

Safety Data Sheet

acc. to OSHA HCS

Printing date 06/20/2018

Reviewed on 06/20/2018

1 Identification

- **Product identifier**
- **Trade name:** GEOFIX KIT - RESIN
- **Article number:** 1257-R
- **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: info@emsdiasum.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.



GHS07

Skin Irrit. 2 H315 Causes skin irritation.

Eye Irrit. 2A H319 Causes serious eye irritation.

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

STOT SE 3 H335 May cause respiratory irritation.

- **Label elements**

- **GHS label elements**

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

- **Hazard pictograms**



GHS02



GHS07

- **Signal word** Danger

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

Methyl Methacrylate

tetramethylene dimethacrylate

- **Hazard statements**

Highly flammable liquid and vapor.

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Causes skin irritation.

Causes serious eye irritation.

May cause an allergic skin reaction.

May cause respiratory irritation.

· Precautionary statements

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

Ground/bond container and receiving equipment.

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

Use only non-sparking tools.

Take precautionary measures against static discharge.

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

Wash thoroughly after handling.

Use only outdoors or in a well-ventilated area.

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

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

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

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

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

Call a poison center/doctor if you feel unwell.

Specific treatment (see on this label).

Take off contaminated clothing and wash it before reuse.

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

If eye irritation persists: Get medical advice/attention.

Wash contaminated clothing before reuse.

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

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

Store in a well-ventilated place. Keep cool.

Store locked up.

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

· Classification system:

· NFPA ratings (scale 0 - 4)



· HMIS-ratings (scale 0 - 4)

| | | |
|------------|---|----------------|
| HEALTH | 2 | Health = 2 |
| FIRE | 3 | Fire = 3 |
| REACTIVITY | 0 | Reactivity = 0 |

· Other hazards

· Results of PBT and vPvB assessment

· PBT: Not applicable.

· vPvB: Not applicable.

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3 Composition/information on ingredients

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

- **Dangerous components:**

| | | |
|-----------|-------------------------------|-----------|
| 80-62-6 | Methyl Methacrylate | >50-≤100% |
| 67-64-1 | Acetone, Reagent Grade | >2.5-≤10% |
| 2082-81-7 | tetramethylene dimethacrylate | >2.5-≤10% |

4 First-aid measures

- **Description of first aid measures**
- **After inhalation:**
Supply fresh air and to be sure call for a doctor.
In case of unconsciousness place patient stably in side position for transportation.
- **After skin contact:** Immediately wash with water and soap and rinse thoroughly.
- **After eye contact:**
Rinse opened eye for several minutes under running water. Then consult a doctor.
- **After swallowing:** If symptoms persist consult doctor.
- **Information for doctor:**
- **Most important symptoms and effects, both acute and delayed**
No further relevant information available.
- **Indication of any immediate medical attention and special treatment needed**
No further relevant information available.

5 Fire-fighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:**
CO₂, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- **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:**
Dilute with plenty of water.
Do not allow to enter sewers/ surface or ground water.
- **Methods and material for containment and cleaning up:**
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
Ensure adequate ventilation.
- **Reference to other sections**
See Section 7 for information on safe handling.

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See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

· Protective Action Criteria for Chemicals

· PAC-1:

| | | |
|---------|------------------------|---------|
| 80-62-6 | Methyl Methacrylate | 17 ppm |
| 67-64-1 | Acetone, Reagent Grade | 200 ppm |

· PAC-2:

| | | |
|---------|------------------------|-----------|
| 80-62-6 | Methyl Methacrylate | 120 ppm |
| 67-64-1 | Acetone, Reagent Grade | 3200* ppm |

· PAC-3:

| | | |
|---------|------------------------|-----------|
| 80-62-6 | Methyl Methacrylate | 570 ppm |
| 67-64-1 | Acetone, Reagent Grade | 5700* ppm |

7 Handling and storage

· Handling:

· Precautions for safe handling

Ensure good ventilation/exhaustion at the workplace.

Prevent formation of aerosols.

· Information about protection against explosions and fires:

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:

The following constituents are the only constituents of the product which have a PEL, TLV or other recommended exposure limit.

At this time, the remaining constituent has no known exposure limits.

80-62-6 Methyl Methacrylate

| | |
|-----|---|
| PEL | Long-term value: 410 mg/m ³ , 100 ppm |
| REL | Long-term value: 410 mg/m ³ , 100 ppm |
| TLV | Short-term value: 410 mg/m ³ , 100 ppm |
| | Long-term value: 205 mg/m ³ , 50 ppm |
| | DSEN |

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67-64-1 Acetone, Reagent Grade

| | |
|-----|--|
| PEL | Long-term value: 2400 mg/m ³ , 1000 ppm |
| REL | Long-term value: 590 mg/m ³ , 250 ppm |
| TLV | Short-term value: 1187 mg/m ³ , 500 ppm |
| | Long-term value: 594 mg/m ³ , 250 ppm |
| BEI | |

· Ingredients with biological limit values:

67-64-1 Acetone, Reagent Grade

| | |
|-----|----------------------------------|
| BEI | 50 mg/L |
| | Medium: urine |
| | Time: end of shift |
| | Parameter: Acetone (nonspecific) |

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

· **Exposure controls**

· **Personal protective equipment:**

· **General protective and hygienic measures:**

- Keep away from foodstuffs, beverages and feed.
- Immediately remove all soiled and contaminated clothing.
- Wash hands before breaks and at the end of work.
- Avoid contact with the skin.
- Avoid contact with the eyes and skin.

· **Breathing equipment:**

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

· **Protection of hands:**



Protective gloves

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

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

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

· **Material of gloves**

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

· **Penetration time of glove material**

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

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· **Eye protection:**

Tightly sealed goggles

9 Physical and chemical properties

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

| | |
|------------------------|-----------------|
| Form: | Liquid |
| Color: | Colorless |
| Odor: | Ester-like |
| Odor threshold: | Not determined. |

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

| | |
|-------------------------------------|-------------------|
| Melting point/Melting range: | Undetermined. |
| Boiling point/Boiling range: | 101 °C (213.8 °F) |

· **Flash point:** 10 °C (50 °F)· **Flammability (solid, gaseous):** Not flammable.· **Ignition temperature:** 430 °C (806 °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: | 2.1 Vol % |
| Upper: | 12.5 Vol % |

· **Vapor pressure at 20 °C (68 °F):** 47 hPa (35.3 mm Hg)· **Density at 20 °C (68 °F):** 0.9365 g/cm³ (7.81509 lbs/gal)· **Relative density** Not determined.· **Vapor density** Not determined.· **Evaporation rate** Not determined.· **Solubility in / Miscibility with**· **Water:** Fully miscible.· **Partition coefficient (n-octanol/water):** Not determined.· **Viscosity:**· **Dynamic:** Not determined.· **Kinematic:** Not determined.

