

Safety Data Sheet

acc. to OSHA HCS

Printing date 01/23/2019

Reviewed on 01/23/2019

1 Identification

- **Product identifier**
- **Trade name:** Buffered Ethanol Fixative, 70% BE-70
- **Article number:** 15988
- **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. 2 H225 Highly flammable liquid and vapor.



GHS08 Health hazard

Carc. 1A H350 May cause cancer.



GHS07

Eye Irrit. 2A H319 Causes serious eye irritation.

- **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:**
 Ethyl Alcohol, denatured
- **Hazard statements**
 Highly flammable liquid and vapor.
 Causes serious eye irritation.
 May cause cancer.

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· Precautionary statements

- Obtain special instructions before use.
- Do not handle until all safety precautions have been read and understood.
- Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
- Keep container tightly closed.
- Ground/bond container and receiving equipment.
- Use explosion-proof electrical/ventilating/lighting/equipment.
- Use only non-sparking tools.
- Take precautionary measures against static discharge.
- Wash thoroughly after handling.
- Wear protective gloves/protective clothing/eye protection/face protection.
- If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
- If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- IF exposed or concerned: Get medical advice/attention.
- If eye irritation persists: Get medical advice/attention.
- In case of fire: Use for extinction: CO₂, powder or water spray.
- Store in a well-ventilated place. Keep cool.
- Store locked up.
- Dispose of contents/container in accordance with local/regional/national/international regulations.

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

· HMIS-ratings (scale 0 - 4)

· Other hazards

- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.

3 Composition/information on ingredients

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

· Dangerous components:

64-17-5	Ethyl Alcohol, denatured	>50-≤100%
56-81-5	glycerol	≤2.5%

4 First-aid measures

· Description of first aid measures

- **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.

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- **After swallowing:** *If symptoms persist consult doctor.*
- **Information for doctor:**
- **Most important symptoms and effects, both acute and delayed** *No further relevant information available.*
- **Indication of any immediate medical attention and special treatment needed**
No further relevant information available.

5 Fire-fighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:** *CO₂, 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).
Ensure adequate ventilation.
Do not flush with water or aqueous cleansing agents*
- **Reference to other sections**
*See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.*
- **Protective Action Criteria for Chemicals**

· **PAC-1:**

64-17-5	Ethyl Alcohol, denatured	1,800 ppm
7778-77-0	potassium dihydrogenorthophosphate	9.6 mg/m ³
56-81-5	glycerol	45 mg/m ³
64-19-7	Acetic Acid Glacial	5 ppm

· **PAC-2:**

64-17-5	Ethyl Alcohol, denatured	3300* ppm
7778-77-0	potassium dihydrogenorthophosphate	110 mg/m ³
56-81-5	glycerol	180 mg/m ³
64-19-7	Acetic Acid Glacial	35 ppm

· **PAC-3:**

64-17-5	Ethyl Alcohol, denatured	15000* ppm
7778-77-0	potassium dihydrogenorthophosphate	630 mg/m ³
56-81-5	glycerol	1,100 mg/m ³
64-19-7	Acetic Acid Glacial	250 ppm

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7 Handling and storage

- **Handling:**
- **Precautions for safe handling** No special precautions are necessary if used correctly.
- **Information about protection against explosions and fires:**
 - Keep ignition sources away - Do not smoke.
 - 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.
 - Store in cool, dry conditions in well sealed receptacles.
- **Specific end use(s)** No further relevant information available.

8 Exposure controls/personal protection

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

Components with limit values that require monitoring at the workplace:	
64-17-5 Ethyl Alcohol, denatured	
PEL	Long-term value: 1900 mg/m ³ , 1000 ppm
REL	Long-term value: 1900 mg/m ³ , 1000 ppm
TLV	Short-term value: 1880 mg/m ³ , 1000 ppm
56-81-5 glycerol	
PEL	Long-term value: 15* 5** mg/m ³ mist; *total dust **respirable fraction
TLV	TLV withdrawn-insufficient data human occup. exp.

- **Additional information:** The lists that were valid during the creation were used as basis.

- **Exposure controls**

- **Personal protective equipment:**

- **General protective and hygienic measures:** Wash hands before breaks and at the end of work.

- **Breathing equipment:** Not required.

- **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.

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· **Eye protection:**

Tightly sealed goggles

9 Physical and chemical properties

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

· Form:	Liquid
· Color:	Colorless
· Odor:	Characteristic
· Odor threshold:	Not determined.

· **pH-value:** Not determined.· **Change in condition**

· Melting point/Melting range:	Undetermined.
· Boiling point/Boiling range:	78 °C (172.4 °F)

· **Flash point:** 13 °C (55.4 °F)· **Flammability (solid, gaseous):** Not flammable.· **Ignition temperature:** 425 °C (797 °F)· **Decomposition temperature:** Not determined.· **Auto igniting:** Product is not selfigniting.· **Danger of explosion:** Product is not explosive. However, formation of explosive air/vapor mixtures are possible.· **Explosion limits:**

· Lower:	3.5 Vol %
· Upper:	15 Vol %

· **Vapor pressure at 20 °C (68 °F):** 59 hPa (44.3 mm Hg)· **Density at 20 °C (68 °F):** 0.85585 g/cm³ (7.14207 lbs/gal)· **Relative density** Not determined.· **Vapor density** Not determined.· **Evaporation rate** Not determined.· **Solubility in / Miscibility with**· **Water:** Not miscible or difficult to mix.· **Partition coefficient (n-octanol/water):** Not determined.· **Viscosity:**

· Dynamic:	Not determined.
· Kinematic:	Not determined.

· **Solvent content:**

· Organic solvents:	71.5 %
· VOC content:	70.50 %
	603.4 g/l / 5.04 lb/gal

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- | | |
|--------------------------|--|
| Solids content: | 0.0 % |
| Other information | No further relevant information available. |

10 Stability and reactivity

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

11 Toxicological information

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

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

64-17-5	Ethyl Alcohol, denatured	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.
- **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.

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

13 Disposal considerations

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

14 Transport information

- | | |
|--|---|
| · UN-Number | |
| · DOT, ADR, IMDG, IATA | UN1170 |
| · UN proper shipping name | |
| · DOT | Ethanol |
| · ADR | 1170 ETHANOL (ETHYL ALCOHOL) |
| · IMDG | ETHANOL (ETHYL ALCOHOL) |
| · IATA | ETHANOL |
| · Transport hazard class(es) | |
| · DOT | |
| |  |
| · Class | 3 Flammable liquids |
| · Label | 3 |
| | |
| · ADR, IMDG, IATA | |
| |  |
| · Class | 3 Flammable liquids |
| · Label | 3 |
| · Packing group | |
| · DOT, ADR, IMDG, IATA | II |
| · Environmental hazards: | Not applicable. |
| · Special precautions for user | Warning: Flammable liquids |
| · Danger code (Kemler): | 33 |
| · EMS Number: | F-E,S-D |
| · Stowage Category | A |
| · Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code | Not applicable. |

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· **Transport/Additional information:**

· **DOT**

· **Quantity limitations**

On passenger aircraft/rail: 5 L

On cargo aircraft only: 60 L

· **ADR**

· **Excepted quantities (EQ)**

Code: E2

Maximum net quantity per inner packaging: 30 ml

Maximum net quantity per outer packaging: 500 ml

· **IMDG**

· **Limited quantities (LQ)**

1L

· **Excepted quantities (EQ)**

Code: E2

Maximum net quantity per inner packaging: 30 ml

Maximum net quantity per outer packaging: 500 ml

· **UN "Model Regulation":**

UN 1170 ETHANOL (ETHYL ALCOHOL), 3, II

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, denatured

· **Carcinogenic categories**

· **EPA (Environmental Protection Agency)**

None of the ingredients is listed.

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

64-17-5 Ethyl Alcohol, denatured

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).

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Trade name: Buffered Ethanol Fixative, 70% BE-70

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· **Hazard pictograms**



· **Signal word** *Danger*

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

Ethyl Alcohol, denatured

· **Hazard statements**

Highly flammable liquid and vapor.

Causes serious eye irritation.

May cause cancer.

· **Precautionary statements**

Obtain special instructions before use.

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

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

Keep container tightly closed.

Ground/bond container and receiving equipment.

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

Use only non-sparking tools.

Take precautionary measures against static discharge.

Wash thoroughly after handling.

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

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

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

Continue rinsing.

IF exposed or concerned: Get medical advice/attention.

If eye irritation persists: Get medical advice/attention.

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

Store in a well-ventilated place. Keep cool.

Store locked up.

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

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

16 Other information

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

· **Date of preparation / last revision** 01/23/2019 / -

· **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)

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

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*NIOSH: National Institute for Occupational Safety**OSHA: Occupational Safety **Health****TLV: Threshold Limit Value**PEL: Permissible Exposure Limit**REL: Recommended Exposure Limit**Flam. Liq. 2: Flammable liquids – Category 2**Eye Irrit. 2A: Serious eye damage/eye irritation – Category 2A**Carc. 1A: Carcinogenicity – Category 1A*

US

Safety Data Sheet

according to WHS Regulations

Printing date 23.01.2019

Revision: 23.01.2019

1 Identification

- **Product identifier**
- **Trade name:** Buffered Ethanol Fixative, 70% BE-70
- **Article number:** 15988
- **Relevant identified uses of the substance or mixture and uses advised against**
No further relevant information available.
- **Application of the substance / the mixture** Laboratory chemicals
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
Electron Microscopy Sciences
1560 Industry Road
USA-Hatfield, PA 19440
Tel: 215-412-8400 Fax: 215-412-8450
email: sgkcck@aol.com
www.emsdiasum.com
- ProSciTech Pty Ltd
11 Carlton Street, Kirwan QLD 4817 Australia
Telephone Number: (07) 4773 9444 - 8:30am - 5:00pm, Monday to Friday (excluding Public Holidays)
Emergency Contact: (07) 4773 9444 - 8:30am - 5:00pm, Monday to Friday (excluding Public Holidays)
Website: ems.proscitech.com
- Emgrid Australia Pty. Ltd.
P.O. Box 118
The Patch VIC 3792
Australia
Tel: 03 9752 1785
Fax: 03 9752 1784
Website: www.emgrid.com.au
- **Further information obtainable from:** Product safety department
- **Emergency telephone number:**
ChemTrec 1-800-424-9300 Contract CCN7661
1-703-527-3887

2 Hazard(s) Identification

- **Classification of the substance or mixture**



GHS02 flame

Flam. Liq. 2 H225 Highly flammable liquid and vapour.



GHS08 health hazard

Carc. 1A H350 May cause cancer.



GHS07

Eye Irrit. 2A H319 Causes serious eye irritation.

