠ 인화성 액체 구분2, H225	25-50%

### 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 씻어낸다.
- **먹었을 때:** 즉시 의사의 도움을 구한다.
- **기타 의사의 주의사항:**  
· 가장 중요한 급·만성 증상 및 영향 추가적인 정보가 존재하지 않습니다.  
· 즉각적인 의료처치 및 특별치료가 필요함을 시사하는 징후 추가적인 정보가 존재하지 않습니다.

### 5 폭발.화재시 대처방법

- **소화제**
- **적절한 소화제:** 이산화탄소, 모래, 석회가루를 사용하고, 물을 사용하지 않는다.
- **부적절한 소화제:** 플레트용 물
- **본 화학물질이나 혼합물에서 발생하는 특별 유해성** 추가적인 정보가 존재하지 않습니다.

(3 쪽에계속)



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## 제31조의 1907/2006/EC에 따라

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**제품명: COLLODION, 5% SOLUTION, USP**

(2 쪽부터계속)

- 소방관에 대한 권고사항
- 화재 진압 시 착용할 보호구 및 예방조치: 특별한 조치가 필요없음.

### 6 누출 사고 시 대처방법

- 개인적 예방조치, 보호장비 및 응급처치 절차 안전장비 착용하고, 무방비의 사람은 격리시킨다.
- 환경 관련 예방조치: 하수도망/해수면위의물/지하수로도달하지않게한다.
- 밀폐 및 정화 방법과 소재: 액체가 혼합된물질(모래, 규조토, 산성결합물, 일반결합물, 톱밥)에 흡입되도록 한다. 항목 13에 따라 오염된 물질을 쓰레기로 처분한다. 충분한 환기가 되도록 한다. 물이나 묽은 세척제로 씻어 내지 마십시오
- 타 섹션 참조  
안전관리에 대한 정보는 제7 장을 참고하십시오.  
개인보호장비에 대한 정보는 제8 장을 참고하십시오.  
쓰레기처리에 대한 정보는 제13 장을 참고하십시오.

### 7 취급 및 저장방법

- 취급:  
· 안전 취급을 위한 예방조치  
작업장에서는통풍이잘되고/습기제거가잘되게주의한다.  
조심스럽게용기를 개봉하거나취급한다.  
연무질이형성되는것을피한다.
- 화재 및 폭발 사고 예방대책에 관한 정보:  
발화요소는 멀리둔다.금연.  
열로부터보호한다.  
정전기의충전으로부터 보호한다.
- 혼합위험성 등 안전 저장 조건  
· 보관:  
· 안전한 저장 방법: 차가운 장소에 보관한다.  
· 하나의 공동 보관 시설에 대한 보관 관련 정보: 필요없음  
· 보관 조건에 관한 추가적인 정보:  
용기를새지않게밀폐한채보관한다.  
요기를가스가새지않게밀폐시킨다.  
밀폐된용기속에서늘하고건조하게보관한다.  
열이나직사광선으로부터보호한다.  
· 구체적 최종 사용자 추가적인 정보가 존재하지 않습니다.

### 8 노출방지 및 개인보호구

- 첨단시설 디자인에 대한 추가정보: 더 이상 의 자료는 없음. 항목 7 을 참고하십시오.
- 통제 변수

· 화학물질의 노출기준, 생물학적 노출기준 등:

60-29-7 diethyl ether

TLV (KR)	단기간의값: 1500 mg/m <sup>3</sup> , 500 ppm 장기간의값: 1200 mg/m <sup>3</sup> , 400 ppm
IOELV (EU)	단기간의값: 616 mg/m <sup>3</sup> , 200 ppm 장기간의값: 308 mg/m <sup>3</sup> , 100 ppm

(4 쪽에계속)

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PEL (US)	장기간의값: 1200 mg/m <sup>3</sup> , 400 ppm
TLV (US)	단기간의값: 1520 mg/m <sup>3</sup> , 500 ppm 장기간의값: 1210 mg/m <sup>3</sup> , 400 ppm
<b>64-17-5 Ethyl Alcohol, Absolute, 200 Proof Reagent, ACS (Ethanol) 15055</b>	
TLV (KR)	장기간의값: 1900 mg/m <sup>3</sup> , 1000 ppm
PEL (US)	장기간의값: 1900 mg/m <sup>3</sup> , 1000 ppm
REL (US)	장기간의값: 1900 mg/m <sup>3</sup> , 1000 ppm
TLV (US)	단기간의값: 1880 mg/m <sup>3</sup> , 1000 ppm

· **추가 정보:** 제 조 할 당 시 에 유 효 한 목 록 을 기 초 로 사 용 했 다.

· **노출 통제**

· **개인 보호구**

· **일반적보호조치및위생조치:**

· 식료품, 음료수와 사료로부터 멀리 떨어져 두는 다.

· 휴 식 전 이 나 작 업 이 끝 날 때 마 다 손 을 씻 는 다.

· **호흡기 보호:**

· 단 시 간 또 는 경 미 한 오 염 의 경 우 에 는 호 흡 여 과 기 를 사 용 한 다. 심 각 한 또 는 장 기 간 노 출 시 에 는 호 흡 보 호 장 비 를 사 용 한 다.