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· **Solvent content:**
Organic solvents: 5.0 %
VOC content: 0.00 %
 0.0 g/l / 0.00 lb/gl

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:**

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

80-62-6 Methyl Methacrylate

| | | |
|------|------|-------------------|
| Oral | LD50 | 7,872 mg/kg (rat) |
|------|------|-------------------|

- **Primary irritant effect:**
- **on the skin:** Irritant to skin and mucous membranes.
- **on the eye:** No irritating effect.
- **Sensitization:** Sensitization possible through skin contact.

- **Additional toxicological information:**

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

Irritant

- **Carcinogenic categories**

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

| | | |
|---------|---------------------|---|
| 80-62-6 | Methyl Methacrylate | 3 |
|---------|---------------------|---|

- **NTP (National Toxicology Program)**

None of the ingredients is listed.

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

None of the ingredients is listed.

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12 Ecological information

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

13 Disposal considerations

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

14 Transport information

- | | |
|---|---------------------|
| · UN-Number | |
| · DOT, ADR, IMDG, IATA | UN1866 |
| · UN proper shipping name | |
| · DOT | Resin solution |
| · ADR | 1866 Resin solution |
| · IMDG, IATA | RESIN SOLUTION |
| · Transport hazard class(es) | |
| · DOT | |
|  | |
| · Class | 3 Flammable liquids |

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| | |
|---|---|
| · Label | 3 |
| · ADR, IMDG, IATA | |
|  | |
| · Class | 3 Flammable liquids |
| · Label | 3 |
| · Packing group | II |
| · DOT, ADR, IMDG, IATA | II |
| · Environmental hazards: | Not applicable. |
| · Special precautions for user | Warning: Flammable liquids |
| · Danger code (Kemler): | 33 |
| · EMS Number: | F-E, <u>S-E</u> |
| · Stowage Category | B |
| · 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 |
| · 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 1866 RESIN SOLUTION, 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):

80-62-6 Methyl Methacrylate

· TSCA (Toxic Substances Control Act):

All ingredients are listed.

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· **Proposition 65**

· **Chemicals known to cause cancer:**

None of the ingredients is listed.

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

None of the ingredients is listed.

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

None of the ingredients is listed.

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

None of the ingredients is listed.

· **Carcinogenic categories**

· **EPA (Environmental Protection Agency)**

| | | |
|---------|------------------------|-------|
| 80-62-6 | Methyl Methacrylate | E, NL |
| 67-64-1 | Acetone, Reagent Grade | I |

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

| | | |
|---------|------------------------|----|
| 80-62-6 | Methyl Methacrylate | A4 |
| 67-64-1 | Acetone, Reagent Grade | A4 |

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

None of the ingredients is listed.

· **GHS label elements**

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

· **Hazard pictograms**



GHS02 GHS07

· **Signal word Danger**

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

Methyl Methacrylate
tetramethylene dimethacrylate

· **Hazard statements**

Highly flammable liquid and vapor.
Causes skin irritation.
Causes serious eye irritation.
May cause an allergic skin reaction.
May cause respiratory irritation.

· **Precautionary statements**

Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
Ground/bond container and receiving equipment.
Use explosion-proof electrical/ventilating/lighting/equipment.
Use only non-sparking tools.
Take precautionary measures against static discharge.
Avoid breathing dust/fume/gas/mist/vapors/spray
Wash thoroughly after handling.
Use only outdoors or in a well-ventilated area.

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Contaminated work clothing must not be allowed out of the workplace.
 Wear protective gloves/protective clothing/eye protection/face protection.
 If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
 If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
 Call a poison center/doctor if you feel unwell.
 Specific treatment (see on this label).
 Take off contaminated clothing and wash it before reuse.
 If skin irritation or rash occurs: Get medical advice/attention.
 If eye irritation persists: Get medical advice/attention.
 Wash contaminated clothing before reuse.
 In case of fire: Use for extinction: CO₂, powder or water spray.
 Store in a well-ventilated place. Keep container tightly closed.
 Store in a well-ventilated place. Keep cool.
 Store locked up.
 Dispose of contents/container in accordance with local/regional/national/international regulations.

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

16 Other information

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

· **Date of preparation / last revision** 06/20/2018 / -

· **Abbreviations and acronyms:**

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

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

ACGIH: American Conference of Governmental Industrial Hygienists

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

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

NFPA: National Fire Protection Association (USA)

HMIS: Hazardous Materials Identification System (USA)

VOC: Volatile Organic Compounds (USA, EU)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

NIOSH: National Institute for Occupational Safety

OSHA: Occupational Safety **Health**

TLV: Threshold Limit Value

PEL: Permissible Exposure Limit

REL: Recommended Exposure Limit

BEI: Biological Exposure Limit

Flam. Liq. 2: Flammable liquids – Category 2

Skin Irrit. 2: Skin corrosion/irritation – Category 2

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

Skin Sens. 1: Skin sensitisation – Category 1

STOT SE 3: Specific target organ toxicity (single exposure) – Category 3

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1 Identification

- **Product identifier**
- **Trade name:** GEOFIX KIT - RESIN
- **Article number:** 1257-R
- **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: info@emsdiasum.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.



GHS07

Skin Irrit. 2 H315 Causes skin irritation.

Eye Irrit. 2A H319 Causes serious eye irritation.

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

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STOT SE 3 H335 May cause respiratory irritation.

· **Label elements**

· **GHS label elements**

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

· **Hazard pictograms**



GHS02 GHS07

· **Signal word** *Danger*

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

Methyl Methacrylate

tetramethylene dimethacrylate

· **Hazard statements**

Highly flammable liquid and vapour.

Causes skin irritation.

Causes serious eye irritation.

May cause an allergic skin reaction.

May cause respiratory irritation.

· **Precautionary statements**

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

Ground/bond container and receiving equipment.

Use explosion-proof electrical/ventilating/lighting equipment.

Use only non-sparking tools.

Take precautionary measures against static discharge.

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

Wash thoroughly after handling.

Use only outdoors or in a well-ventilated area.

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

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 INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

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

Call a POISON CENTER/doctor if you feel unwell.

Specific treatment (see on this label).

Take off contaminated clothing and wash it before reuse.

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

If eye irritation persists: Get medical advice/attention.

Wash contaminated clothing before reuse.

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

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

Store in a well-ventilated place. Keep cool.

Store locked up.