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

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Trade name: **Buffered Ethanol Fixative, 70% BE-70**

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· **Hazard pictograms**

GHS02 GHS07 GHS08

· **Signal word** *Danger*· **Hazard-determining components of labelling:***Ethyl Alcohol, denatured*· **Hazard statements***Highly flammable liquid and vapour.**Causes serious eye irritation.**May cause cancer.*· **Precautionary statements***Obtain special instructions before use.**Do not handle until all safety precautions have been read and understood.**Keep away from heat/sparks/open flames/hot surfaces. No smoking.**Keep container tightly closed.**Ground/bond container and receiving equipment.**Use explosion-proof electrical/ventilating/lighting equipment.**Use only non-sparking tools.**Take precautionary measures against static discharge.**Wash thoroughly after handling.**Wear protective gloves/protective clothing/eye protection/face protection.**IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.**IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.**Continue rinsing.**IF exposed or concerned: Get medical advice/attention.**If eye irritation persists: Get medical advice/attention.**In case of fire: Use for extinction: CO2, powder or water spray.**Store in a well-ventilated place. Keep cool.**Store locked up.**Dispose of contents/container in accordance with local/regional/national/international regulations.*· **Other hazards**· **Results of PBT and vPvB assessment**· **PBT:** Not applicable.· **vPvB:** Not applicable.

3 Composition and Information on Ingredients

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

64-17-5	Ethyl Alcohol, denatured	>50-≤100%
56-81-5	glycerol	≤2.5%

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

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Trade name: Buffered Ethanol Fixative, 70% BE-70

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4 First Aid Measures

- **Description of first aid measures**
- **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:** If symptoms persist consult doctor.
- **Information for doctor:**
- **Most important symptoms and effects, both acute and delayed** No further relevant information available.
- **Indication of any immediate medical attention and special treatment needed**
No further relevant information available.

5 Fire Fighting Measures

- **Extinguishing media**
- **Suitable extinguishing agents:** CO₂, 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).
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** No special precautions are necessary if used correctly.
- **Information about fire - and explosion protection:**
Keep ignition sources away - Do not smoke.
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.
Store in cool, dry conditions in well sealed receptacles.

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

8 Exposure controls and personal protection

· **Additional information about design of technical facilities:** No further data; see item 7.· **Control parameters**· **Ingredients with limit values that require monitoring at the workplace:**

64-17-5 Ethyl Alcohol, denatured

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

56-81-5 glycerol

NES Long-term value: 10 mg/m³WES Long-term value: 10 mg/m³· **Additional information:** The lists valid during the making were used as basis.· **Exposure controls**· **Personal protective equipment:**· **General protective and hygienic measures:** Wash hands before breaks and at the end of work.· **Respiratory protection:** Not required.· **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:**

Form: Liquid

Colour: Colourless

· **Odour:** Characteristic· **Odour threshold:** Not determined.· **pH-value:** Not determined.

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· Change in condition	
Melting point/freezing point:	Undetermined.
Initial boiling point and boiling range:	78 °C
· Flash point:	13 °C
· Flammability (solid, gas):	Not applicable.
· Ignition temperature:	425 °C
· Decomposition temperature:	Not determined.
· Auto-ignition temperature:	Product is not selfigniting.
· Explosive properties:	Product is not explosive. However, formation of explosive air/vapour mixtures are possible.
· Explosion limits:	
Lower:	3.5 Vol %
Upper:	15 Vol %
· Vapour pressure at 20 °C:	59 hPa
· Density at 20 °C:	0.85585 g/cm ³
· Relative density	Not determined.
· Vapour density	Not determined.
· Evaporation rate	Not determined.
· Solubility in / Miscibility with water:	Not miscible or difficult to mix.
· Partition coefficient: n-octanol/water:	Not determined.
· Viscosity:	
Dynamic:	Not determined.
Kinematic:	Not determined.
· Solvent content:	
Organic solvents:	71.5 %
VOC (EC)	70.50 %
Solids content:	0.0 %
· Other information	No further relevant information available.

10 Stability and Reactivity

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

-AU-

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according to WHS Regulations

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Trade name: **Buffered Ethanol Fixative, 70% BE-70**

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11 Toxicological Information

- **Information on toxicological effects**
- **Acute toxicity**
- **Primary irritant effect:**
- **Skin corrosion/irritation** No irritant effect.
- **Serious eye damage/irritation** No irritating effect.
- **Respiratory or skin sensitisation** No sensitising effects known.
- **CMR effects (carcinogenity, 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.
- **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

- | | |
|----------------------------------|------------------------------|
| · UN-Number | |
| · ADG, IMDG, IATA | UN1170 |
| · UN proper shipping name | |
| · ADG | 1170 ETHANOL (ETHYL ALCOHOL) |
| · IMDG | ETHANOL (ETHYL ALCOHOL) |
| · IATA | ETHANOL |

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· **Transport hazard class(es)**· **ADG, IMDG, IATA**· **Class**

3 Flammable liquids.

· **Label**

3

· **Packing group**· **ADG, IMDG, IATA**

II

· **Environmental hazards:**

Not applicable.

· **Special precautions for user**

Warning: Flammable liquids.

· **Danger code (Kemler):**

33

· **EMS Number:**

F-E,S-D

· **Stowage Category**

A

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

Not applicable.

· **Transport/Additional information:**· **ADG**· **Limited quantities (LQ)**

1L

· **Excepted quantities (EQ)**

Code: E2

Maximum net quantity per inner packaging: 30 ml

Maximum net quantity per outer packaging: 500 ml

· **Transport category**

2

· **Tunnel restriction code**

D/E

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

1L

· **Excepted quantities (EQ)**

Code: E2

Maximum net quantity per inner packaging: 30 ml

Maximum net quantity per outer packaging: 500 ml

· **UN "Model Regulation":**

UN 1170 ETHANOL (ETHYL ALCOHOL), 3, II

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**

64-19-7 Acetic Acid Glacial

S2, S5, S6

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

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Trade name: **Buffered Ethanol Fixative, 70% BE-70**

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- **Hazard pictograms**



- **Signal word** *Danger*

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

Ethyl Alcohol, denatured

- **Hazard statements**

Highly flammable liquid and vapour.

Causes serious eye irritation.

May cause cancer.

- **Precautionary statements**

Obtain special instructions before use.

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

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

Keep container tightly closed.

Ground/bond container and receiving equipment.

Use explosion-proof electrical/ventilating/lighting equipment.

Use only non-sparking tools.

Take precautionary measures against static discharge.

Wash thoroughly after handling.

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

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

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

Continue rinsing.

IF exposed or concerned: Get medical advice/attention.

If eye irritation persists: Get medical advice/attention.

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

Store in a well-ventilated place. Keep cool.

Store locked up.

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

- **Directive 2012/18/EU**

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

- **Seveso category** *P5c FLAMMABLE LIQUIDS*

- **Qualifying quantity (tonnes) for the application of lower-tier requirements** *5,000 t*

- **Qualifying quantity (tonnes) for the application of upper-tier requirements** *50,000 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)

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*PBT: Persistent, Bioaccumulative and Toxic**vPvB: very Persistent and very Bioaccumulative**Flam. Liq. 2: Flammable liquids – Category 2**Eye Irrit. 2A: Serious eye damage/eye irritation – Category 2A**Carc. 1A: Carcinogenicity – Category 1A*

AU

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

Printing date 23.01.2019

Revision: 23.01.2019

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

- **1.1 Product identifier**
- **Trade name:** Buffered Ethanol Fixative, 70% BE-70
- **Article number:** 15988
- **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. 2 H225 Highly flammable liquid and vapour.



GHS08 health hazard

Carc. 1A H350 May cause cancer.

- **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 GHS08

- **Signal word** *Danger*
- **Hazard statements**
H225 Highly flammable liquid and vapour.
H350 May cause cancer.
- **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.

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Trade name: Buffered Ethanol Fixative, 70% BE-70

(Contd. of page 1)


- P280 Wear protective gloves/protective clothing/eye protection/face protection.
 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.

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

SECTION 3: Composition/information on ingredients

- **3.2 Chemical characterisation: Mixtures**
- **Description:** Mixture of substances listed below with nonhazardous additions.

- **Dangerous components:**

CAS: 64-17-5 EINECS: 200-578-6	Ethyl Alcohol, denatured  Flam. Liq. 2, H225	>50-≤100%
CAS: 56-81-5 EINECS: 200-289-5	glycerol substance with a Community workplace exposure limit	≤2.5%

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

SECTION 4: First aid measures

- **4.1 Description of first aid measures**
- **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:** If symptoms persist consult doctor.
- **4.2 Most important symptoms and effects, both acute and delayed** No further relevant information available.
- **4.3 Indication of any immediate medical attention and special treatment needed**
No further relevant information available.

SECTION 5: Firefighting measures

- **5.1 Extinguishing media**
- **Suitable extinguishing agents:** CO₂, 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.
- **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).

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Safety data sheet
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Trade name: **Buffered Ethanol Fixative, 70% BE-70**

(Contd. of page 2)

- 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** No special precautions are necessary if used correctly.
- **Information about fire - and explosion protection:**
- Keep ignition sources away - Do not smoke.
- 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.
- Store in cool, dry conditions in well sealed receptacles.
- **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:**

64-17-5 Ethyl Alcohol, denatured

WEL Long-term value: 1920 mg/m³, 1000 ppm

56-81-5 glycerol

WEL Long-term value: 10 mg/m³

- **Additional information:** The lists valid during the making were used as basis.

· 8.2 Exposure controls

- **Personal protective equipment:**
- **General protective and hygienic measures:** Wash hands before breaks and at the end of work.
- **Respiratory protection:** Not required.
- **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.

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· **Eye protection:**

Tightly sealed goggles

SECTION 9: Physical and chemical properties

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

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

· **pH-value:** Not determined.· **Change in condition**

· Melting point/freezing point:	Undetermined.
· Initial boiling point and boiling range:	78 °C

· **Flash point:** 13 °C· **Flammability (solid, gas):** Not applicable.· **Ignition temperature:** 425 °C· **Decomposition temperature:** Not determined.· **Auto-ignition temperature:** Product is not selfigniting.· **Explosive properties:** Product is not explosive. However, formation of explosive air/vapour mixtures are possible.· **Explosion limits:**

· Lower:	3.5 Vol %
· Upper:	15 Vol %

· **Vapour pressure at 20 °C:** 59 hPa

· Density at 20 °C:	0.85585 g/cm ³
· Relative density	Not determined.
· Vapour density	Not determined.
· Evaporation rate	Not determined.

· **Solubility in / Miscibility with water:**

Not miscible or difficult to mix.

· **Partition coefficient: n-octanol/water:** Not determined.· **Viscosity:**

· Dynamic:	Not determined.
· Kinematic:	Not determined.

· **Solvent content:**

· Organic solvents:	71.5 %
· VOC (EC)	70.50 %

· **Solids content:** 0.0 %

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· 9.2 Other information

No further relevant information available.