· **손 보호:**

· 장갑재질은제품 / 원료 / 조제를투과시키지않아야하고, 내구성이있어야한다.

· 테 슷 를 하 지 않 았 기 때 문 에 제 품 / 조 제 / 화 학 혼 합 물 에 적 합 한 장 갑 재 질 에 대 한 추 천 이 없 다.

· 투 과 시 간, 침 투 율 과 저 하 를 고 려 해 서 장 갑 재 료 를 선 택 한 다.

· **장갑의재로**

· 적 합 한 장 갑 의 선 정 은 재 질 차 이 뿐 아 니 라 품 질 기 준 의 차 이 도 고 려 하 여 이 루 어 져 야 하 고 제 조 업 중 에 따 라 서 도 다 르 게 선 정 되 어 야 한 다. 제 품 은 다 양 한 재 료 로 부 터 의 조 제 로 이 루 어 지 는 것 이 기 때 문 에, 장 갑 재 질 의 안 정 성 은 사 전 에 예 측 되 어 질 수 있 는 것 이 아 니 고, 반 드 시 사 용 전 에 (그안전성이) 체 크 되 어 져 야 한 다.

· **장갑재료의투과시간** 정확관통시간은보호장갑제조자에의하여인지되고, 준수되어야한다.

· **눈 보호:**



· **확조이는보안경**

## 9 물리화학적 특성

· **기본 물리 및 화학적 특성에 대한 정보**

· **일반정보**

· **외형**

· **물리적 상태:** 액체

· **색:** 색소가 없는

· **냄새:** 특색있는

· **후각역치** 알맞지않다.

· **pH:** 알맞지않다.

· **상태변화**

· **녹는점/어는점:** 맞지않는

· **초기 끓는점과 끓는점 범위:** 35 °C

(5 쪽에계속)

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· 인화점:	-52 °C
· 인화성(고체, 기체):	해당사항 없음.
· 점화온도:	170 °C
· 분해 온도:	알맞지않다.
· 자기점화:	이제품은자연발화성이없다.
· 폭발위험:	폭발가능성이있는과산화물이형성될수있는가
· 인화 또는 폭발 범위의 상한/하한 아래로:	1.7 Vol %
위로:	36.0 Vol %
· 증기압 의경우 20 °C:	587 hPa
· 밀도:	맞지않는다.
· 비중:	알맞지않다.
· 증기밀도:	알맞지않다.
· 증발 속도:	알맞지않다.
· 용해도:	
물:	각각의경우에따라서는거의혼합할수없는
· n 옥탄올/물 분배계수:	알맞지않다.
· 점도:	
역학성:	알맞지않다.
등점성:	알맞지않다.
· 용매내용물 유기용매:	95.0 %
VOC (EU)	95.00 %
· 기타 정보	추가적인 정보가 존재하지 않습니다.

### 10 안정성 및 반응성

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

### 11 독성에 관한 정보

- 독성학적 영향에 대한 정보
- 급성 독성:

· LD/LC50-수치에 따른 분류:	
60-29-7 diethyl ether	
구강의 LD50	1215 mg/kg (rat)
흡입의 LC50/4 h	73000 mg/l (rat)

(6 쪽에계속)

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- **입차적 자극 효과:**
- **피부 부식성 또는 자극성:** 무자극
- **심한 눈 손상 또는 자극성:** 무자극.
- **감각화:** 민감한영향이없는것으로알려져있다.
- **추 가 적 인 특 성 에 관 한 정 보:**  
 이제품은유럽공동체의공동분류원칙의합법적인절차에근거하여최근에발효된원고에서아래위험들의이사전 준비에대하여제시하고있다.  
 건강에해로운

### 12 환경에 미치는 영향

- **독성**
- **수생독성:** 추가적인 정보가 존재하지 않습니다.
- **지속성 및 분해성** 추가적인 정보가 존재하지 않습니다.
- **환경 시스템에서의 행동:**
- **생물농축 잠재성** 추가적인 정보가 존재하지 않습니다.
- **토양내 이동성** 추가적인 정보가 존재하지 않습니다.
- **추가적인 생태학 정보:**
- **일반 특징:**  
 수질오염등급 1 (자체등급분류): 약하게수질오염이된  
 희석시키지않은채대량으로지하수나, 하천으로그리고 하수도망에도달하지않게한다.
- **PBT(잔류성, 생물농축성, 독성 물질) 및 vPvB(고 잔류성, 고 생물농축성 물질) 평가 결과**
- **PBT(잔류성, 생물농축성, 독성 물질):** 해당사항 없음.
- **vPvB(고 잔류성, 고 생물농축성 물질):** 해당사항 없음.
- **기타 부작용** 추가적인 정보가 존재하지 않습니다.

### 13 폐기시 주의사항

- **폐기물 처리 방법**
- **권고:** 생활쓰레기와함께처리되어서는안된다. 하수도망으로유입되어서는안된다.
- **비위생적 포장:**
- **권고:** 당국의지침에입각한쓰레기처리.