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

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- **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:**

| | | |
|-----------|-------------------------------|-----------|
| 80-62-6 | Methyl Methacrylate | >50-≤100% |
| 67-64-1 | Acetone, Reagent Grade | >2.5-≤10% |
| 2082-81-7 | tetramethylene dimethacrylate | >2.5-≤10% |

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

4 First Aid Measures

- **Description of first aid measures**
- **After inhalation:**
Supply fresh air and to be sure call for a doctor.
In case of unconsciousness place patient stably in side position for transportation.
- **After skin contact:** Immediately wash with water and soap and rinse thoroughly.
- **After eye contact:**
Rinse opened eye for several minutes under running water. Then consult a doctor.
- **After swallowing:** If symptoms persist consult doctor.
- **Information for doctor:**
- **Most important symptoms and effects, both acute and delayed**
No further relevant information available.
- **Indication of any immediate medical attention and special treatment needed**
No further relevant information available.

5 Fire Fighting Measures

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

6 Accidental Release Measures

- **Personal precautions, protective equipment and emergency procedures**
Wear protective equipment. Keep unprotected persons away.
- **Environmental precautions:**
Dilute with plenty of water.
Do not allow to enter sewers/ surface or ground water.

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- **Methods and material for containment and cleaning up:**
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
Ensure adequate ventilation.
- **Reference to other sections**
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

7 Handling and Storage

- **Handling:**
- **Precautions for safe handling**
Ensure good ventilation/exhaustion at the workplace.
Prevent formation of aerosols.
- **Information about fire - and explosion protection:**
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.
- **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:**

80-62-6 Methyl Methacrylate

| | |
|-----|---|
| WES | Short-term value: 416 mg/m ³ , 100 ppm |
| | Long-term value: 208 mg/m ³ , 50 ppm |

67-64-1 Acetone, Reagent Grade

| | |
|-----|---|
| WES | Short-term value: 2375 mg/m ³ , 1000 ppm |
| | Long-term value: 1185 mg/m ³ , 500 ppm |

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

- **Exposure controls**
- **Personal protective equipment:**
- **General protective and hygienic measures:**
Keep away from foodstuffs, beverages and feed.
Immediately remove all soiled and contaminated clothing
Wash hands before breaks and at the end of work.
Avoid contact with the skin.
Avoid contact with the eyes and skin.

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- **Respiratory protection:**

In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device.

- **Protection of hands:**



Protective gloves

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

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

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

- **Material of gloves**

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

- **Penetration time of glove material**

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

- **Eye protection:**



Tightly sealed goggles

9 Physical and Chemical Properties

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

- **General Information**

- **Appearance:**

| | |
|-------------------------|-----------------|
| Form: | Liquid |
| Colour: | Colourless |
| Odour: | Ester-like |
| Odour threshold: | Not determined. |

| | |
|------------------|-----------------|
| pH-value: | Not determined. |
|------------------|-----------------|

- **Change in condition**

| | |
|---|---------------|
| Melting point/freezing point: | Undetermined. |
| Initial boiling point and boiling range: | 101 °C |

| | |
|---------------------|-------|
| Flash point: | 10 °C |
|---------------------|-------|

| | |
|-----------------------------------|-----------------|
| Flammability (solid, gas): | Not applicable. |
|-----------------------------------|-----------------|

| | |
|------------------------------|--------|
| Ignition temperature: | 430 °C |
|------------------------------|--------|

| | |
|-----------------------------------|-----------------|
| Decomposition temperature: | Not determined. |
|-----------------------------------|-----------------|

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| | |
|--|---|
| · 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: | 2.1 Vol % |
| Upper: | 12.5 Vol % |
| · Vapour pressure at 20 °C: | 47 hPa |
| · Density at 20 °C: | 0.9365 g/cm ³ |
| · Relative density | Not determined. |
| · Vapour density | Not determined. |
| · Evaporation rate | Not determined. |
| · Solubility in / Miscibility with water: | Fully miscible. |
| · Partition coefficient: n-octanol/water: | Not determined. |
| · Viscosity: | |
| Dynamic: | Not determined. |
| Kinematic: | Not determined. |
| · Solvent content: | |
| Organic solvents: | 5.0 % |
| VOC (EC) | 5.00 % |
| 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**

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

80-62-6 Methyl Methacrylate

Oral LD50 7,872 mg/kg (rat)

- **Primary irritant effect:**
- **Skin corrosion/irritation** Irritant to skin and mucous membranes.

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

12 Ecological Information

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

13 Disposal considerations

- **Waste treatment methods**
- **Recommendation**
Must not be disposed together with household garbage. Do not allow product to reach sewage system.
- **Uncleaned packaging:**
- **Recommendation:** Disposal must be made according to official regulations.
- **Recommended cleansing agents:** Water, if necessary together with cleansing agents.

14 Transport information

- | | |
|----------------------------------|---------------------|
| · UN-Number | |
| · ADG, IMDG, IATA | UN1866 |
| · UN proper shipping name | |
| · ADG | 1866 RESIN SOLUTION |
| · IMDG, IATA | RESIN SOLUTION |

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Trade name: **GEOFIX KIT - RESIN**

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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-E· **Stowage Category** B· **Transport in bulk according to Annex II of Marpol and the IBC Code** Not applicable.· **Transport/Additional information:**· **ADG**· **Limited quantities (LQ)** 5L· **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 1866 RESIN SOLUTION, 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**

80-62-6 Methyl Methacrylate

S6, S10

67-64-1 Acetone, Reagent Grade

S5

· **GHS label elements**

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

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Trade name: **GEOFIX KIT - RESIN**

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· **Hazard pictograms**

GHS02 GHS07

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

*Methyl Methacrylate
tetramethylene dimethacrylate*

· **Hazard statements**

*Highly flammable liquid and vapour.
Causes skin irritation.
Causes serious eye irritation.
May cause an allergic skin reaction.
May cause respiratory irritation.*

· **Precautionary statements**

*Keep away from heat/sparks/open flames/hot surfaces. No smoking.
Ground/bond container and receiving equipment.
Use explosion-proof electrical/ventilating/lighting equipment.
Use only non-sparking tools.
Take precautionary measures against static discharge.
Avoid breathing dust/fume/gas/mist/vapours/spray.
Wash thoroughly after handling.
Use only outdoors or in a well-ventilated area.
Contaminated work clothing should not be allowed out of the workplace.
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 INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
Call a **POISON CENTER**/doctor if you feel unwell.
Specific treatment (see on this label).
Take off contaminated clothing and wash it before reuse.
If skin irritation or rash occurs: Get medical advice/attention.
If eye irritation persists: Get medical advice/attention.
Wash contaminated clothing before reuse.
In case of fire: Use for extinction: CO₂, powder or water spray.
Store in a well-ventilated place. Keep container tightly closed.
Store in a well-ventilated place. Keep cool.
Store locked up.
Dispose of contents/container in accordance with local/regional/national/international regulations.*

· **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

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

16 Other information

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

· Abbreviations and acronyms:

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

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

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

VOC: Volatile Organic Compounds (USA, EU)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

Flam. Liq. 2: Flammable liquids – Category 2

Skin Irrit. 2: Skin corrosion/irritation – Category 2

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

Skin Sens. 1: Skin sensitisation – Category 1

STOT SE 3: Specific target organ toxicity (single exposure) – Category 3

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acc. to OSHA HCS

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Reviewed on 06/20/2018

1 Identification

- **Product identifier**
- **Trade name:** GEOFIX KIT - RESIN
- **Article number:** 1257-R
- **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: info@emsdiasum.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.