SECTION 10: Stability and reactivity

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

SECTION 11: Toxicological information

- **11.1 Information on toxicological effects**
- **Acute toxicity** Based on available data, the classification criteria are not met.
- **Primary irritant effect:**
- **Skin corrosion/irritation** Based on available data, the classification criteria are not met.
- **Serious eye damage/irritation** Based on available data, the classification criteria are not met.
- **Respiratory or skin sensitisation** Based on available data, the classification criteria are not met.
- **CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)**
- **Germ cell mutagenicity** Based on available data, the classification criteria are not met.
- **Carcinogenicity**
May cause cancer.
- **Reproductive toxicity** Based on available data, the classification criteria are not met.
- **STOT-single exposure** Based on available data, the classification criteria are not met.
- **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.

GB

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

Printing date 23.01.2019

Revision: 23.01.2019


Trade name: **Buffered Ethanol Fixative, 70% BE-70**

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SECTION 13: Disposal considerations

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

SECTION 14: Transport information

- | | |
|---|---|
| · 14.1 UN-Number
· ADR, IMDG, IATA | UN1170 |
| · 14.2 UN proper shipping name
· ADR
· IMDG
· IATA | 1170 ETHANOL (ETHYL ALCOHOL)
ETHANOL (ETHYL ALCOHOL)
ETHANOL |
| · 14.3 Transport hazard class(es)
· ADR, IMDG, IATA | |
|  | |
| · Class
· Label | 3 Flammable liquids.
3 |
| · 14.4 Packing group
· ADR, IMDG, IATA | II |
| · 14.5 Environmental hazards: | Not applicable. |
| · 14.6 Special precautions for user
· Danger code (Kemler):
· EMS Number:
· Stowage Category | Warning: Flammable liquids.
33
F-E,S-D
A |
| · 14.7 Transport in bulk according to Annex II of Marpol and the IBC Code | Not applicable. |
| · Transport/Additional information: | |
| · ADR
· Limited quantities (LQ)
· Excepted quantities (EQ) | 1L
Code: E2
Maximum net quantity per inner packaging: 30 ml
Maximum net quantity per outer packaging: 500 ml |
| · Transport category
· Tunnel restriction code | 2
D/E |
| · IMDG
· Limited quantities (LQ) | 1L |

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· Excepted quantities (EQ)	Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml
· UN "Model Regulation":	UN 1170 ETHANOL (ETHYL ALCOHOL), 3, II

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 P5c FLAMMABLE LIQUIDS**
- **Qualifying quantity (tonnes) for the application of lower-tier requirements** 5,000 t
- **Qualifying quantity (tonnes) for the application of upper-tier requirements** 50,000 t
- **REGULATION (EC) No 1907/2006 ANNEX XVII** Conditions of restriction: 3
- **15.2 Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

SECTION 16: Other information

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

- **Relevant phrases**

H225 Highly flammable liquid and vapour.

- **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)

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

Flam. Liq. 2: Flammable liquids – Category 2

Carc. 1A: Carcinogenicity – Category 1A

Safety Data Sheet

acc. to OSHA HCS

Printing date 01/23/2019

Reviewed on 01/23/2019

1 Identification

- **Product identifier**
- **Trade name:** Buffered Ethanol Fixative, 70% BE-70
- **Article number:** 15988
- **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 2 H225 Highly flammable liquid and vapour.



GHS08 Health hazard

Carcinogenicity - Category 1A H350 May cause cancer.



GHS07

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

- **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:**
 Ethyl Alcohol, denatured
- **Hazard statements**
 Highly flammable liquid and vapour.
 Causes serious eye irritation.
 May cause cancer.

(Contd. on page 2)

CA

Safety Data Sheet

acc. to OSHA HCS

Printing date 01/23/2019

Reviewed on 01/23/2019

Trade name: Buffered Ethanol Fixative, 70% BE-70

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· **Precautionary statements**

- Obtain special instructions before use.
- Do not handle until all safety precautions have been read and understood.
- Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
- Keep container tightly closed.
- Ground and bond container and receiving equipment.
- Use explosion-proof [electrical/ventilating/lighting] equipment.
- Use non-sparking tools.
- Take actions to prevent static discharges.
- Wash thoroughly after handling.
- Wear protective gloves/protective clothing/eye protection/face protection.
- IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].
- IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- IF exposed or concerned: Get medical advice/attention.
- If eye irritation persists: Get medical advice/attention.
- In case of fire: Use for extinction: CO₂, powder or water spray.
- Store in a well-ventilated place. Keep cool.
- Store locked up.
- Dispose of contents/container in accordance with local/regional/national/international regulations.

· **Classification system:**

· **NFPA ratings (scale 0 - 4)**



Health = 2
Fire = 3
Reactivity = 0

· **HMIS-ratings (scale 0 - 4)**



Health = *2
Fire = 3
Reactivity = 0

3 Composition/information on ingredients

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

· **Dangerous components:**

64-17-5	Ethyl Alcohol, denatured	45-70% w/w *
56-81-5	glycerol	0.1-1% w/w *

* Actual concentration ranges are withheld as a trade secret.

4 First-aid measures

- **Description of first aid measures**
- **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:** If symptoms persist consult doctor.
- **Information for doctor:**
- **Most important symptoms and effects, both acute and delayed** No further relevant information available.

(Contd. on page 3)

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Trade name: Buffered Ethanol Fixative, 70% BE-70

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

5 Fire-fighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:** CO₂, 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).
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** No special precautions are necessary if used correctly.
- **Information about protection against explosions and fires:**
Keep ignition sources away - Do not smoke.
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.
Store in cool, dry conditions in well sealed receptacles.
- **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.

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Printing date 01/23/2019

Reviewed on 01/23/2019

Trade name: **Buffered Ethanol Fixative, 70% BE-70**

(Contd. of page 3)

- **Control parameters**

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

64-17-5 Ethyl Alcohol, denatured

EL Short-term value: 1000 ppm

EV Long-term value: 1,900 mg/m³, 1,000 ppm
56-81-5 glycerol
EL Long-term value: 10* 3** mg/m³
*mist; **mist, respirableEV Long-term value: 10 mg/m³

- **Additional information:** The lists that were valid during the creation were used as basis.

- **Exposure controls**

- **Personal protective equipment:**

- **General protective and hygienic measures:** Wash hands before breaks and at the end of work.

- **Breathing equipment:** Not required.

- **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:**

Form: Liquid

Color: Colorless

- **Odor:** Characteristic

- **Odor threshold:** Not determined.

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

- **Change in condition**

Melting point/Melting range: Undetermined.

Boiling point/Boiling range: 78 °C

- **Flash point:** 13 °C

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· Flammability (solid, gaseous):	Not flammable.
· Ignition temperature:	425 °C
· Decomposition temperature:	Not determined.
· Auto igniting:	Product is not selfigniting.
· Danger of explosion:	Product is not explosive. However, formation of explosive air/vapor mixtures are possible.
· Explosion limits:	
Lower:	3.5 Vol %
Upper:	15 Vol %
· Vapor pressure at 20 °C:	59 hPa
· Density at 20 °C:	0.85585 g/cm ³
· Relative density	Not determined.
· Vapor density	Not determined.
· Evaporation rate	Not determined.
· Solubility in / Miscibility with Water:	Not miscible or difficult to mix.
· Partition coefficient (n-octanol/water):	Not determined.
· Viscosity:	
Dynamic:	Not determined.
Kinematic:	Not determined.
· Solvent content:	
Organic solvents:	71.5 %
Solids content:	0.0 %
· Other information	No further relevant information available.

10 Stability and reactivity

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

11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity:**
- **Primary irritant effect:**
- **on the skin:** No irritant effect.
- **on the eye:** No irritating effect.
- **Sensitization:** No sensitizing effects known.

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· **Additional toxicological information:**

· **Carcinogenic categories**

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

64-17-5	Ethyl Alcohol, denatured	1
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· **NTP (National Toxicology Program)**

None of the ingredients is listed.

12 Ecological information

· **Toxicity**

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

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

· **Behavior in environmental systems:**

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

· **Mobility in soil** No further relevant information available.

· **Additional ecological information:**

· **General notes:**

Water hazard class 1 (Self-assessment): slightly hazardous for water

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

· **Results of PBT and vPvB assessment**

· **PBT:** Not applicable.

· **vPvB:** Not applicable.

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

13 Disposal considerations

· **Waste treatment methods**

· **Recommendation:**

Must not be disposed of together with household garbage. Do not allow product to reach sewage system.

· **Uncleaned packagings:**

· **Recommendation:** Disposal must be made according to official regulations.

14 Transport information

· **UN-Number**

· **DOT, TDG, IMDG, IATA**

UN1170

· **UN proper shipping name**

· **DOT**

Ethanol

· **TDG**

1170 ETHANOL (ETHYL ALCOHOL)

· **IMDG**

ETHANOL (ETHYL ALCOHOL)

· **IATA**

ETHANOL

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· **Transport hazard class(es)**· **DOT**

· **Class** 3 Flammable liquids
 · **Label** 3
 · **TDG, IMDG, IATA**



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

· **Packing group**· **DOT, TDG, IMDG, IATA** II· **Environmental hazards:** Not applicable.· **Special precautions for user** Warning: Flammable liquids· **Danger code (Kemler):** 33· **EMS Number:** F-E,S-D· **Stowage Category** A· **Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code** Not applicable.· **Transport/Additional information:**· **DOT**

· **Quantity limitations** On passenger aircraft/rail: 5 L
 On cargo aircraft only: 60 L

· **TDG**

· **Excepted quantities (EQ)** Code: E2
 Maximum net quantity per inner packaging: 30 ml
 Maximum net quantity per outer packaging: 500 ml

· **IMDG**

· **Limited quantities (LQ)** 1L
 · **Excepted quantities (EQ)** Code: E2
 Maximum net quantity per inner packaging: 30 ml
 Maximum net quantity per outer packaging: 500 ml

· **UN "Model Regulation":** UN 1170 ETHANOL (ETHYL ALCOHOL), 3, II

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.

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

None of the ingredients is listed.

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

All ingredients are 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, denatured

· **Canadian Ingredient Disclosure list (limit 1%)**

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:**

Ethyl Alcohol, denatured

· **Hazard statements**

Highly flammable liquid and vapour.

Causes serious eye irritation.

May cause cancer.

· **Precautionary statements**

Obtain special instructions before use.

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

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

Keep container tightly closed.

Ground and bond container and receiving equipment.

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

Use non-sparking tools.

Take actions to prevent static discharges.

Wash thoroughly after handling.

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

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

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

Continue rinsing.

IF exposed or concerned: Get medical advice/attention.

If eye irritation persists: Get medical advice/attention.

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

Store in a well-ventilated place. Keep cool.

Store locked up.