### 14 운송에 필요한 정보

· <b>유엔 번호</b>	
· <b>ADR, IMDG, IATA</b>	UN1993
· <b>UN 적정 선적명</b>	
· <b>ADR</b>	1993 FLAMMABLE LIQUID, N.O.S. (DIETHYL ETHER (ETHYL ETHER), ETHANOL (ETHYL ALCOHOL))
· <b>IMDG</b>	FLAMMABLE LIQUID, N.O.S. (DIETHYL ETHER (ETHYL ETHER), ETHANOL (ETHYL ALCOHOL))
· <b>IATA</b>	Flammable liquid, n.o.s. (Diethyl ether, Ethanol)

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<ul style="list-style-type: none"> <li>· 교통 위험 클래스</li> <li>· ADR, IMDG, IATA</li> </ul>	
	
<ul style="list-style-type: none"> <li>· 등급</li> <li>· 위험물 라벨</li> </ul>	3 발화성용액 3
<ul style="list-style-type: none"> <li>· 용기등급</li> <li>· ADR, IMDG, IATA</li> </ul>	I
<ul style="list-style-type: none"> <li>· 환경적 유해물질:</li> </ul>	해당사항 없음.
<ul style="list-style-type: none"> <li>· 이용자 특별 예방조치</li> <li>· 위험 코드:</li> <li>· EMS-번호:</li> <li>· Stowage Category</li> </ul>	경고: 발화성용액 33 F-E,S-E E
<ul style="list-style-type: none"> <li>· MARPOL73/78(선박으로부터의 해양오염방지협약) 부속서2 및 IBC Code(국제선적화물코드)에 따른 벌크(bulk) 운송</li> </ul>	해당사항 없음.
<ul style="list-style-type: none"> <li>· 운 송/추가 정보:</li> </ul>	
<ul style="list-style-type: none"> <li>· ADR</li> <li>· 한정 수량 (LQ)</li> <li>· Excepted quantities (EQ)</li> </ul>	0 Code: E3 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 300 ml
<ul style="list-style-type: none"> <li>· 운송 구분</li> <li>· 터널 제한 코드</li> </ul>	1 D/E
<ul style="list-style-type: none"> <li>· IMDG</li> <li>· Limited quantities (LQ)</li> <li>· Excepted quantities (EQ)</li> </ul>	0 Code: E3 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 300 ml
<ul style="list-style-type: none"> <li>· UN "모범 규제":</li> </ul>	UN 1993 FLAMMABLE LIQUID, N.O.S. (DIETHYL ETHER (ETHYL ETHER), ETHANOL (ETHYL ALCOHOL)), 3, I

### 15 법적 규제현황

· 해당 순물질 또는 혼합물에 대한 안전, 보건 및 환경 규제/법률

· Korean Existing Chemical Inventory		
60-29-7	diethyl ether	KE-27690
64-17-5	Ethyl Alcohol, Absolute, 200 Proof Reagent, ACS (Ethanol) 15055	KE-13217
9004-70-0	CELLULOSE NITRATE (PARLODION)	KE-25980

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



GHS02 GHS07

- **신호어 위험**
- **상표상에명확히위험성이표시된성분:**  
diethyl ether
- **유해.위험 문구**  
극인화성 액체 및 증기  
삼키면 유해함  
줄음 또는 현기증을 일으킬 수 있음
- **예방조치 문구**  
열·스파크·화염·고열로부터 멀리하십시오 - 금연  
폭발 방지용 전기·환기·조명·장비를 사용하십시오.  
(분진·흙·가스·미스트·증기·스프레이)의 흡입을 피하십시오.  
피부(모발)에 접촉 시: 모든 오염된 옷을 즉시 벗으십시오 피부를 물/샤워로 헹구십시오.  
잠금장치가 있는 저장장소에 저장하십시오.  
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:** 2016.01.19
- **개정 횟수 및 최종 개정일자:** 1 / 2016.01.19
- **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  
PBT: Persistent, Bioaccumulative and Toxic  
vPvB: very Persistent and very Bioaccumulative  
인화성 액체 구분1: Flammable liquids, Hazard Category 1  
인화성 액체 구분2: Flammable liquids, Hazard Category 2  
급성 독성(경구) 구분4: Acute toxicity, Hazard Category 4  
표적장기-1회노출 구분3: Specific target organ toxicity - Single exposure, Hazard Category 3

## 物質安全資料表

根據 GB/T 16483-2008, GB/T 17519-2013

打印日期 2016.01.27

在 2016.01.27 審核

## 1 化學品及企業標識

- 產品識別者
- 化學品中文(英文)名稱, 化學品俗名或商品名: COLLODION, 5% SOLUTION, USP
- 商品編號: 12600, 12600-30
- 相應純物質或者混合物的相關下位用途及禁止用途 無相關詳細資料。
- 原材料的應用/準備工作進行 實驗室化學物
- 安全技術說明書內供應商詳細信息
- 企業名稱:  
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
- 可獲取更多資料的部門: Product safety department
- 緊急聯繫電話號碼:  
ChemTrec 1-800-424-9300 Contract CCN7661  
1-703-527-3887