GHS07

Skin Irritation - Category 2

H315 Causes skin irritation.

Eye Irritation - Category 2A

H319 Causes serious eye irritation.

Skin Sensitizer - Category 1

H317 May cause an allergic skin reaction.

Specific Target Organ Toxicity - Single Exposure -H335 May cause respiratory irritation.
Category 3

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



GHS02 GHS07

- **Signal word** Danger
- **Hazard-determining components of labeling:**
 Methyl Methacrylate
 tetramethylene dimethacrylate

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· **Hazard statements**

Highly flammable liquid and vapour.
 Causes skin irritation.
 Causes serious eye irritation.
 May cause an allergic skin reaction.
 May cause respiratory irritation.

· **Precautionary statements**

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
 Ground and bond container and receiving equipment.
 Use explosion-proof [electrical/ventilating/lighting] equipment.
 Use non-sparking tools.
 Take actions to prevent static discharges.
 Avoid breathing dust/fume/gas/mist/vapours/spray.
 Wash thoroughly after handling.
 Use only outdoors or in a well-ventilated area.
 Contaminated work clothing should not be allowed out of the workplace.
 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 INHALED: Remove person to fresh air and keep comfortable for breathing.
 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
 Call a poison center/doctor if you feel unwell.
 Specific treatment (see on this label).
 Take off contaminated clothing and wash it before reuse.
 If skin irritation or rash occurs: 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 container tightly closed.
 Store in a well-ventilated place. Keep cool.
 Store locked up.
 Dispose of contents/container in accordance with local/regional/national/international regulations.

· **Hazard description:**

· **WHMIS-symbols:**

B2 - Flammable liquid
 D2B - Toxic material causing other toxic effects



· **Classification system:**

· **NFPA ratings (scale 0 - 4)**



Health = 3
 Fire = 3
 Reactivity = 0

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· **HMIS-ratings (scale 0 - 4)**

| | | |
|------------|---|----------------|
| HEALTH | 2 | Health = 2 |
| FIRE | 3 | Fire = 3 |
| REACTIVITY | 0 | Reactivity = 0 |

3 Composition/information on ingredients

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

· **Dangerous components:**

| | | |
|-----------|-------------------------------|-------------|
| 80-62-6 | Methyl Methacrylate | 60-100% w/w |
| 67-64-1 | Acetone, Reagent Grade | 1-5% w/w |
| 2082-81-7 | tetramethylene dimethacrylate | 1-5% w/w |

4 First-aid measures

- **Description of first aid measures**
- **After inhalation:**
Supply fresh air and to be sure call for a doctor.
In case of unconsciousness place patient stably in side position for transportation.
- **After skin contact:** Immediately wash with water and soap and rinse thoroughly.
- **After eye contact:**
Rinse opened eye for several minutes under running water. Then consult a doctor.
- **After swallowing:** If symptoms persist consult doctor.
- **Information for doctor:**
- **Most important symptoms and effects, both acute and delayed**
No further relevant information available.
- **Indication of any immediate medical attention and special treatment needed**
No further relevant information available.

5 Fire-fighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:**
CO₂, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- **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.

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- **Environmental precautions:**
*Dilute with plenty of water.
 Do not allow to enter sewers/ surface or ground water.*
- **Methods and material for containment and cleaning up:**
*Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
 Ensure adequate ventilation.*
- **Reference to other sections**
*See Section 7 for information on safe handling.
 See Section 8 for information on personal protection equipment.
 See Section 13 for disposal information.*

7 Handling and storage

- **Handling:**
- **Precautions for safe handling**
*Ensure good ventilation/exhaustion at the workplace.
 Prevent formation of aerosols.*
- **Information about protection against explosions and fires:**
*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:**

80-62-6 Methyl Methacrylate

| | |
|----|--|
| EL | Short-term value: 100 ppm Long-term value: 50 ppm S(D) |
| EV | Short-term value: 100 ppm Long-term value: 50 ppm |

67-64-1 Acetone, Reagent Grade

| | |
|----|---|
| EL | Short-term value: 500 ppm Long-term value: 250 ppm |
| EV | Short-term value: 750 ppm Long-term value: 500 ppm |

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

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Trade name: GEOFIX KIT - RESIN

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- **Exposure controls**
- **Personal protective equipment:**
- **General protective and hygienic measures:**
 - Keep away from foodstuffs, beverages and feed.*
 - Immediately remove all soiled and contaminated clothing.*
 - Wash hands before breaks and at the end of work.*
 - Avoid contact with the skin.*
 - Avoid contact with the eyes and skin.*
- **Breathing equipment:**
 - In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use respiratory protective device that is independent of circulating air.*
- **Protection of hands:**



Protective gloves

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

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

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

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



Tightly sealed goggles

9 Physical and chemical properties

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

| | |
|------------------------|-----------------|
| Form: | Liquid |
| Color: | Colorless |
| Odor: | Ester-like |
| Odor threshold: | Not determined. |
- **pH-value:** Not determined.

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Trade name: **GEOFIX KIT - RESIN**

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| | |
|---|--|
| · Change in condition | |
| Melting point/Melting range: | Undetermined. |
| Boiling point/Boiling range: | 101 °C |
| · Flash point: | 10 °C |
| · Flammability (solid, gaseous): | Not flammable. |
| · Ignition temperature: | 430 °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: | 2.1 Vol % |
| Upper: | 12.5 Vol % |
| · Vapor pressure at 20 °C: | 47 hPa |
| · Density at 20 °C: | 0.9365 g/cm ³ |
| · Relative density | Not determined. |
| · Vapor density | Not determined. |
| · Evaporation rate | Not determined. |
| · Solubility in / Miscibility with | |
| Water: | Fully miscible. |
| · Partition coefficient (n-octanol/water): | Not determined. |
| · Viscosity: | |
| Dynamic: | Not determined. |
| Kinematic: | Not determined. |
| · Solvent content: | |
| Organic solvents: | 5.0 % |
| 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.

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Trade name: GEOFIX KIT - RESIN

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11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity:**

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

80-62-6 Methyl Methacrylate

Oral LD50 7,872 mg/kg (rat)

- **Primary irritant effect:**
- **on the skin:** Irritant to skin and mucous membranes.
- **on the eye:** No irritating effect.
- **Sensitization:** Sensitization possible through skin contact.
- **Additional toxicological information:**

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

Irritant

- **Carcinogenic categories**

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

80-62-6 Methyl Methacrylate

3

- **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.