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

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

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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 the latest revision of the safety data sheet** 01/23/2019 / -

· **Abbreviations and acronyms:**

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

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

NFPA: National Fire Protection Association (USA)

HMIS: Hazardous Materials Identification System (USA)

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

CA

Veiligheidsinformatieblad

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Herziening van: 23.01.2019

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

· 1.1 Productidentificatie

· **Handelsnaam:** Buffered Ethanol Fixative, 70% BE-70

· **Artikelnummer:** 15988

· 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**



GHS02 vlam

Flam. Liq. 2 H225 Licht ontvlambare vloeistof en damp.



GHS08 gezondheidsgevaar

Carc. 1A H350 Kan kanker veroorzaken.

· 2.2 Etiketteringselementen

· **Etikettering overeenkomstig Verordening (EG) nr. 1272/2008**

Het product is geclassificeerd en geëtiketteerd volgens de CLP-verordening.

· **Gevarenpictogrammen**



GHS02



GHS08

· **Signaalwoord** Gevaar

(Vervolg op blz. 2)

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(Vervolg van blz. 1)

· Gevarenaanduidingen

H225 Licht ontvlambare vloeistof en damp.
H350 Kan kanker veroorzaken.

· Veiligheidsaanbevelingen

P210 Verwijderd houden van warmte, hete oppervlakken, vonken, open vuur en andere ontstekingsbronnen. Niet roken.
P241 Explosieveilige elektrische/ventilatie-/verlichtings- apparatuur gebruiken.
P280 Beschermende handschoenen/beschermende kleding/oogbescherming/gelaatsbescherming dragen.
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.

· 2.3 Andere gevaren
· Resultaten van PBT- en zPzB-beoordeling

- **PBT:** Niet bruikbaar.
- **zPzB:** Niet bruikbaar.

RUBRIEK 3: Samenstelling en informatie over de bestanddelen

· 3.2 Chemische karakterisering: Mengsels

· **Beschrijving:** Mengsel van na elkaar aangevoerde stoffen met ongevaarlijke bijmengingen.

· Gevaarlijke inhoudstoffen:

CAS: 64-17-5	ethanol	 Flam. Liq. 2, H225	>50-≤100%
EINECS: 200-578-6			

· 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

- **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:** Als de klachten niet minderen, een arts raadplegen
- **4.2 Belangrijkste acute en uitgestelde symptomen en effecten** Geen verdere relevante informatie verkrijgbaar.
- **4.3 Vermelding van de vereiste onmiddellijke medische verzorging en speciale behandeling**
Geen verdere relevante informatie verkrijgbaar.

RUBRIEK 5: Brandbestrijdingsmaatregelen

· 5.1 Blusmiddelen

- **Geschikte blusmiddelen:** CO₂, 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.

(Vervolg op blz. 3)

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- **5.3 Advies voor brandweerlieden**
- **Speciale beschermende kleding:** Geen bijzondere maatregelen nodig.

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

- **6.1 Persoonlijke voorzorgsmaatregelen, beschermde uitrusting en noodprocedures**
Beschermende kleding aantrekken. Niet beschermde personen op afstand houden.
- **6.2 Milieuvorzorgsmaatregelen:** 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.
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**
Bij een deskundig gebruik zijn geen bijzondere maatregelen vereist.
- **Informatie m.b.t. brand- en ontploffingsgevaar:**
Onststekingsbronnen op afstand houden - niet roken.
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.
Koel en droog bewaren in goed gesloten vaten.
- **7.3 Specifiek eindgebruik** Geen verdere relevante informatie verkrijgbaar.

RUBRIEK 8: Maatregelen ter beheersing van blootstelling/persoonlijke bescherming

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

· 8.1 Controleparameters

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

64-17-5 ethanol

WGW	Korte termijn waarde: 1900 mg/m ³ , 990 ppm
	Lange termijn waarde: 260 mg/m ³ , 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:**
Vóór de pauze en aan het einde van werktijd handen wassen.
- **Ademhalingsbescherming:** Niet noodzakelijk.

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· 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:

Vorm:	Vloeistof
Kleur:	Kleurloos
Geur:	Karakteristiek
Geurdrempelwaarde:	Niet bepaald.

· pH-waarde: Niet bepaald.

· Toestandsverandering

Smelt-/vriespunt:	Niet bepaald.
Beginkookpunt en kooktraject:	78 °C

· Vlampunt: 13 °C

· Ontvlambaarheid (vast, gas): Niet bruikbaar.

· Ontstekingsstemperatuur: 425 °C

· Ontledingstemperatuur: Niet bepaald.

· Zelfontbrandingstemperatuur: Het produkt ontbrandt niet uit zichzelf.

· Ontploffingseigenschappen: Het produkt is niet ontploffingsgevaarlijk, maar de vorming van ontploffingsgevaarlijke damp-/luchtmengsels is mogelijk.

· Ontploffingsgrenzen:

Onderste:	3,5 Vol %
Bovenste:	15 Vol %

· Dampspanning bij 20 °C: 59 hPa

· Dichtheid bij 20 °C: 0,85585 g/cm³

· Relatieve dichtheid Niet bepaald.

· Dampdichtheid Niet bepaald.

· Verdampingsnelheid Niet bepaald.

(Vervolg op blz. 5)

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(Vervolg van blz. 4)

- | | |
|---|--|
| · Oplosbaarheid in/mengbaarheid met Water: | <i>Niet resp. gering mengbaar.</i> |
| · Verdelingscoëfficiënt: n-octanol/water: | <i>Niet bepaald.</i> |
| · Viscositeit | |
| Dynamisch: | <i>Niet bepaald.</i> |
| Kinematisch: | <i>Niet bepaald.</i> |
| · Oplosmiddelgehalte: | |
| Organisch oplosmiddel: | <i>71,5 %</i> |
| VOC (EG) | <i>70,50 %</i> |
| · Gehalte aan vaste bestanddelen: | <i>0,0 %</i> |
| · 9.2 Overige informatie | <i>Geen verdere relevante informatie verkrijgbaar.</i> |

RUBRIEK 10: Stabiliteit en reactiviteit

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

RUBRIEK 11: Toxicologische informatie

- **11.1 Informatie over toxicologische effecten**
- **Acute toxiciteit** *Gebaseerd op beschikbare gegevens; aan de indelingscriteria is niet voldaan.*
- **Primaire aandoening:**
- **Huidcorrosie/-irritatie** *Gebaseerd op beschikbare gegevens; aan de indelingscriteria is niet voldaan.*
- **Ernstig oogletsel/oogirritatie** *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**
Kan kanker veroorzaken.
- **Giftigheid voor de voortplanting** *Gebaseerd op beschikbare gegevens; aan de indelingscriteria is niet voldaan.*
- **STOT bij eenmalige blootstelling** *Gebaseerd op beschikbare gegevens; aan de indelingscriteria is niet voldaan.*
- **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.*

(Vervolg op blz. 6)

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(Vervolg van blz. 5)

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

RUBRIEK 13: Instructies voor verwijdering

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

RUBRIEK 14: Informatie met betrekking tot het vervoer

- | | |
|---|---|
| · 14.1 VN-nummer | |
| · ADR, IMDG, IATA | UNI170 |
| · 14.2 Juiste ladingnaam overeenkomstig de modelreglementen van de VN | |
| · ADR | 1170 ETHANOL (ETHYLALCOHOL) |
| · IMDG | ETHANOL (ETHYL ALCOHOL) |
| · IATA | ETHANOL |
| · 14.3 Transportgevaarklasse(n) | |
| · ADR, IMDG, IATA | |
| |  |
| · klasse | 3 Brandbare vloeistoffen |
| · Etiket | 3 |
| · 14.4 Verpakkingsgroep: | |
| · ADR, IMDG, IATA | II |
| · 14.5 Milieugevaren: | Niet bruikbaar. |
| · 14.6 Bijzondere voorzorgen voor de gebruiker | Waarschuwing: Brandbare vloeistoffen |
| · Kemler-getal: | 33 |
| · EMS-nummer: | F-E,S-D |
| · Stowage Category | A |
| · 14.7 Vervoer in bulk overeenkomstig bijlage II bij Marpol en de IBC-code | Niet bruikbaar. |

(Vervolg op blz. 7)

Veiligheidsinformatieblad

volgens 1907/2006/EG, Artikel 31

datum van de druk: 23.01.2019

Herziening van: 23.01.2019

Handelsnaam: **Buffered Ethanol Fixative, 70% BE-70**

(Vervolg van blz. 6)

· **Transport/verdere gegevens:**

· **ADR**

· **Beperkte hoeveelheden (LQ)**

1L

· **Uitgezonderde hoeveelheden (EQ)**

Code: E2

Grootste netto hoeveelheid per binnenverpakking: 30 ml

Grootste netto hoeveelheid per buitenverpakking: 500 ml

· **Vervoerscategorie**

2

· **Tunnelbeperkingscode**

D/E

· **IMDG**

· **Limited quantities (LQ)**

1L

· **Excepted quantities (EQ)**

Code: E2

Maximum net quantity per inner packaging: 30 ml

Maximum net quantity per outer packaging: 500 ml

· **VN "Model Regulation":**

UN 1170 ETHANOL (ETHYLALCOHOL), 3, II

RUBRIEK 15: Regelgeving

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

· **SZW-lijst van kankerverwekkende stoffen**

64-17-5 ethanol

· **SZW-lijst van mutagene stoffen**

geen der bestanddelen staat op de lijst.

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

64-17-5 ethanol

IA

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

64-17-5 ethanol

IA

· **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 P5c ONTVLAMBARE VLOEISTOFFEN**

· **Drempelwaarde (ton) voor toepassing van voorschriften voor lagedrempelinrichtingen** 5.000 t

· **Drempelwaarde (ton) voor toepassing van voorschriften voor hogedrempelinrichtingen** 50.000 t

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

· **Nationale voorschriften:**

· **Gevaarklasse v. water:**

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

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

RUBRIEK 16: Overige informatie

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

(Vervolg op blz. 8)

Veiligheidsinformatieblad
volgens 1907/2006/EG, Artikel 31

datum van de druk: 23.01.2019

Herziening van: 23.01.2019

Handelsnaam: Buffered Ethanol Fixative, 70% BE-70

(Vervolg van blz. 7)

· Relevante zinnen*H225 Licht ontvlambare vloeistof en damp.***· 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)**PBT: Persistent, Bioaccumulative and Toxic**vPvB: very Persistent and very Bioaccumulative**Flam. Liq. 2: Ontvlambare vloeistoffen – Categorie 2**Carc. 1A: Kankerverwekkendheid – Categorie 1A*

-NL-

Fiche de données de sécurité

selon 1907/2006/CE, Article 31

Date d'impression : 23.01.2019

Révision: 23.01.2019

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

- **1.1 Identificateur de produit**
- **Nom du produit:** Buffered Ethanol Fixative, 70% BE-70
- **Code du produit:** 15988
- **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. 2 H225 Liquide et vapeurs très inflammables.