## 2 危險性概述

- 緊急情況概述:  
無色的, 液體, 極易燃液體和蒸氣。 吞咽有害。 可引致睡意或暈眩。

## · GHS危險性類別



火焰

易燃液體 第1級

H224 極易燃液體和蒸氣



急毒性物質(吞食) 第4級

H302 吞咽有害

特定標的器官系統毒性物質(單一暴露) 第3級 H336 可引致睡意或暈眩。

## · 標籤因素

- GHS標籤元素 本產品根據化學物質分類及標記全球協調制度(GHS)進行了分類及標記。

## · 圖示



GHS02



GHS07

- 名稱 危險

## · 標籤上辨別危險的成份:

乙醚

## · 危險字句

極易燃液體和蒸氣

吞咽有害

可引致睡意或暈眩。

(在 2 頁繼續)



# 物質安全資料表

根據 GB/T 16483-2008, GB/T 17519-2013

打印日期 2016.01.27

在 2016.01.27 審核

化學品中文(英文)名稱, 化學品俗名或商品名: COLLODION, 5% SOLUTION, USP

(在 1 頁繼續)

- **警戒字句**
- **預防措施**
  - 遠離熱源/火花/明火/熱表面。—禁止吸煙。
  - 使用防爆的電氣/通風/照明/設備。
  - 避免吸入粉塵/煙/氣體/煙霧/蒸氣/噴霧
- **事故響應**
  - 如皮膚(或頭髮)沾染: 立即脫掉所有沾染的衣服。用水清洗皮膚/淋浴。
- **安全貯存**
  - 存放處須加鎖。
- **廢棄處置**
  - 按照本地 / 地區 / 國家 / 國際規例處理內含物 / 容器。
- **其他有害性**
- **PBT(殘留性、生物濃縮性、毒性物質) 及 vPvB(高殘留性、高生物濃縮性物質) 評價結果**
- **PBT(殘留性、生物濃縮性、毒性物質) 不適用的**
- **vPvB(高殘留性、高生物濃縮性物質): 不適用的**

## 3 成分/組成資訊

- **混合物**
- **描述:** 由以下含有無害添加劑的成分組成的混合物

### · 危險的成分:

60-29-7	乙醚 ⚠ 易燃液體 第1級, H224; ⚠ 急毒性物質(吞食) 第4級, H302; 特定標的器官系統毒性物質(單一暴露) 第3級, H336	50-100%
64-17-5	乙醇 ⚠ 易燃液體 第2級, H225	25-50%

## 4 急救措施

- **應急措施要領**
- **總說明:** 中毒的症狀可能會在幾個小時以後才出現;因此在發生事故之後起碼要有 48 小時的醫療觀察。
- **吸入:** 供給新鮮空氣;如果病人感到不適時要詢問醫生。
- **皮膚接觸:** 一般的產品不會刺激皮膚。
- **眼睛接觸:** 張開眼睛在流水下沖洗數分鐘。
- **食入:** 馬上召喚醫生。
- **給醫生的資料:**
- **最重要的急慢性症狀及其影響** 無相關詳細資料。
- **需要及時的醫療處理及特別處理的症狀** 無相關詳細資料。

## 5 消防措施

- **滅火方法**
- **滅火的方法和滅火劑:** 使用二氧化碳 (CO<sub>2</sub>)、沙粒、滅火粉末. 切勿使用水。
- **為了安全,不適當的滅火劑會:** 使用全噴嘴的水
- **特別危險性** 無相關詳細資料。
- **特殊滅火方法**
- **消防人員特殊的防護裝備:** 沒有要求特別的措施。

-TW-

(在 3 頁繼續)

# 物質安全資料表

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(在 2 頁繼續)

### 6 洩漏應急處理

- **保護措施** 帶上保護儀器. 讓未受到保護的人們遠離.
- **環境保護措施:** 切勿讓其進入下水道/水面或地下水.
- **密封及淨化方法和材料:**  
吸收液體粘合原料 (沙粒、矽藻土、酸性粘合劑、通用粘合劑、鋸屑).  
根據第 13 條條款棄置受汙染物.  
確保有足夠的通風裝置.  
切勿用水或水溶清潔劑來沖清.
- **參照其他部分**  
有關安全處理的資料請參閱第 7 節.  
有關個人保護裝備的資料請參閱第 8 節.  
有關棄置的資料請參閱第 13 節.

### 7 操作處置與儲存

- **操作處置**
- **備存**  
確保工作間有良好的通風/排氣裝置.  
小心打開及處理貯藏器.  
防止氣溶膠的形成.
- **有關火災及防止爆炸的資料:**  
遠離火源 - 切勿吸煙.  
防熱.  
防靜電.
- **混合危險性等安全儲存條件**
- **備存:**
- **儲存庫和容器須要達到的要求:** 儲存在陰涼的位置.
- **有關使用一個普通的儲存設施來儲存的資料:** 不需要.
- **有關儲存條件的更多資料:**  
將容器密封.  
切勿將貯藏器氣密式封上.  
儲存密封的貯藏器內,並放在陰涼、幹爽的位置.  
免受接觸熱力和直接受陽光照射.
- **具體的最終用戶** 無相關詳細資料.