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Trade name: GEOFIX KIT - RESIN

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- **Uncleaned packagings:**
- **Recommendation:** Disposal must be made according to official regulations.
- **Recommended cleansing agent:** Water, if necessary with cleansing agents.

14 Transport information

- | | |
|---|---|
| · UN-Number | UN1866 |
| · DOT, TDG, IMDG, IATA | |
| · UN proper shipping name | Resin solution |
| · DOT | 1866 Resin solution |
| · TDG | RESIN SOLUTION |
| · IMDG, IATA | |
| · Transport hazard class(es) | |
| · DOT | |
|  | |
| · Class | 3 Flammable liquids |
| · Label | 3 |
| · TDG, IMDG, IATA | |
|  | |
| · Class | 3 Flammable liquids |
| · Label | 3 |
| · Packing group | II |
| · DOT, TDG, IMDG, IATA | |
| · Environmental hazards: | Not applicable. |
| · Special precautions for user | Warning: Flammable liquids |
| · Danger code (Kemler): | 33 |
| · EMS Number: | F-E, <u>S-E</u> |
| · Stowage Category | B |
| · 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 |

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Trade name: **GEOFIX KIT - RESIN**

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| | |
|--|---|
| <ul style="list-style-type: none"> · TDG · Excepted quantities (EQ) | <ul style="list-style-type: none"> Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml |
| <ul style="list-style-type: none"> · IMDG · Limited quantities (LQ) · Excepted quantities (EQ) | <ul style="list-style-type: none"> 1L Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml |
| <ul style="list-style-type: none"> · UN "Model Regulation": | <ul style="list-style-type: none"> UN 1866 RESIN SOLUTION, 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):

80-62-6 Methyl Methacrylate

· 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%)

None of the ingredients is listed.

· Canadian Ingredient Disclosure list (limit 1%)

All ingredients are listed.

· GHS label elements

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

· Hazard pictograms



GHS02 GHS07

· Signal word Danger

· Hazard-determining components of labeling:

Methyl Methacrylate
tetramethylene dimethacrylate

· Hazard statements

Highly flammable liquid and vapour.
Causes skin irritation.

(Contd. on page 10)

CA

Safety Data Sheet

acc. to OSHA HCS

Printing date 06/20/2018

Reviewed on 06/20/2018

Trade name: GEOFIX KIT - RESIN

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Causes serious eye irritation.

May cause an allergic skin reaction.

May cause respiratory irritation.

· Precautionary statements

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

Ground and bond container and receiving equipment.

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

Use non-sparking tools.

Take actions to prevent static discharges.

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

Wash thoroughly after handling.

Use only outdoors or in a well-ventilated area.

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

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

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

Call a poison center/doctor if you feel unwell.

Specific treatment (see on this label).

Take off contaminated clothing and wash it before reuse.

If skin irritation or rash occurs: 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 container tightly closed.

Store in a well-ventilated place. Keep cool.

Store locked up.

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

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

16 Other information

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

· Date of preparation / last revision 06/20/2018 / -

· 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)

WHMIS: Workplace Hazardous Materials Information System (Canada)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

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

Printing date 20.06.2018

Revision: 20.06.2018

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

- **1.1 Product identifier**
- **Trade name:** GEOFIX KIT - RESIN
- **Article number:** 1257-R
- **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: info@emsdiasum.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.



GHS07

Skin Irrit. 2 H315 Causes skin irritation.

Eye Irrit. 2 H319 Causes serious eye irritation.

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

STOT SE 3 H335 May cause respiratory irritation.

- **2.2 Label elements**
- **Labelling according to Regulation (EC) No 1272/2008**
The product is classified and labelled according to the CLP regulation.
- **Hazard pictograms**



GHS02 GHS07

- **Signal word** Danger

(Contd. on page 2)

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Trade name: **GEOFIX KIT - RESIN**

(Contd. of page 1)

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

Methyl Methacrylate

- **Hazard statements**

H225 Highly flammable liquid and vapour.

H315 Causes skin irritation.

H319 Causes serious eye irritation.

H317 May cause an allergic skin reaction.

H335 May cause respiratory irritation.

- **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.

P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.

P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

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: 80-62-6 EINECS: 201-297-1 | Methyl Methacrylate Flam. Liq. 2, H225; Skin Irrit. 2, H315; Skin Sens. 1, H317; STOT SE 3, H335 | >50-≤100% |
| CAS: 67-64-1 EINECS: 200-662-2 | Acetone, Reagent Grade Flam. Liq. 2, H225; Acute Tox. 4, H302; Acute Tox. 4, H312; Acute Tox. 4, H332; Eye Irrit. 2, H319; STOT SE 3, H336 | >2.5-≤10% |
| CAS: 2082-81-7 EINECS: 218-218-1 | tetramethylene dimethacrylate Skin Irrit. 2, H315; Eye Irrit. 2, H319; STOT SE 3, H335 | >2.5-≤10% |

- **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 and to be sure call for a doctor.

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

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

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- **After eye contact:**
Rinse opened eye for several minutes under running water. Then consult a doctor.
- **After swallowing:** If symptoms persist consult doctor.
- **4.2 Most important symptoms and effects, both acute and delayed**
No further relevant information available.
- **4.3 Indication of any immediate medical attention and special treatment needed**
No further relevant information available.

SECTION 5: Firefighting measures

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

SECTION 6: Accidental release measures

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

SECTION 7: Handling and storage

- **7.1 Precautions for safe handling**
Ensure good ventilation/exhaustion at the workplace.
Prevent formation of aerosols.
- **Information about fire - and explosion protection:**
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.

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Trade name: **GEOFIX KIT - RESIN**

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· 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:****80-62-6 Methyl Methacrylate**

| | |
|-----|---|
| WEL | Short-term value: 416 mg/m ³ , 100 ppm |
| | Long-term value: 208 mg/m ³ , 50 ppm |

67-64-1 Acetone, Reagent Grade

| | |
|-----|---|
| WEL | Short-term value: 3620 mg/m ³ , 1500 ppm |
| | Long-term value: 1210 mg/m ³ , 500 ppm |

· **Additional information:** The lists valid during the making were used as basis.· 8.2 **Exposure controls**· **Personal protective equipment:**· **General protective and hygienic measures:**

Keep away from foodstuffs, beverages and feed.

Immediately remove all soiled and contaminated clothing

Wash hands before breaks and at the end of work.

Avoid contact with the skin.

Avoid contact with the eyes and skin.

· **Respiratory protection:**

In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device.