GHS08 danger pour la santé

Carc. 1A H350 Peut provoquer le cancer.

- **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



GHS08

- **Mention d'avertissement** Danger
- **Mentions de danger**
H225 Liquide et vapeurs très inflammables.
H350 Peut provoquer le cancer.
- **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.

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(suite de la page 1)

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

- 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: 64-17-5 EINECS: 200-578-6	éthanol Flam. Liq. 2, H225	>50-≤100%
CAS: 56-81-5 EINECS: 200-289-5	glycerol substance pour laquelle il existe, en vertu des dispositions communautaires, des limites d'exposition sur le lieu de travail	≤2,5%

- 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
- 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: Si les troubles persistent, consulter un médecin.
- 4.2 Principaux symptômes et effets, aigus et différés Pas d'autres informations importantes disponibles.
- 4.3 Indication des éventuels soins médicaux immédiats et traitements particuliers nécessaires
Pas d'autres informations importantes disponibles.

RUBRIQUE 5: Mesures de lutte contre l'incendie

- 5.1 Moyens d'extinction
- Moyens d'extinction: CO2, 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.
- 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.

(suite page 3)

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(suite de la page 2)

- **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).
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**
Aucune mesure particulière n'est nécessaire en cas de bonne utilisation.
- **Préventions des incendies et des explosions:**
Tenir à l'abri des sources d'inflammation - ne pas fumer.
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.
Stocker au frais et au sec dans des fûts bien fermés.
- **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.

- **8.1 Paramètres de contrôle**

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

64-17-5 éthanol

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

56-81-5 glycerol

VME	Valeur à long terme: 10 mg/m ³
-----	---

- **Remarques supplémentaires:**
Le présent document s'appuie sur les listes en vigueur au moment de son élaboration.
- **8.2 Contrôles de l'exposition**
- **Équipement de protection individuel:**
- **Mesures générales de protection et d'hygiène:** Se laver les mains avant les pauses et en fin de travail.
- **Protection respiratoire:** N'est pas nécessaire.
- **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.

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(suite de la page 3)

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.

· **Changement d'état**

· Point de fusion/point de congélation:	Non déterminé.
· Point initial d'ébullition et intervalle d'ébullition:	78 °C

· **Point d'éclair** 13 °C

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

· **Température d'inflammation:** 425 °C

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

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

· **Propriétés explosives:** Le produit n'est pas explosif; toutefois, des mélanges explosifs vapeur-air peuvent se former.

· **Limites d'explosion:**

· Inférieure:	3,5 Vol %
· Supérieure:	15 Vol %

· **Pression de vapeur à 20 °C:** 59 hPa

· **Densité à 20 °C:** 0,85585 g/cm³

· **Densité relative** Non déterminé.

· **Densité de vapeur:** Non déterminé.

· **Taux d'évaporation:** Non déterminé.

· **Solubilité dans/miscibilité avec l'eau:**

Pas ou peu miscible

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

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(suite de la page 4)

· Viscosité:	
Dynamique:	Non déterminé.
Cinématique:	Non déterminé.
· Teneur en solvants:	
Solvants organiques:	71,5 %
VOC (CE)	70,50 %
· Teneur en substances solides:	
	0,0 %
· 9.2 Autres informations	
	Pas d'autres informations importantes disponibles.

RUBRIQUE 10: Stabilité et réactivité

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

RUBRIQUE 11: Informations toxicologiques

- **11.1 Informations sur les effets toxicologiques**
- **Toxicité aiguë** Compte tenu des données disponibles, les critères de classification ne sont pas remplis.
- **Effet primaire d'irritation:**
- **Corrosion cutanée/irritation cutanée**
Compte tenu des données disponibles, les critères de classification ne sont pas remplis.
- **Lésions oculaires graves/irritation oculaire**
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**
Peut provoquer le cancer.
- **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**
Compte tenu des données disponibles, les critères de classification ne sont pas remplis.
- **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.

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(suite de la page 5)

- **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"> · 14.1 Numéro ONU · ADR, IMDG, IATA | UN1170 |
| <ul style="list-style-type: none"> · 14.2 Désignation officielle de transport de l'ONU · ADR · IMDG · IATA | 1170 ÉTHANOL (ALCOOL ÉTHYLIQUE)
ETHANOL (ETHYL ALCOHOL)
ETHANOL |
| <ul style="list-style-type: none"> · 14.3 Classe(s) de danger pour le transport · ADR, IMDG, IATA | <div style="text-align: center;">  </div> |
| <ul style="list-style-type: none"> · Classe · Étiquette | 3 Liquides inflammables.
3 |
| <ul style="list-style-type: none"> · 14.4 Groupe d'emballage · ADR, IMDG, IATA | II |
| <ul style="list-style-type: none"> · 14.5 Dangers pour l'environnement: | Non applicable. |
| <ul style="list-style-type: none"> · 14.6 Précautions particulières à prendre par l'utilisateur · Indice Kemler: · No EMS: · Stowage Category | Attention: Liquides inflammables.
33
F-E,S-D
A |
| <ul style="list-style-type: none"> · 14.7 Transport en vrac conformément à l'annexe II de la convention Marpol et au recueil IBC | Non applicable. |

(suite page 7)

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(suite de la page 6)

· Indications complémentaires de transport:

· ADR

· Quantités limitées (LQ)

1L

· Quantités exceptées (EQ)

Code: E2

Quantité maximale nette par emballage intérieur: 30 ml
Quantité maximale nette par emballage extérieur: 500 ml

· Catégorie de transport

2

· Code de restriction en tunnels

D/E

· IMDG

· Limited quantities (LQ)

1L

· Excepted quantities (EQ)

Code: E2

Maximum net quantity per inner packaging: 30 ml
Maximum net quantity per outer packaging: 500 ml

· "Règlement type" de l'ONU:

UN 1170 ÉTHANOL (ALCOOL ÉTHYLIQUE), 3, II

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 P5c LIQUIDES INFLAMMABLES

· Quantité seuil (tonnes) pour l'application des exigences relatives au seuil bas 5.000 t

· Quantité seuil (tonnes) pour l'application des exigences relatives au seuil haut 50.000 t

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

· 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

H225 Liquide et vapeurs très inflammables.

· 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)

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

Flam. Liq. 2: Liquides inflammables – Catégorie 2

Carc. 1A: Cancérogénicité – Catégorie 1A

Sicherheitsdatenblatt

gemäß 1907/2006/EG, Artikel 31

Druckdatum: 23.01.2019

überarbeitet am: 23.01.2019

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

- **1.1 Produktidentifikator**
- **Handelsname:** Buffered Ethanol Fixative, 70% BE-70
- **Artikelnummer:** 15988
- **1.2 Relevante identifizierte Verwendungen des Stoffs oder Gemischs und Verwendungen, von denen abgeraten wird**
Keine weiteren relevanten Informationen verfügbar.
- **Verwendung des Stoffes / des Gemisches** Laborchemikalien
- **1.3 Einzelheiten zum Lieferanten, der das Sicherheitsdatenblatt bereitstellt**
- **Hersteller/Lieferant:**
Electron Microscopy Sciences
1560 Industry Road
USA-Hatfield, PA 19440
Tel: 215-412-8400 Fax: 215-412-8450
email: sgkcck@aol.com
www.emsdiasum.com

Science Services GmbH
Unterhachinger Str. 75
81737 München Germany

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

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

ABSCHNITT 2: Mögliche Gefahren

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



GHS02 Flamme

Flam. Liq. 2 H225 Flüssigkeit und Dampf leicht entzündbar.



GHS08 Gesundheitsgefahr

Carc. 1A H350 Kann Krebs erzeugen.

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

(Fortsetzung auf Seite 2)

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Gefahrenpiktogramme


GHS02 GHS08

Signalwort Gefahr
Gefahrenhinweise

H225 Flüssigkeit und Dampf leicht entzündbar.

H350 Kann Krebs erzeugen.

Sicherheitshinweise

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

P241 Explosionsgeschützte elektrische Geräte/Lüftungsanlagen/Beleuchtungsanlagen verwenden.

P280 Schutzhandschuhe/Schutzkleidung/Augenschutz/Gesichtsschutz tragen.

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:

Nur für gewerbliche Anwender.

2.3 Sonstige Gefahren
Ergebnisse der PBT- und vPvB-Beurteilung

PBT: Nicht anwendbar.

vPvB: Nicht anwendbar.

ABSCHNITT 3: Zusammensetzung/Angaben zu Bestandteilen

3.2 Chemische Charakterisierung: Gemische

Beschreibung: Gemisch aus nachfolgend angeführten Stoffen mit ungefährlichen Beimengungen.

Gefährliche Inhaltsstoffe:

CAS: 64-17-5 EINECS: 200-578-6	Ethanol Flam. Liq. 2, H225	>50-≤100%
CAS: 56-81-5 EINECS: 200-289-5	Glycerin Stoff, für den ein gemeinschaftlicher Grenzwert für die Exposition am Arbeitsplatz gilt	≤2,5%

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

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.

Nach Verschlucken: Bei anhaltenden Beschwerden Arzt konsultieren.

4.2 Wichtigste akute und verzögert auftretende Symptome und Wirkungen

Keine weiteren relevanten Informationen verfügbar.

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

ABSCHNITT 5: Maßnahmen zur Brandbekämpfung

- **5.1 Löschmittel**
- **Geeignete Löschmittel:** CO₂, 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.
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**
Bei sachgemäßer Verwendung keine besonderen Maßnahmen erforderlich.
- **Hinweise zum Brand- und Explosionsschutz:**
Zündquellen fernhalten - nicht rauchen.
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.
In gut verschlossenen Gebinden kühl und trocken lagern.
- **Lagerklasse:**
- **Klassifizierung nach Betriebssicherheitsverordnung (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.

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· 8.1 Zu überwachende Parameter
· Bestandteile mit arbeitsplatzbezogenen, zu überwachenden Grenzwerten:
64-17-5 Ethanol

AGW	Langzeitwert: 380 mg/m ³ , 200 ml/m ³ 4(II);DFG, Y
-----	---

56-81-5 Glycerin

AGW	Langzeitwert: 200 E mg/m ³ 2 (I);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: Vor den Pausen und bei Arbeitsende Hände waschen.

· Atemschutz: Nicht erforderlich.