### 8 接觸控制和個體防護

- **工程控制方法:** 沒有進一步數據,見第 7 項.
- **控制變數**

#### · 在工作場需要監控的限值成分

##### 60-29-7 乙醚

PEL (TW)	PC-TWA: 1210 mg/m <sup>3</sup> , 400 ppm
OEL (CN)	PC-STEL: 500 mg/m <sup>3</sup> PC-TWA: 300 mg/m <sup>3</sup>

##### 64-17-5 乙醇

PEL (TW)	PC-TWA: 1880 mg/m <sup>3</sup> , 1000 ppm
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- **額外的資料:** 制作期間有效的清單將作為基礎來使用.

(在 4 頁繼續)

# 物質安全資料表

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打印日期 2016.01.27

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化學品中文(英文)名稱, 化學品俗名或商品名: COLLODION, 5% SOLUTION, USP

(在 3 頁繼續)

- **遺漏控制**
- **個人防護設備:**
- **一般保護和衛生措施:**  
遠離食品、飲料和飼料。  
在休息之前和工作完畢後請清洗雙手。
- **呼吸系統防護:**  
如果會短暫接觸或在低污染的情況下,請使用呼吸過濾裝置。如果會深入或較長時間接觸,請使用獨立的呼吸保護裝置。
- **手防護:**  
手套的物料必須是不滲透性的,且能抵抗該產品/物質/添加劑。  
基於缺乏測試,對於產品/制劑/化學混合物,並不會提供手套材料的建議  
選擇手套材料時,請注意材料的滲透時間,滲濾率和降解參數
- **手套材料**  
選擇合適的手套不單取決於材料,亦取決於質量特征,以及來自哪一間生產廠家,因為該產品是由很多材料  
配制而成,手套材料的抵抗力並不可預計,所以,必須在使用之前進行檢查
- **滲入手套材料的時間** 請向勞保手套生產廠家獲取準確的破裂時間並觀察實際的破裂時間
- **眼睛防護:**



密封的護目鏡

## 9 理化特性

- **有關基本物理及化學特性的資訊**
- **一般說明**
- **外觀:**
  - 形狀: 液體
  - 顏色: 無色的
- 氣味: 有特性的
- 嗅覺閾限: 未決定。
- pH值: 未決定。
- **條件的更改**
  - 熔點: 未確定的
  - 沸點/初沸點和沸程: 35 °C
- 閃點: -52 °C
- 可燃性(固體、氣體): 不適用的
- 點火溫度: 170 °C
- 分解溫度: 未決定。
- 自燃溫度: 該產品是不自燃的
- 爆炸的危險性: 可能形成爆炸性的過氧化物。
- 爆炸極限:
  - 較低: 1.7 Vol %
  - 較高: 36.0 Vol %
- 蒸氣壓 在 20 °C: 587 hPa
- 密度: 未決定的

(在 5 頁繼續)

## 物質安全資料表

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(在 4 頁繼續)

- |               |             |
|---------------|-------------|
| · 相對密度        | 未決定.        |
| · 蒸氣密度        | 未決定.        |
| · 蒸發速率        | 未決定.        |
| · 溶解性         |             |
| 水:            | 不能拌和的 或難以拌和 |
| · n-辛醇/水分配係數: | 未決定.        |
| · 黏性:         |             |
| 動態:           | 未決定.        |
| 運動學的:         | 未決定.        |
| · 溶劑成份:       |             |
| 有機溶劑:         | 95.0 %      |
| · 其他資訊        | 無相關詳細資料。    |

## 10 穩定性和反應性

- 反應性 無相關詳細資料。
- 穩定性
- 熱分解/要避免的情況: 如果遵照規格使用則不會分解。
- 有害反應可能性 未有已知的危險反應。
- 應避免的條件 無相關詳細資料。
- 不相容的物質: 無相關詳細資料。
- 危險的分解產物: 未知有危險的分解產品。

## 11 毒理學資訊

- 對毒性學影響的資訊
- 急性毒性:

· 與分類相關的 LD/LC50 值:

60-29-7 乙醚

口腔	LD50	1215 mg/kg (rat)
吸入	LC50/4 h	73000 mg/l (rat)

- 主要的刺激性影響:
  - 皮膚: 沒有刺激性影響。
  - 在眼睛上面: 沒有刺激的影響。
  - 致敏作用: 沒有已知的敏化影響。
  - 更多毒物的資料:
- 根據有關配製的一般歐盟分類指南的計算方法 (刊印在最新版本), 該產品顯示以下的危險:  
有害的

## 12 生態學資訊

- 生態毒性
- 水生毒性: 無相關詳細資料。
- 持久性和降解性 無相關詳細資料。
- 環境系統習性:
- 潛在的生物累積性 無相關詳細資料。
- 土壤內移動性 無相關詳細資料。

(在 6 頁繼續)

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(在 5 頁繼續)

- 額外的生態學資料:
- 總括注解:
  - 水危害級別 1(德國規例) (通過名單進行自我評估): 對水是稍微危害的
  - 不要讓未稀釋或大量的產品接觸地下水、水道或者污水系統.
- PBT(殘留性、生物濃縮性、毒性物質) 及 vPvB(高殘留性、高生物濃縮性物質)評價結果
- PBT(殘留性、生物濃縮性、毒性物質) 不適用的
- vPvB(高殘留性、高生物濃縮性物質): 不適用的
- 其他副作用 無相關詳細資料。

## 13 廢棄處置

- 廢棄處置方法
- 建議: 不能將該產品和家居垃圾一起丟棄. 不要讓該產品接觸污水系統.
- 受污染的容器和包裝:
- 建議: 必須根據官方的規章來丟棄.