· **Protection of hands:**

Protective gloves

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

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

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

· **Material of gloves**

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

· **Penetration time of glove material**

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

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Trade name: GEOFIX KIT - RESIN

(Contd. of page 4)

· 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: | Ester-like |
| · Odour threshold: | Not determined. |

· pH-value: Not determined.

· Change in condition

| | |
|--|---------------|
| · Melting point/freezing point: | Undetermined. |
| · Initial boiling point and boiling range: | 101 °C |

· Flash point: 10 °C

· Flammability (solid, gas): Not applicable.

· Ignition temperature: 430 °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: | 2.1 Vol % |
| · Upper: | 12.5 Vol % |

· Vapour pressure at 20 °C: 47 hPa

· Density at 20 °C: 0.9365 g/cm³

· Relative density: Not determined.

· Vapour density: Not determined.

· Evaporation rate: Not determined.

· Solubility in / Miscibility with water:

Fully miscible.

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

· Viscosity:

| | |
|--------------|-----------------|
| · Dynamic: | Not determined. |
| · Kinematic: | Not determined. |

· Solvent content:

Organic solvents: 5.0 %

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Trade name: GEOFIX KIT - RESIN

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| | |
|-------------------------|--|
| VOC (EC) | 5.00 % |
| Solids content: | 0.0 % |
| · 9.2 Other information | No further relevant information available. |

SECTION 10: Stability and reactivity

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

SECTION 11: Toxicological information

- **11.1 Information on toxicological effects**
- **Acute toxicity** Based on available data, the classification criteria are not met.

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

80-62-6 Methyl Methacrylate

| | | |
|------|------|-------------------|
| Oral | LD50 | 7,872 mg/kg (rat) |
|------|------|-------------------|

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

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Trade name: **GEOFIX KIT - RESIN**


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

SECTION 13: Disposal considerations

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

SECTION 14: Transport information

- | | |
|---|-----------------------------|
| · 14.1 UN-Number | UN1866 |
| · ADR, IMDG, IATA | |
| · 14.2 UN proper shipping name | |
| · ADR | 1866 RESIN SOLUTION |
| · IMDG, IATA | RESIN SOLUTION |
| · 14.3 Transport hazard class(es) | |
| · ADR, IMDG, IATA | |
|  | |
| · Class | 3 Flammable liquids. |
| · Label | 3 |
| · 14.4 Packing group | |
| · ADR, IMDG, IATA | II |
| · 14.5 Environmental hazards: | Not applicable. |
| · 14.6 Special precautions for user | Warning: Flammable liquids. |
| · Danger code (Kemler): | 33 |
| · EMS Number: | F-E, S-E |
| · Stowage Category | B |
| · 14.7 Transport in bulk according to Annex II of Marpol and the IBC Code | Not applicable. |

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Trade name: GEOFIX KIT - RESIN

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· Transport/Additional information:**· ADR**

- **Limited quantities (LQ)** 5L
- **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 1866 RESIN SOLUTION, 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.
- H302 Harmful if swallowed.
- H312 Harmful in contact with skin.
- H315 Causes skin irritation.
- H317 May cause an allergic skin reaction.
- H319 Causes serious eye irritation.
- H332 Harmful if inhaled.
- H335 May cause respiratory irritation.
- H336 May cause drowsiness or dizziness.

· Abbreviations and acronyms:

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

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Trade name: GEOFIX KIT - RESIN

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IMDG: International Maritime Code for Dangerous Goods
IATA: International Air Transport Association
GHS: Globally Harmonised System of Classification and Labelling of Chemicals
EINECS: European Inventory of Existing Commercial Chemical Substances
ELINCS: European List of Notified Chemical Substances
CAS: Chemical Abstracts Service (division of the American Chemical Society)
VOC: Volatile Organic Compounds (USA, EU)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
PBT: Persistent, Bioaccumulative and Toxic
vPvB: very Persistent and very Bioaccumulative
Flam. Liq. 2: Flammable liquids – Category 2
Acute Tox. 4: Acute toxicity – Category 4
Skin Irrit. 2: Skin corrosion/irritation – Category 2
Eye Irrit. 2: Serious eye damage/eye irritation – Category 2
Skin Sens. 1: Skin sensitisation – Category 1
STOT SE 3: Specific target organ toxicity (single exposure) – Category 3

GB

Veiligheidsinformatieblad

volgens 1907/2006/EG, Artikel 31

datum van de druk: 20.06.2018

Herziening van: 20.06.2018

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

- **1.1 Productidentificatie**
- **Handelsnaam:** GEOFIX KIT - RESIN
- **Artikelnummer:** 1257-R
- **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: info@emsdiasum.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.



GHS07

Skin Irrit. 2 H315 Veroorzaakt huidirritatie.

Eye Irrit. 2 H319 Veroorzaakt ernstige oogirritatie.

Skin Sens. 1 H317 Kan een allergische huidreactie veroorzaken.

STOT SE 3 H335 Kan irritatie van de luchtwegen veroorzaken.

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

(Vervolg op blz. 2)

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Herziening van: 20.06.2018

Handelsnaam: GEOFIX KIT - RESIN

(Vervolg van blz. 1)

· **Gevarenpictogrammen**

GHS02 GHS07

· **Signaalwoord** Gevaar· **Gevaaraanduidende componenten voor de etikettering:**

methylmethacrylaat

· **Gevarenaanduidingen**

H225 Licht ontvlambare vloeistof en damp.

H315 Veroorzaakt huidirritatie.

H319 Veroorzaakt ernstige oogirritatie.

H317 Kan een allergische huidreactie veroorzaken.

H335 Kan irritatie van de luchtwegen veroorzaken.

· **Veiligheidsaanbevelingen**

P210 Verwijderd houden van warmte, hete oppervlakken, vonken, open vuur en andere ontstekingsbronnen. Niet roken.

P241 Explosieveilige elektrische/ventilatie-/verlichtings- apparatuur gebruiken.

P303+P361+P353 **BIJ CONTACT MET DE HUID (of het haar):** verontreinigde kleding onmiddellijk uittrekken. Huid met water afspoelen/afdouchen.

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

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: 80-62-6 EINECS: 201-297-1 | methylmethacrylaat ⚠ Flam. Liq. 2, H225; ⚠ Skin Irrit. 2, H315; Skin Sens. 1, H317; STOT SE 3, H335 | >50-≤100% |
| CAS: 67-64-1 EINECS: 200-662-2 | aceton ⚠ Flam. Liq. 2, H225; ⚠ Acute Tox. 4, H302; Acute Tox. 4, H312; Acute Tox. 4, H332; Eye Irrit. 2, H319; STOT SE 3, H336 | >2,5-≤10% |
| CAS: 2082-81-7 EINECS: 218-218-1 | tetramethyleendimethacrylaat ⚠ Skin Irrit. 2, H315; Eye Irrit. 2, H319; STOT SE 3, H335 | >2,5-≤10% |

(Vervolg op blz. 3)

Veiligheidsinformatieblad

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Handelsnaam: GEOFIX KIT - RESIN

(Vervolg van blz. 2)

· 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:**

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

Bij bewusteloosheid ligging en vervoer in stabiele zijligging.