· 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

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/Gefrierpunkt:	Nicht bestimmt.
Siedebeginn und Siedebereich:	78 °C

· Flammpunkt:	13 °C
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· Entzündbarkeit (fest, gasförmig):	Nicht anwendbar.
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· Zündtemperatur:	425 °C
· Zersetzungstemperatur:	Nicht bestimmt.
· Selbstentzündungstemperatur:	Das Produkt ist nicht selbstentzündlich.
· Explosive Eigenschaften:	Das Produkt ist nicht explosionsgefährlich, jedoch ist die Bildung explosionsgefährlicher Dampf-/Luftgemische möglich.
· Explosionsgrenzen:	
Untere:	3,5 Vol %
Obere:	15 Vol %
· Dampfdruck bei 20 °C:	59 hPa
· Dichte bei 20 °C:	0,85585 g/cm ³
· Relative Dichte	Nicht bestimmt.
· Dampfdichte	Nicht bestimmt.
· Verdampfungsgeschwindigkeit	Nicht bestimmt.
· Löslichkeit in / Mischbarkeit mit Wasser:	Nicht bzw. wenig mischbar.
· Verteilungskoeffizient: n-Octanol/Wasser:	Nicht bestimmt.
· Viskosität:	
Dynamisch:	Nicht bestimmt.
Kinematisch:	Nicht bestimmt.
· Lösemittelgehalt:	
Organische Lösemittel:	71,5 %
VOC (EU)	70,50 %
· Festkörpergehalt:	0,0 %
· 9.2 Sonstige Angaben	Keine weiteren relevanten Informationen verfügbar.

ABSCHNITT 10: Stabilität und Reaktivität

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

ABSCHNITT 11: Toxikologische Angaben

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

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- **CMR-Wirkungen (krebserzeugende, erbgutverändernde und fortpflanzungsgefährdende Wirkung)**
- **Keimzell-Mutagenität** Aufgrund der verfügbaren Daten sind die Einstufungskriterien nicht erfüllt.
- **Karzinogenität**
Kann Krebs erzeugen.
- **Reproduktionstoxizität** Aufgrund der verfügbaren Daten sind die Einstufungskriterien nicht erfüllt.
- **Spezifische Zielorgan-Toxizität bei einmaliger Exposition**
Aufgrund der verfügbaren Daten sind die Einstufungskriterien nicht erfüllt.
- **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.
- **Ungereinigte Verpackungen:**
- **Empfehlung:** Entsorgung gemäß den behördlichen Vorschriften.

ABSCHNITT 14: Angaben zum Transport

- | | |
|--|-----------------------------|
| · 14.1 UN-Nummer | |
| · ADR, IMDG, IATA | UN1170 |
| · 14.2 Ordnungsgemäße UN-Versandbezeichnung | |
| · ADR | 1170 ETHANOL (ETHYLALKOHOL) |
| · IMDG | ETHANOL (ETHYL ALCOHOL) |
| · IATA | ETHANOL |

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· 14.3 Transportgefahrenklassen
· ADR, IMDG, IATA


· Klasse	3 Entzündbare flüssige Stoffe
· Gefahrzettel	3

· 14.4 Verpackungsgruppe
· ADR, IMDG, IATA II

· 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-D
· Stowage Category	A

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

· Transport/weitere Angaben:
· ADR

· Begrenzte Menge (LQ)	1L
· Freigestellte Mengen (EQ)	Code: E2 Höchste Nettomenge je Innenverpackung: 30 ml Höchste Nettomenge je Außenverpackung: 500 ml
· Beförderungskategorie	2
· Tunnelbeschränkungscode	D/E

· IMDG

· Limited quantities (LQ)	1L
· Excepted quantities (EQ)	Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml

· UN "Model Regulation": UN 1170 ETHANOL (ETHYLALKOHOL), 3, II

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 P5c ENTZÜNDBARE FLÜSSIGKEITEN
· Mengenschwelle (in Tonnen) für die Anwendung in Betrieben der unteren Klasse 5.000 t

· Mengenschwelle (in Tonnen) für die Anwendung in Betrieben der oberen Klasse 50.000 t

· VERORDNUNG (EG) Nr. 1907/2006 ANHANG XVII Beschränkungsbedingungen: 3

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- **Nationale Vorschriften:**
- **Technische Anleitung Luft:**

Klasse	Anteil in %
II	0,5
NK	71,0

- **Wassergefährdungsklasse: WGK 1 (Selbsteinstufung):** schwach wassergefährdend.
- **Sonstige Vorschriften, Beschränkungen und Verbotsverordnungen**
Das Produkt unterliegt der Anlage 2 der Chemikalienverbotsverordnung (ChemVerbotsV) - Anforderungen in Bezug auf die Abgabe
- **15.2 Stoffsicherheitsbeurteilung:** Eine Stoffsicherheitsbeurteilung wurde nicht durchgeführt.

ABSCHNITT 16: Sonstige Angaben

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

- **Relevante Sätze**
H225 Flüssigkeit und Dampf leicht entzündbar.
- **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)
PBT: Persistent, Bioaccumulative and Toxic
vPvB: very Persistent and very Bioaccumulative
Flam. Liq. 2: Entzündbare Flüssigkeiten – Kategorie 2
Carc. 1A: Karzinogenität – Kategorie 1A

DE

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

Stampato il: 23.01.2019

Revisione: 23.01.2019

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

· **1.1 Identificatore del prodotto**

· **Denominazione commerciale:** Buffered Ethanol Fixative, 70% BE-70

· **Articolo numero:** 15988

· **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. 2 H225 Liquido e vapori facilmente infiammabili.



GHS08 pericolo per la salute

Carc. 1A H350 Può provocare il cancro.

· **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



GHS08

· **Avvertenza Pericolo**

· **Indicazioni di pericolo**

H225 Liquido e vapori facilmente infiammabili.

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H350 Può provocare il cancro.

Consigli di prudenza

- P210 Tenere lontano da fonti di calore, superfici calde, scintille, fiamme libere o altre fonti di accensione. Non fumare.
- P241 Utilizzare impianti elettrici/di ventilazione/d'illuminazione/a prova di esplosione.
- P280 Indossare guanti/indumenti protettivi/Proteggere gli occhi/il viso.
- 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.

2.3 Altri pericoli

Risultati della valutazione PBT e vPvB


- **PBT:** Non applicabile.
- **vPvB:** Non applicabile.

SEZIONE 3: Composizione/informazioni sugli ingredienti

3.2 Caratteristiche chimiche: Miscela

Descrizione: Miscela delle seguenti sostanze con additivi non pericolosi.

Sostanze pericolose:

CAS: 64-17-5	etanolo	>50-≤100%
EINECS: 200-578-6	 Flam. Liq. 2, H225	
CAS: 56-81-5	glicerolo	≤2,5%
EINECS: 200-289-5	sostanza con un limite comunitario di esposizione sul posto di lavoro	

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

- **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:** Se il dolore persiste consultare il medico.
- **4.2 Principali sintomi ed effetti, sia acuti che ritardati** Non sono disponibili altre informazioni.
- **4.3 Indicazione dell'eventuale necessità di consultare immediatamente un medico e di trattamenti speciali**
Non sono disponibili altre informazioni.

SEZIONE 5: Misure antincendio

5.1 Mezzi di estinzione

- **Mezzi di estinzione idonei:** 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.

IT

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

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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).
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** Per un uso corretto non sono necessari provvedimenti particolari.
- **Indicazioni in caso di incendio ed esplosione:**
Tenere lontano da fonti di calore, non fumare.
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.
Conservare in luogo fresco e asciutto in fusti ben chiusi.
- **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.

8.1 Parametri di controllo

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

64-17-5 etanolo

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

56-81-5 glicerolo

TWA	Valore a lungo termine: (10) mg/m ³
-----	--

- **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:** Lavarsi le mani prima dell'intervallo o a lavoro terminato.
- **Maschera protettiva:** Non necessario.
- **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.

(continua a pagina 4)

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

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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.

· **Cambiamento di stato**

Punto di fusione/punto di congelamento: Non definito.

Punto di ebollizione iniziale e intervallo di ebollizione: 78 °C

· **Punto di infiammabilità:** 13 °C

· **Infiammabilità (solidi, gas):** Non applicabile.

· **Temperatura di accensione:** 425 °C

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

· **Temperatura di autoaccensione:** Prodotto non autoinfiammabile.

· **Proprietà esplosive:** Prodotto non è esplosivo, è tuttavia possibile la formazione di miscele di vapori/aria esplosive.

· **Limiti di infiammabilità:**

Inferiore: 3,5 Vol %

Superiore: 15 Vol %

· **Tensione di vapore a 20 °C:** 59 hPa

· **Densità a 20 °C:** 0,85585 g/cm³

· **Densità relativa** Non definito.

· **Densità di vapore:** Non definito.

· **Velocità di evaporazione** Non definito.

· **Solubilità in/Miscibilità con acqua:**

Poco e/o non miscibile.

(continua a pagina 5)

Scheda di dati di sicurezza
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Denominazione commerciale: Buffered Ethanol Fixative, 70% BE-70

(Segue da pagina 4)

- | | |
|--|--|
| · Coefficiente di ripartizione: n-ottanolo/acqua: | Non definito. |
| · Viscosità: | |
| Dinamica: | Non definito. |
| Cinematica: | Non definito. |
| · Tenore del solvente: | |
| Solventi organici: | 71,5 % |
| VOC (CE) | 70,50 % |
| · Contenuto solido: | 0,0 % |
| · 9.2 Altre informazioni | Non sono disponibili altre informazioni. |

SEZIONE 10: Stabilità e reattività

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

SEZIONE 11: Informazioni tossicologiche

- **11.1 Informazioni sugli effetti tossicologici**
- **Tossicità acuta** Basandosi sui dati disponibili i criteri di classificazione non sono soddisfatti.
- **Irritabilità primaria:**
- **Corrosione/irritazione cutanea** Basandosi sui dati disponibili i criteri di classificazione non sono soddisfatti.
- **Lesioni oculari gravi/irritazioni oculari gravi**
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**
Può provocare il cancro.
- **Tossicità per la riproduzione** Basandosi sui dati disponibili i criteri di classificazione non sono soddisfatti.
- **Tossicità specifica per organi bersaglio (STOT) - esposizione singola**
Basandosi sui dati disponibili i criteri di classificazione non sono soddisfatti.
- **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.

(continua a pagina 6)

Scheda di dati di sicurezza
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- **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 | UN1170 |
| · 14.2 Nome di spedizione dell'ONU
· ADR
· IMDG
· IATA | 1170 ETANOLO (ALCOL ETILICO)
ETHANOL (ETHYL ALCOHOL)
ETHANOL |
| · 14.3 Classi di pericolo connesso al trasporto
· ADR, IMDG, IATA | |
|  | |
| · Classe
· Etichetta | 3 Liquidi infiammabili
3 |
| · 14.4 Gruppo di imballaggio
· ADR, IMDG, IATA | II |
| · 14.5 Pericoli per l'ambiente: | Non applicabile. |
| · 14.6 Precauzioni speciali per gli utilizzatori
· Numero Kemler:
· Numero EMS:
· Stowage Category | Attenzione: Liquidi infiammabili
33
F-E,S-D
A |
| · 14.7 Trasporto di rifiuti secondo l'allegato II di MARPOL ed il codice IBC | Non applicabile. |

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Scheda di dati di sicurezza
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(Segue da pagina 6)

· Trasporto/ulteriori indicazioni:

· ADR

· **Quantità limitate (LQ)**

1L

· **Quantità esenti (EQ)**

Codice: E2

Quantità massima netta per imballaggio interno: 30 ml

Quantità massima netta per imballaggio esterno: 500 ml

· **Categoria di trasporto**

2

· **Codice di restrizione in galleria**

D/E

· IMDG

· **Limited quantities (LQ)**

1L

· **Excepted quantities (EQ)**

Code: E2

Maximum net quantity per inner packaging: 30 ml

Maximum net quantity per outer packaging: 500 ml

· **UN "Model Regulation":**

UN 1170 ETANOLO (ALCOL ETILICO), 3, II

SEZIONE 15: Informazioni sulla regolamentazione

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

· **Direttiva 2012/18/UE**

· **Sostanze pericolose specificate - ALLEGATO I** Nessuno dei componenti è contenuto.