## 14 運輸資訊

· 聯合國危險貨物編號(UN號)	UN1993
· ADR, IMDG, IATA	
· UN適當裝船名	1993 FLAMMABLE LIQUID, N.O.S. (DIETHYL ETHER (ETHYL ETHER), ETHANOL (ETHYL ALCOHOL))
· ADR	
· IMDG	FLAMMABLE LIQUID, N.O.S. (DIETHYL ETHER (ETHYL ETHER), ETHANOL (ETHYL ALCOHOL))
· IATA	Flammable liquid, n.o.s. (Diethyl ether, Ethanol)
· 運輸危險等級	
· ADR, IMDG, IATA	
	
· 級別	3 可燃液體
· 標籤	3
· 包裝組別	
· ADR, IMDG, IATA	I
· 危害環境:	不適用的
· 用戶特別預防措施	警告: 可燃液體
· 危險編碼:	33
· EMS 號碼:	F-E,S-E
· Stowage Category	E
· MARPOL73/78(針對船舶引起的海洋污染預防協約) 附件書2及根據IBC Code(國際裝船貨物編碼)的大量運送	不適用的

(在 7 頁繼續)

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(在 6 頁繼續)

· 運輸/額外的資料:

· ADR

· Excepted quantities (EQ)

Code: E3

Maximum net quantity per inner packaging: 30 ml

Maximum net quantity per outer packaging: 300 ml

· IMDG

· Limited quantities (LQ)

0

· Excepted quantities (EQ)

Code: E3

Maximum net quantity per inner packaging: 30 ml

Maximum net quantity per outer packaging: 300 ml

· UN "標準規定":

UN 1993 FLAMMABLE LIQUID, N.O.S. (DIETHYL ETHER (ETHYL ETHER), ETHANOL (ETHYL ALCOHOL)), 3, I

## 15 法規資訊

· 對相應純物質或者混合物的安全、保健及環境法規/法律

· 中國現有化學物質名錄

列出所有成分

· GHS標識元素 本產品根據化學物質分類及標記全球協調制度(GHS)進行了分類及標記。

· 圖示



GHS02 GHS07

· 名稱 危險

· 標籤上辨別危險的成份:

乙醚

· 危險字句

極易燃液體和蒸氣

吞咽有害

可引致睡意或暈眩。

· 警戒字句

· 預防措施

遠離熱源/火花/明火/熱表面。—禁止吸煙。

使用防爆的電氣/通風/照明/設備。

避免吸入粉塵/煙/氣體/煙霧/蒸氣/噴霧

· 事故響應

如皮膚(或頭髮)沾染: 立即脫掉所有沾染的衣服。用水清洗皮膚/淋浴。

· 安全貯存

存放處須加鎖。

· 廢棄處置

按照本地/地區/國家/國際規例處理內含物/容器。

· 化學物質安全性評價: 尚未進行化學物質安全性評價

TW

(在 8 頁繼續)

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(在 7 頁繼續)

### 16 其他資訊

該資料是基於我們目前的知識。然而,這並不構成對任何特定產品特性的擔保並且不建立一個法律上有效的合同關係。

**縮寫:**

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

PBT: 持久性生物累積性有毒物質

vPvB: very Persistent and very Bioaccumulative

易燃液體 第1級: Flammable liquids, Hazard Category 1

易燃液體 第2級: Flammable liquids, Hazard Category 2

急毒性物質(吞食) 第4級: Acute toxicity, Hazard Category 4

特定標的器官系統毒性物質(單一暴露) 第3級: Specific target organ toxicity - Single exposure, Hazard Category 3

TW



# Ficha de datos de seguridad

## según 1907/2006/CE, Artículo 31

fecha de impresión 19.01.2016

Revisión: 19.01.2016

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

#### · 1.1 Identificador del producto

· **Nombre comercial:** COLLODION, 5% SOLUTION, USP

· **Número del artículo:** 12600, 12600-30

#### · 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**



GHS02 llama

Flam. Liq. 1 H224 Líquido y vapores extremadamente inflamables.



GHS07

Acute Tox. 4 H302 Nocivo en caso de ingestión.

STOT SE 3 H336 Puede provocar somnolencia o vértigo.

#### · 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.

· **Pictogramas de peligro**



GHS02



GHS07

( se continua en página 2 )

# Ficha de datos de seguridad

## según 1907/2006/CE, Artículo 31

fecha de impresión 19.01.2016

Revisión: 19.01.2016

**Nombre comercial: COLLODION, 5% SOLUTION, USP**

( se continua en página 1 )

- **Palabra de advertencia** Peligro

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

- éter dietílico

- **Indicaciones de peligro**

- H224 Líquido y vapores extremadamente inflamables.