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

Ogen met open ooglid een aantal minuten onder stromend water afspoelen en dokter raadplegen.

· Na inslikken: Als de klachten niet minderen, een arts raadplegen**· 4.2 Belangrijkste acute en uitgestelde symptomen en effecten**

Geen verdere relevante informatie verkrijgbaar.

· 4.3 Vermelding van de vereiste onmiddellijke medische verzorging en speciale behandeling

Geen verdere relevante informatie verkrijgbaar.

RUBRIEK 5: Brandbestrijdingsmaatregelen

· 5.1 Blusmiddelen**· Geschikte blusmiddelen:**

CO₂, bluspoeder of waterstraal. Grotere brand met waterstraal bestrijden of met schuim, dat tegen alcohol bestand is.

· 5.2 Speciale gevaren die door de stof of het mengsel worden veroorzaakt

Geen verdere relevante informatie verkrijgbaar.

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

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

· 6.1 Persoonlijke voorzorgsmaatregelen, beschermde uitrusting en noodprocedures

Beschermende kleding aantrekken. Niet beschermde personen op afstand houden.

· 6.2 Milieuvoorzorgsmaatregelen:

Met veel water verdunnen.

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.

· 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.

NL

(Vervolg op blz. 4)

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RUBRIEK 7: Hantering en opslag

- **7.1 Voorzorgsmaatregelen voor het veilig hanteren van de stof of het mengsel**
 Voor goede ventilatie/afzuiging op de werkplaatsen zorgen.
 Aërosolvorming vermijden.
- **Informatie m.b.t. brand- en ontploffingsgevaar:**
 Onstiekingsbronnen 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: | |
| 80-62-6 methylmethacrylaat | |
| WGW | Korte termijn waarde: 410 mg/m ³ , 100 ppm Lange termijn waarde: 205 mg/m ³ , 50 ppm |
| 67-64-1 aceton | |
| WGW | Korte termijn waarde: 2420 mg/m ³ , 1000 ppm Lange termijn waarde: 1210 mg/m ³ , 500 ppm |

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

(Vervolg op blz. 5)

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· Handbescherming:

Veiligheidshandschoenen

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

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

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

· Handschoenmateriaal

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

· Doordringingstijd van het handschoenmateriaal

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

· Oogbescherming:

Nauw aansluitende veiligheidsbril

RUBRIEK 9: Fysische en chemische eigenschappen

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

| | |
|---------------------------|---------------|
| Vorm: | Vloeistof |
| Kleur: | Kleurloos |
| Geur: | Esterachtig |
| Geurdrempelwaarde: | Niet bepaald. |

· pH-waarde: Niet bepaald.

· Toestandsverandering

| | |
|--------------------------------------|---------------|
| Smelt-/vriespunt: | Niet bepaald. |
| Beginkookpunt en kooktraject: | 101 °C |

· Vlampunt: 10 °C

· Ontvlambaarheid (vast, gas): Niet bruikbaar.

· Ontstekingstemperatuur: 430 °C

· Ontledingstemperatuur: Niet bepaald.

· Zelfontbrandingstemperatuur: Het produkt ontbrandt niet uit zichzelf.

(Vervolg op blz. 6)

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| | |
|---|--|
| · Ontploffingseigenschappen: | Het produkt is niet ontploffingsgevaarlijk, maar de vorming van ontploffingsgevaarlijke damp-/luchtmengsels is mogelijk. |
| · Ontploffingsgrenzen: | |
| Onderste: | 2,1 Vol % |
| Bovenste: | 12,5 Vol % |
| · Dampspanning bij 20 °C: | 47 hPa |
| · Dichtheid bij 20 °C: | 0,9365 g/cm ³ |
| · Relatieve dichtheid | Niet bepaald. |
| · Dampdichtheid | Niet bepaald. |
| · Verdampingssnelheid | Niet bepaald. |
| · Oplosbaarheid in/mengbaarheid met Water: | Volledig mengbaar. |
| · Verdelingscoëfficiënt: n-octanol/water: | Niet bepaald. |
| · Viscositeit | |
| Dynamisch: | Niet bepaald. |
| Kinematisch: | Niet bepaald. |
| · Oplosmiddelgehalte: | |
| Organisch oplosmiddel: | 5,0 % |
| VOC (EG) | 5,00 % |
| Gehalte aan vaste bestanddelen: | 0,0 % |
| · 9.2 Overige informatie | Geen verdere relevante informatie verkrijgbaar. |

RUBRIEK 10: Stabiliteit en reactiviteit

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

RUBRIEK 11: Toxicologische informatie

- **11.1 Informatie over toxicologische effecten**
- **Acute toxiciteit** Gebaseerd op beschikbare gegevens; aan de indelingscriteria is niet voldaan.

· Indelingsrelevantie LD/LC50-waarden:

| | | |
|-----------------------------------|------|-------------------|
| 80-62-6 methylmethacrylaat | | |
| Oraal | LD50 | 7.872 mg/kg (rat) |

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

RUBRIEK 12: Ecologische informatie

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

RUBRIEK 13: Instructies voor verwijdering

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

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RUBRIEK 14: Informatie met betrekking tot het vervoer

| | |
|---|---|
| · 14.1 VN-nummer | |
| · ADR, IMDG, IATA | UN1866 |
| · 14.2 Juiste ladingnaam overeenkomstig de modelreglementen van de VN | |
| · ADR | 1866 HARS, OPLOSSING |
| · IMDG, IATA | RESIN SOLUTION |
| · 14.3 Transportgevaarenklasse(n) | |
| · ADR, IMDG, IATA | |
|  | |
| · klasse | 3 Brandbare vloeistoffen |
| · Etiket | 3 |
| · 14.4 Verpakkingsgroep: | |
| · ADR, IMDG, IATA | II |
| · 14.5 Milieugevaaren: | Niet bruikbaar. |
| · 14.6 Bijzondere voorzorgen voor de gebruiker | Waarschuwing: Brandbare vloeistoffen |
| · Kemler-getal: | 33 |
| · EMS-nummer: | F-E, <u>S-E</u> |
| · Stowage Category | B |
| · 14.7 Vervoer in bulk overeenkomstig bijlage II bij Marpol en de IBC-code | Niet bruikbaar. |
| · Transport/verdere gegevens: | |
| · ADR | |
| · Beperkte hoeveelheden (LQ) | 5L |
| · 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 1866 HARS, OPLOSSING, 3, II |

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RUBRIEK 15: Regelgeving

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

- **SZW-lijst van kankerverwekkende stoffen**

geen der bestanddelen staat op de lijst.