· **Categoria Seveso P5c** LIQUIDI INFIAMMABILI

· **Quantità limite (tonnellate) ai fini dell'applicazione dei requisiti di soglia inferiore** 5.000 t

· **Quantità limite (tonnellate) ai fini dell'applicazione dei requisiti di soglia superiore** 50.000 t

· **REGOLAMENTO (CE) n. 1907/2006 ALLEGATO XVII** Restrizioni: 3

· **Disposizioni nazionali:**

· **Istruzione tecnica aria:**

Classe	quota in %
NC	71,5

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

SEZIONE 16: Altre informazioni

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

· **Frasi rilevanti**

H225 Liquido e vapori facilmente infiammabili.

· **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)

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

Flam. Liq. 2: Liquidi infiammabili – Categoria 2

Carc. 1A: Cancerogenicità – Categoria 1A

물질안전보건자료 GHS에 따라

기압점: 2019.01.23

개정: 2019.01.23

1 화학제품과 회사에 관한 정보

- **제품 식별자**
- **제품명:** Buffered Ethanol Fixative, 70% BE-70
- **상품번호:** 15988
- **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

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

2 유해성·위험성

· **순물질 또는 혼합물의 분류**



화염

인화성 액체 – 구분 2

H225 고인화성 액체 및 증기



건강에 위험

발암성 – 구분 1A

H350 암을 일으킬 수 있음



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

(2 쪽에 계속)

물질안전보건자료

GHS에 따라

기압점: 2019.01.23

개정: 2019.01.23

제품명: Buffered Ethanol Fixative, 70% BE-70

(1 쪽부터계속)

- 라벨표기 요소
- GHS 라벨 요소
- 그림문자



GHS02 GHS07 GHS08

- 신호어 위험
- 유해.위험 문구
고인화성 액체 및 증기
눈에 심한 자극을 일으킴
암을 일으킬 수 있음
- 예방조치 문구
열·스파크·화염·고열로부터 멀리하십시오 - 금연
폭발 방지용 전기·환기·조명·장비를 사용하십시오.
피부(또는 머리카락)에 묻으면 오염된 모든 의복은 벗으시오. 피부를 물로 씻으시오/샤워하십시오.
눈에 묻으면 몇 분간 물로 조심해서 씻으시오. 가능하면콘택트렌즈를 제거하십시오. 계속 씻으시오.
잠금장치가 있는 저장장소에 저장하십시오.
현지/지역/국가/국제 규정에 따라서 내용물/용기 노출
- 기타 유해성
· PBT(잔류성, 생물농축성, 독성 물질) 및 vPvB(고 잔류성, 고 생물농축성 물질) 평가 결과
· PBT(잔류성, 생물농축성, 독성 물질): 해당사항 없음.
· vPvB(고 잔류성, 고 생물농축성 물질): 해당사항 없음.

3 구성성분의 명칭 및 함유량

- 화학적 특성: 혼합물
- 설명: 무해한 첨가물이 함유된 아래에 열거된 물질로 만들어진 혼합물.

· 위험요소:

64-17-5	Ethyl Alcohol, denatured	인화성 액체 - 구분 2, H225	>50-≤100%
56-81-5	glycerol		≤2.5%

4 응급조치 요령

- 응급조치요령 내용
- 흡입했을 때: 신선한 공기를 쉼, 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: 증상이 지속될 경우에는 의사와 상담한다.
- 기타 의사의 주의사항:
- 가장 중요한 급·만성 증상 및 영향 추가적인 정보가 존재하지 않습니다.
- 즉각적인 의료처치 및 특별치료가 필요함을 시사하는 징후 추가적인 정보가 존재하지 않습니다.

5 폭발·화재시 대처방법

- 소화제
- 적절한 소화제: 이산화탄소, 모래, 석회가루를 사용하고, 물을 사용하지 않는다.

(3 쪽에계속)

물질안전보건자료

GHS에 따라

기압점: 2019.01.23

개정: 2019.01.23

제품명: Buffered Ethanol Fixative, 70% BE-70

(2 쪽부터계속)

- 부적절한 소화제: 플레트용 물
- 본 화학물질이나 혼합물에서 발생하는 특별 유해성 추가적인 정보가 존재하지 않습니다.
- 소방관에 대한 권고사항
- 화재 진압 시 착용할 보호구 및 예방조치: 특별한 조치가 필요없음.

6 누출 사고 시 대처방법

- 개인적 예방조치, 보호장비 및 응급처치 절차 안전장비 착용하고, 무방비 의 사람은 격리시킨다.
- 환경 관련 예방조치: 하수도망/해수면위의물/지하수로도달하지않게한다.
- 밀폐 및 정화 방법과 소재: 액체가 혼합된 물질(모래, 규조토, 산성결합물, 일반결합물, 톱밥)에 흡입되도록 한다. 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 올바르게 사용할 경우에는 특별한 주의가 필요없다.
- 화재 및 폭발 사고 예방대책에 관한 정보:
발화요소는 멀리둔다.금연.
정전기의 충전으로부터 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:
용기를 새지않게 밀폐한채 보관한다.
밀폐된 용기속에서 늘 하고 건조하게 보관한다.
- 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:

64-17-5 Ethyl Alcohol, denatured	
TLV (KR)	장기간의값: 1000 ppm 발암성 1A
PEL (US)	장기간의값: 1900 mg/m ³ , 1000 ppm
REL (US)	장기간의값: 1900 mg/m ³ , 1000 ppm
TLV (US)	단기간의값: 1880 mg/m ³ , 1000 ppm
56-81-5 glycerol	
TLV (KR)	장기간의값: 10 mg/m ³

(4 쪽에계속)

물질안전보건자료

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PEL (US)	장기간의값: 15* 5** mg/m ³ mist; *total dust **respirable fraction
TLV (US)	TLV withdrawn-insufficient data human occup. exp.

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

· **노출 통제**

· **개인 보호구**

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

· **호흡기 보호:** 필 요 없 음.

· **손 보호:**

장갑재질은제품 / 원료 / 조제를투과시키지않아야하고, 내구성이있어야한다.

테 스트 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 권 이 없 다.

투과 시간, 침투율과저하를고려해서장갑재료를선택한다.

· **장갑의재료**

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

· **장갑재료의투과시간** 정확한관통시간은보호장갑제조자에의하여인지되고, 준수되어야한다.

· **눈 보호:**



꼭조이는보안경

9 물리화학적 특성

· **기본 물리 및 화학적 특성에 대한 정보**

· **일반정보**

· **외형**

· 물리적 상태:	액체
· 색:	색소가없는
· 냄새:	특색있는
· 후각역치	알맞지않다.

· **pH:** 알맞지않다.

· **상태변화**

· 녹는점/어는점:	맞지않는
· 초기 끓는점과 끓는점 범위:	78 °C

· **인화점:** 13 °C

· **인화성(고체, 기체):** 해당사항 없음.

· **점화온도:** 425 °C

· **분해 온도:** 알맞지않다.

· **자기점화:** 이제품은자연발화성이없다.

· **폭발위험:** 이제품은폭발위험성이없지만, 폭발가능성이있는증기화합물/공기화합물의형성가능성이있다.

· **인화 또는 폭발 범위의 상한/하한**

· 아래로:	3.5 Vol %
--------	-----------

(5 쪽에계속)

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(4 쪽부터계속)

위로:	15 Vol %
· 증기압 의경우 20 °C:	59 hPa
· 밀도 의경우 20 °C:	0.85585 g/cm ³
· 비중:	알맞지않다.
· 증기밀도:	알맞지않다.
· 증발 속도:	알맞지않다.
· 용해도:	
물:	각각의경우에따라서는거의혼합할수없는
· n 옥탄올/물 분배계수:	알맞지않다.
· 점도:	
역학성:	알맞지않다.
동점성:	알맞지않다.
· 용매내용물	
유기용매:	71.5 %
VOC (EU)	70.50 %
· 고체의 함량:	0.0 %
· 기타 정보	추가적인 정보가 존재하지 않습니다.

10 안정성 및 반응성

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

11 독성에 관한 정보

- 독성학적 영향에 대한 정보
- 급성 독성:
- 입차적 자극 효과:
- 피부 부식성 또는 자극성: 무자극
- 심한 눈 손상 또는 자극성: 무자극.
- 감각화: 민감한영향이없는것으로알려져있다.
- 다음 종류의 잠재적인 효과에 대한 정보
- CMR-효과 (암 유발, 돌연변이성 그리고 생식 독성)
- 발암성 - 구분 1A

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.

(6 쪽에계속)

물질안전보건자료

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- 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

· 유엔 번호	
· ADR, IMDG, IATA	UN1170
· UN 적정 선적명	
· ADR	1170 ETHANOL (ETHYL ALCOHOL)
· IMDG	ETHANOL (ETHYL ALCOHOL)
· IATA	ETHANOL
· 교통 위험 클래스	
· ADR, IMDG, IATA	
	
· 등급	3 발화성용액
· 위험물 라벨	3
· 용기등급	
· ADR, IMDG, IATA	II
· 환경적 유해물질:	해당사항 없음.
· 이용자 특별 예방조치	경고: 발화성용액
· 위험 코드:	33
· EMS-번호:	F-E,S-D
· Stowage Category	A
· MARPOL73/78(선박으로부터의 해양오염방지협약) 부속서2 및 IBC Code(국제선적화물코드)에 따른 벌크(bulk) 운송	해당사항 없음.