- H302 Nocivo en caso de ingestión.

- H336 Puede provocar somnolencia o vértigo.

- **Consejos de prudencia**

- P210 Mantener alejado del calor, de superficies calientes, de chispas, de llamas abiertas y de cualquier otra fuente de ignición. No fumar.

- P241 Utilizar un material eléctrico, de ventilación o de iluminación/antideflagrante.

- P261 Evitar respirar el polvo/el humo/el gas/la niebla/los vapores/el aerosol.

- P303+P361+P353 EN CASO DE CONTACTO CON LA PIEL (o el pelo): Quitar inmediatamente todas las prendas contaminadas. Aclararse la piel con agua/ ducharse.

- P405 Guardar bajo llave.

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

- **Datos adicionales:**

- EUH019 Puede formar peróxidos explosivos.

- **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: 60-29-7	éter dietílico	50-100%
EINECS: 200-467-2	☠ Flam. Liq. 1, H224; ⚠ Acute Tox. 4, H302; STOT SE 3, H336	
CAS: 64-17-5	etanol	25-50%
EINECS: 200-578-6	☠ Flam. Liq. 2, H225	

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

### SECCIÓN 4: Primeros auxilios

- **4.1 Descripción de los primeros auxilios**

- **Instrucciones generales:**

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

- **En caso de inhalación del producto:** Suministrar 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 ingestión:** Consultar inmediatamente un médico.

- **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.

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### SECCIÓN 5: Medidas de lucha contra incendios

- **5.1 Medios de extinción**
- **Sustancias extintoras apropiadas:** CO<sub>2</sub>, arena, polvo extintor. No utilizar agua.
- **Sustancias extintoras inapropiadas por razones de seguridad:** Agua a pleno chorro
- **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**  
Llevar puesto equipo de protección. Mantener alejadas las personas sin protección.
- **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.  
No enjuagar con agua ni productos de limpieza acuosos.
- **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:**  
Mantener alejadas las fuentes de encendido. No fumar.  
Proteger del calor.  
Tomar medidas contra las cargas electrostáticas.
- **7.2 Condiciones de almacenamiento seguro, incluidas posibles incompatibilidades**
- **Almacenamiento:**
- **Exigencias con respecto al almacén y los recipientes:** Almacenar en un lugar fresco.
- **Normas en caso de un almacenamiento conjunto:** No es necesario.
- **Indicaciones adicionales sobre las condiciones de almacenamiento:**  
Mantener el recipiente cerrado herméticamente.  
No cerrar el recipiente estanco al gas.  
Almacenarlo en envases bien cerrados en un lugar fresco y seco.  
Proteger del calor y de la luz directa del sol.
- **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.

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### · 8.1 Parámetros de control

#### · Componentes con valores límite admisibles que deben controlarse en el puesto de trabajo:

##### 60-29-7 éter dietílico

LEP	Valor de corta duración: 616 mg/m <sup>3</sup> , 200 ppm
	Valor de larga duración: 308 mg/m <sup>3</sup> , 100 ppm
	VLI

##### 64-17-5 etanol

LEP	Valor de corta duración: 1910 mg/m <sup>3</sup> , 1000 ppm
	s

· **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.

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

#### · 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:

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

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

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

#### · Material de los guantes

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

#### · Tiempo de penetración del material de los guantes

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

#### · Protección de ojos:



Gafas de protección herméticas

## SECCIÓN 9: Propiedades físicas y químicas

### · 9.1 Información sobre propiedades físicas y químicas básicas

#### · Datos generales

#### · Aspecto:

**Forma:** Líquido

**Color:** Incoloro

· **Olor:** Característico

· **Umbral olfativo:** No determinado.

· **valor pH:** No determinado.

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· <b>Cambio de estado</b> Punto de fusión /campo de fusión:	Indeterminado.
Punto de ebullición /campo de ebullición:	35 °C
· <b>Punto de inflamación:</b>	-52 °C
· <b>Inflamabilidad (sólido, gaseiforme):</b>	No aplicable.
· <b>Temperatura de ignición:</b>	170 °C
· <b>Temperatura de descomposición:</b>	No determinado.
· <b>Autoinflamabilidad:</b>	El producto no es autoinflamable.
· <b>Peligro de explosión:</b>	Puede formar peróxidos explosivos.
· <b>Límites de explosión:</b>	
Inferior:	1.7 Vol %
Superior:	36.0 Vol %
· <b>Presión de vapor a 20 °C:</b>	587 hPa
· <b>Densidad:</b>	Indeterminado.
· <b>Densidad relativa</b>	No determinado.
· <b>Densidad de vapor</b>	No determinado.
· <b>Velocidad de evaporación</b>	No determinado.
· <b>Solubilidad en / miscibilidad con agua:</b>	Poco o no mezclable.
· <b>Coefficiente de reparto (n-octanol/agua):</b>	No determinado.
· <b>Viscosidad:</b>	
Dinámica:	No determinado.
Cinemática:	No determinado.
· <b>Concentración del disolvente:</b>	
Disolventes orgánicos:	95.0 %
VOC (CE)	95,00 %
· <b>9.2 Otros datos</b>	No existen más datos relevantes disponibles.