(7 쪽에계속)

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· 운 송/추가 정보:

· ADR

· 한정 수량 (LQ)

1L

· Excepted quantities (EQ)

Code: E2

Maximum net quantity per inner packaging: 30 ml

Maximum net quantity per outer packaging: 500 ml

· 운송 구분

2

· 터널 제한 코드

D/E

· IMDG

· Limited quantities (LQ)

1L

· Excepted quantities (EQ)

Code: E2

Maximum net quantity per inner packaging: 30 ml

Maximum net quantity per outer packaging: 500 ml

· UN "모범 규제":

UN 1170 ETHANOL (ETHYL ALCOHOL), 3, II

15 법적 규제현황

· 산업안전보건법에 의한 규제:

· 제조 등 금지물질:

어떠한내용물도목록화되어있지않다

· 허가대상물질:

어떠한내용물도목록화되어있지않다

· 관리대상유해물질:

64-19-7 Acetic Acid Glacial

· 해당 순물질 또는 혼합물에 대한 안전, 보건 및 환경 규제/법률

· Korean Existing Chemical Inventory

64-17-5	Ethyl Alcohol, denatured	KE-13217
7778-77-0	potassium dihydrogenorthophosphate	KE-28622
56-81-5	glycerol	KE-29297
64-19-7	Acetic Acid Glacial	KE-00013

· 화학물질관리법

· 사고대비물질

어떠한내용물도목록화되어있지않다

· 금지물질

어떠한내용물도목록화되어있지않다

· 제한물질

어떠한내용물도목록화되어있지않다

· 유독물질

어떠한내용물도목록화되어있지않다

· 허가물질

어떠한내용물도목록화되어있지않다

· GHS 라벨 요소

본 제품은 화학물질의 분류 및 표기에 관한 국제조화시스템(GHS)에 따라 분류 및 표기되었습니다.

(8 쪽에계속)

물질안전보건자료 GHS에 따라

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· 그림문자



GHS02 GHS07 GHS08

· 신호어 위험

· 유해.위험 문구

고인화성 액체 및 증기
눈에 심한 자극을 일으킴
암을 일으킬 수 있음

· 예방조치 문구

열·스파크·화염·고열로부터 멀리하시오 - 금연
폭발 방지용 전기·환기·조명·장비를 사용하시오.
피부(또는 머리카락)에 묻으면 오염된 모든 의복은 벗으시오. 피부를 물로 씻으시오/샤워하시오.
눈에 묻으면 몇 분간 물로 조심해서 씻으시오. 가능하면콘택트렌즈를 제거하시오. 계속 씻으시오.
잠금장치가 있는 저장장소에 저장하시오.

· **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:** 2019.01.23

· **개정 횟수 및 최종 개정일자:** 1 / 2019.01.23

· 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)
- PBT: Persistent, Bioaccumulative and Toxic
- vPvB: very Persistent and very Bioaccumulative

Ficha de datos de seguridad

según 1907/2006/CE, Artículo 31

fecha de impresión 23.01.2019

Revisión: 23.01.2019

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

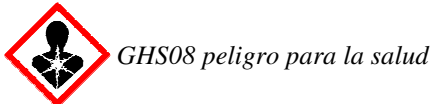
- **1.1 Identificador del producto**
- **Nombre comercial:** Buffered Ethanol Fixative, 70% BE-70
- **Número del artículo:** 15988
- **1.2 Usos pertinentes identificados de la sustancia o de la mezcla y usos desaconsejados**
No existen más datos relevantes disponibles.
- **Utilización del producto / 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**



Flam. Liq. 2 H225 Líquido y vapores muy inflamables.



Carc. 1A H350 Puede provocar cáncer.

- **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 GHS08

- **Palabra de advertencia** Peligro

(se continua en página 2)

Ficha de datos de seguridad

según 1907/2006/CE, Artículo 31

fecha de impresión 23.01.2019

Revisión: 23.01.2019

Nombre comercial: **Buffered Ethanol Fixative, 70% BE-70**

(se continua en página 1)

· Indicaciones de peligro

H225 Líquido y vapores muy inflamables.
H350 Puede provocar cáncer.

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

· 2.3 Otros peligros

· Resultados de la valoración PBT y mPmB


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

SECCIÓN 3: Composición/información sobre los componentes

· 3.2 Caracterización química: Mezclas

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

· Componentes peligrosos:

CAS: 64-17-5 EINECS: 200-578-6	etanol  Flam. Liq. 2, H225	>50-≤100%
CAS: 56-81-5 EINECS: 200-289-5	glicerol sustancia a la que se aplica un límite comunitario de exposición en el lugar de trabajo	≤2,5%

· **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

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

SECCIÓN 5: Medidas de lucha contra incendios

· 5.1 Medios de extinción

- **Sustancias extintoras apropiadas:** CO₂, 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.

(se continua en página 3)

Ficha de datos de seguridad

según 1907/2006/CE, Artículo 31

fecha de impresión 23.01.2019

Revisión: 23.01.2019

Nombre comercial: *Buffered Ethanol Fixative, 70% BE-70*

(se continua en página 2)

- **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).
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**
Si se manipulan correctamente, no se requieren medidas especiales.
- **Prevención de incendios y explosiones:**
*Mantener alejadas las fuentes de encendido. No fumar.
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.
Almacenarlo en envases bien cerrados en un lugar fresco y seco.*
- **7.3 Usos específicos finales** *No existen más datos relevantes disponibles.*

SECCIÓN 8: Controles de exposición/protección individual

- **Instrucciones adicionales para el acondicionamiento de instalaciones técnicas:**
Sin datos adicionales, ver punto 7.

· 8.1 Parámetros de control

- **Componentes con valores límite admisibles que deben controlarse en el puesto de trabajo:**

64-17-5 etanol

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

56-81-5 glicerol

LEP	Valor de larga duración: 10 mg/m ³
-----	---

- **Indicaciones adicionales:** *Como base se han utilizado las listas vigentes en el momento de la elaboración.*

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- **8.2 Controles de la exposición**
- **Equipo de protección individual:**
- **Medidas generales de protección e higiene:** Lavarse las manos antes de las pausas y al final del trabajo.
- **Protección respiratoria:** No es necesario.
- **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.
- **Cambio de estado**
- **Punto de fusión/punto de congelación:** Indeterminado.
- **Punto inicial de ebullición e intervalo de ebullición:** 78 °C
- **Punto de inflamación:** 13 °C
- **Inflamabilidad (sólido, gas):** No aplicable.
- **Temperatura de ignición:** 425 °C
- **Temperatura de descomposición:** No determinado.
- **Temperatura de auto-inflamación:** El producto no es autoinflamable.
- **Propiedades explosivas:** El producto no es explosivo; sin embargo, pueden formarse mezclas explosivas de vapor / aire.
- **Límites de explosión:**
- **Inferior:** 3,5 Vol %
- **Superior:** 15 Vol %

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· Presión de vapor a 20 °C:	59 hPa
· Densidad a 20 °C:	0,85585 g/cm ³
· Densidad relativa	No determinado.
· Densidad de vapor	No determinado.
· Tasa de evaporación:	No determinado.
· Solubilidad en / miscibilidad con agua:	Poco o no mezclable.
· Coefficiente de reparto: n-octanol/agua:	No determinado.
· Viscosidad:	
· Dinámica:	No determinado.
· Cinemática:	No determinado.
· Concentración del disolvente:	
· Disolventes orgánicos:	71,5 %
· VOC (CE)	70,50 %
· Contenido de cuerpos sólidos:	0,0 %
· 9.2 Otros datos	No existen más datos relevantes disponibles.

SECCIÓN 10: Estabilidad y reactividad

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

SECCIÓN 11: Información toxicológica

- **11.1 Información sobre los efectos toxicológicos**
- **Toxicidad aguda** A la vista de los datos disponibles, no se cumplen los criterios de clasificación.
- **Efecto estimulante primario:**
- **Corrosión o irritación cutáneas** A la vista de los datos disponibles, no se cumplen los criterios de clasificación.
- **Lesiones o irritación ocular graves**
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**
Puede provocar cáncer.
- **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**
A la vista de los datos disponibles, no se cumplen los criterios de clasificación.
- **Toxicidad específica en determinados órganos (STOT) – exposición repetida**
A la vista de los datos disponibles, no se cumplen los criterios de clasificación.

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· **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 (autoclasiificación): escasamente peligroso para el agua
 En estado no diluido o no neutralizado, no dejar que se infiltre en aguas subterráneas, aguas superficiales o en alcantarillados.
- **12.5 Resultados de la valoración PBT y mPmB**
- **PBT:** No aplicable.
- **mPmB:** No aplicable.
- **12.6 Otros efectos adversos** No existen más datos relevantes disponibles.

SECCIÓN 13: Consideraciones relativas a la eliminación

- **13.1 Métodos para el tratamiento de residuos**
- **Recomendación:** No debe desecharse con la basura doméstica. No debe llegar al alcantarillado.
- **Embalajes sin limpiar:**
- **Recomendación:** Eliminar conforme a las disposiciones oficiales.

SECCIÓN 14: Información relativa al transporte

- | | |
|---|--------------------------------|
| · 14.1 Número ONU | UN1170 |
| · ADR, IMDG, IATA | |
| · 14.2 Designación oficial de transporte de las Naciones Unidas | |
| · ADR | 1170 ETANOL (ALCOHOL ETÍLICO) |
| · IMDG | ETHANOL (ETHYL ALCOHOL) |
| · IATA | ETHANOL |
| · 14.3 Clase(s) de peligro para el transporte | |
| · ADR, IMDG, IATA | |
|  | |
| · Clase | 3 Líquidos inflamables |
| · Etiqueta | 3 |
| · 14.4 Grupo de embalaje | |
| · ADR, IMDG, IATA | II |
| · 14.5 Peligros para el medio ambiente: | No aplicable. |
| · 14.6 Precauciones particulares para los usuarios | Atención: Líquidos inflamables |

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· Número Kemler:	33
· Número EMS:	F-E,S-D
· Stowage Category	A
· 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)	1L
· Cantidades exceptuadas (EQ)	Código: E2 Cantidad neta máxima por envase interior: 30 ml Cantidad neta máxima por embalaje exterior: 500 ml
· Categoría de transporte	2
· Código de restricción del túnel	D/E
· IMDG	
· Limited quantities (LQ)	1L
· Excepted quantities (EQ)	Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml
· "Reglamentación Modelo" de la UNECE:	UN 1170 ETANOL (ALCOHOL ETÍLICO), 3, II

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 P5c** LÍQUIDOS INFLAMABLES
- **Cantidad umbral (toneladas) a efectos de aplicación de los requisitos de nivel inferior** 5.000 t
- **Cantidad umbral (toneladas) a efectos de aplicación de los requisitos de nivel superior** 50.000 t
- **REGLAMENTO (CE) n° 1907/2006 ANEXO XVII Restricciones:** 3
- **15.2 Evaluación de la seguridad química:** Una evaluación de la seguridad química no se ha llevado a cabo.

SECCIÓN 16: Otra información

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

- **Frases relevantes**
H225 Líquido y vapores muy inflamables.
- **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)
PBT: Persistent, Bioaccumulative and Toxic
vPvB: very Persistent and very Bioaccumulative
Flam. Liq. 2: Líquidos inflamables – Categoría 2
Carc. 1A: Carcinogenicidad – Categoría 1A