### SECCIÓN 10: Estabilidad y reactividad

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

### SECCIÓN 11: Información toxicológica

- **11.1 Información sobre los efectos toxicológicos**
- **Toxicidad aguda**  
Nocivo en caso de ingestión.

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

**60-29-7 éter dietílico**

Oral	LD50	1215 mg/kg (rat)
Inhalatorio	LC50/4 h	73000 mg/l (rat)

· **Efecto estimulante primario:**

· **Corrosión o irritación cutáneas** A la vista de los datos disponibles, no se cumplen los criterios de clasificación.

· **Lesiones o irritación ocular graves**

A la vista de los datos disponibles, no se cumplen los criterios de clasificación.

· **Sensibilización respiratoria o cutánea**

A la vista de los datos disponibles, no se cumplen los criterios de clasificación.

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

· **Mutagenicidad en células germinales**

A la vista de los datos disponibles, no se cumplen los criterios de clasificación.

· **Carcinogenicidad** A la vista de los datos disponibles, no se cumplen los criterios de clasificación.

· **Toxicidad para la reproducción** A la vista de los datos disponibles, no se cumplen los criterios de clasificación.

· **Toxicidad específica en determinados órganos (STOT) – exposición única**

Puede provocar somnolencia o vértigo.

· **Toxicidad específica en determinados órganos (STOT) – exposición repetida**

A la vista de los datos disponibles, no se cumplen los criterios de clasificación.

· **Peligro de aspiración** A la vista de los datos disponibles, no se cumplen los criterios de clasificación.

## SECCIÓN 12: Información ecológica

· **12.1 Toxicidad**

· **Toxicidad acuática:** No existen más datos relevantes disponibles.

· **12.2 Persistencia y degradabilidad** No existen más datos relevantes disponibles.

· **12.3 Potencial de bioacumulación** No existen más datos relevantes disponibles.

· **12.4 Movilidad en el suelo** No existen más datos relevantes disponibles.

· **Indicaciones medioambientales adicionales:**

· **Indicaciones generales:**

Nivel de riesgo para el agua 1 (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.

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## SECCIÓN 14: Información relativa al transporte

· 14.1 Número ONU · ADR, IMDG, IATA	UN1993
· 14.2 Designación oficial de transporte de las Naciones Unidas · ADR · IMDG · IATA	1993 LÍQUIDO INFLAMABLE, N.E.P. (ÉTER DIETÍLICO (ÉTER ETÍLICO), ETANOL (ALCOHOL ETÍLICO)) FLAMMABLE LIQUID, N.O.S. (DIETHYL ETHER (ETHYL ETHER), ETHANOL (ETHYL ALCOHOL)) Flammable liquid, n.o.s. (Diethyl ether, Ethanol)
· 14.3 Clase(s) de peligro para el transporte · ADR, IMDG, IATA	
	
· Clase · Etiqueta	3 Líquidos inflamables 3
· 14.4 Grupo de embalaje · ADR, IMDG, IATA	I
· 14.5 Peligros para el medio ambiente:	No aplicable.
· 14.6 Precauciones particulares para los usuarios · Número Kemler: · Número EMS: · Stowage Category	Atención: Líquidos inflamables 33 F-E,S-E E
· 14.7 Transporte a granel con arreglo al anexo II del Convenio MARPOL y el Código IBC	No aplicable.
· Transporte/datos adicionales:	
· ADR · Cantidades limitadas (LQ) · Cantidades exceptuadas (EQ)	0 Código: E3 Cantidad neta máxima por envase interior: 30 ml Cantidad neta máxima por embalaje exterior: 300 ml
· Categoría de transporte · Código de restricción del túnel	1 D/E
· IMDG · Limited quantities (LQ) · Excepted quantities (EQ)	0 Code: E3 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 300 ml
· "Reglamentación Modelo" de la UNECE:	UN 1993 LÍQUIDO INFLAMABLE, N.E.P. (ÉTER DIETÍLICO (ÉTER ETÍLICO), ETANOL (ALCOHOL ETÍLICO)), 3, I

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### SECCIÓN 15: Información reglamentaria

- **15.1 Reglamentación y legislación en materia de seguridad, salud y medio ambiente específicas para la sustancia o la mezcla**
- **Directiva 2012/18/UE**
- **Sustancias peligrosas nominadas - ANEXO I ninguno de los componentes está incluido en una lista**
- **Categoría Seveso P5a LÍQUIDOS INFLAMABLES**
- **Cantidad umbral (toneladas) a efectos de aplicación de los requisitos de nivel inferior 10 t**
- **Cantidad umbral (toneladas) a efectos de aplicación de los requisitos de nivel superior 50 t**
- **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**

H224 Líquido y vapores extremadamente inflamables.

H225 Líquido y vapores muy inflamables.

H302 Nocivo en caso de ingestión.

H336 Puede provocar somnolencia o vértigo.

· **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

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

Flam. Liq. 1: Flammable liquids, Hazard Category 1

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

Acute Tox. 4: Acute toxicity, Hazard Category 4

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