- **SZW-lijst van mutagene stoffen**

geen der bestanddelen staat op de lijst.

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

geen der bestanddelen staat op de lijst.

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

geen der bestanddelen staat op de lijst.

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

geen der bestanddelen staat op de lijst.

- **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): B(4) Weinig schadelijk voor in water levende organismen

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

RUBRIEK 16: Overige informatie

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

- **Relevante zinnen**

H225 Licht ontvlambare vloeistof en damp.

H302 Schadelijk bij inslikken.

H312 Schadelijk bij contact met de huid.

H315 Veroorzaakt huidirritatie.

H317 Kan een allergische huidreactie veroorzaken.

H319 Veroorzaakt ernstige oogirritatie.

H332 Schadelijk bij inademing.

H335 Kan irritatie van de luchtwegen veroorzaken.

H336 Kan slaperigheid of duizeligheid veroorzaken.

- **Afkortingen en acroniemen:**

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

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

GHS: Globally Harmonised System of Classification and Labelling of Chemicals

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

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*CAS: Chemical Abstracts Service (division of the American Chemical Society)**VOC: Volatile Organic Compounds (USA, EU)**LC50: Lethal concentration, 50 percent**LD50: Lethal dose, 50 percent**PBT: Persistent, Bioaccumulative and Toxic**vPvB: very Persistent and very Bioaccumulative**Flam. Liq. 2: Ontvlambare vloeistoffen – Categorie 2**Acute Tox. 4: Acute toxiciteit – Categorie 4**Skin Irrit. 2: Huidcorrosie/-irritatie – Categorie 2**Eye Irrit. 2: Ernstig oogletsel/oogirritatie – Categorie 2**Skin Sens. 1: Sensibilisatie van de huid – Categorie 1**STOT SE 3: Specifieke doelorgaantoxiciteit bij eenmalige blootstelling – Categorie 3*

-NE-

Fiche de données de sécurité

selon 1907/2006/CE, Article 31

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

- **1.1 Identificateur de produit**
- **Nom du produit:** GEOFIX KIT - RESIN
- **Code du produit:** 1257-R
- **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: info@emsdiasum.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.



GHS07

Skin Irrit. 2 H315 Provoque une irritation cutanée.

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

Skin Sens. 1 H317 Peut provoquer une allergie cutanée.

STOT SE 3 H335 Peut irriter les voies respiratoires.

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



GHS02



GHS07

- **Mention d'avertissement** Danger

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- **Composants dangereux déterminants pour l'étiquetage:**

méthacrylate de méthyle

- **Mentions de danger**

H225 Liquide et vapeurs très inflammables.

H315 Provoque une irritation cutanée.

H319 Provoque une sévère irritation des yeux.

H317 Peut provoquer une allergie cutanée.

H335 Peut irriter les voies respiratoires.

- **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.

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.

P305+P351+P338 EN CAS DE CONTACT AVEC LES YEUX: rincer avec précaution à l'eau pendant plusieurs minutes. Enlever les lentilles de contact si la victime en porte et si elles peuvent être facilement enlevées. Continuer à rincer.

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: 80-62-6 EINECS: 201-297-1 | méthacrylate de méthyle ⚠ Flam. Liq. 2, H225; ⚠ Skin Irrit. 2, H315; Skin Sens. 1, H317; STOT SE 3, H335 | >50-≤100% |
| CAS: 67-64-1 EINECS: 200-662-2 | acétone ⚠ Flam. Liq. 2, H225; ⚠ Acute Tox. 4, H302; Acute Tox. 4, H312; Acute Tox. 4, H332; Eye Irrit. 2, H319; STOT SE 3, H336 | >2,5-≤10% |
| CAS: 2082-81-7 EINECS: 218-218-1 | diméthacrylate de tétraméthylène ⚠ Skin Irrit. 2, H315; Eye Irrit. 2, H319; STOT SE 3, H335 | >2,5-≤10% |

- **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 en abondance et consulter un médecin pour plus de sécurité.

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- En cas d'inconscience, coucher et transporter la personne en position latérale stable.
- **Après contact avec la peau:** Laver immédiatement à l'eau et au savon et bien rincer.
- **Après contact avec les yeux:**
Rincer les yeux, pendant plusieurs minutes, sous l'eau courante en écartant bien les paupières et consulter un médecin.
- **Après ingestion:** Si les troubles persistent, consulter un médecin.
- **4.2 Principaux symptômes et effets, aigus et différés**
Pas d'autres informations importantes disponibles.
- **4.3 Indication des éventuels soins médicaux immédiats et traitements particuliers nécessaires**
Pas d'autres informations importantes disponibles.

RUBRIQUE 5: Mesures de lutte contre l'incendie

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

RUBRIQUE 6: Mesures à prendre en cas de dispersion accidentelle

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

RUBRIQUE 7: Manipulation et stockage

- **7.1 Précautions à prendre pour une manipulation sans danger**
Veiller à une bonne ventilation/aspiration du poste de travail.
Éviter la formation d'aérosols.
- **Préventions des incendies et des explosions:**
Tenir à l'abri des sources d'inflammation - ne pas fumer.
Prendre des mesures contre les charges électrostatiques.

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- **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:**

80-62-6 méthacrylate de méthyle

| | |
|------------|---|
| VME | Valeur momentanée: 410 mg/m ³ , 100 ppm |
| | Valeur à long terme: 205 mg/m ³ , 50 ppm |

67-64-1 acétone

| | |
|------------|---|
| VME | Valeur momentanée: 2420 mg/m ³ , 1000 ppm |
| | Valeur à long terme: 1210 mg/m ³ , 500 ppm |

- **Remarques supplémentaires:**

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

· 8.2 Contrôles de l'exposition

- **Équipement de protection individuel:**

- **Mesures générales de protection et d'hygiène:**

Tenir à l'écart des produits alimentaires, des boissons et de la nourriture pour animaux.

Retirer immédiatement les vêtements souillés ou humectés.

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

Éviter tout contact avec la peau.

Éviter tout contact avec les yeux et avec la peau.

- **Protection respiratoire:**

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

- **Protection des mains:**



Gants de protection

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

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

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

- **Matériau des gants**

Le choix de gants appropriés dépend non seulement du matériau, mais aussi d'autres critères de qualité qui peuvent varier d'un fabricant à l'autre. Puisque le produit représente une préparation

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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: | Genre ester |
| 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: | 101 °C |

· **Point d'éclair** 10 °C

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

· **Température d'inflammation:** 430 °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: | 2,1 Vol % |
| Supérieure: | 12,5 Vol % |

· **Pression de vapeur à 20 °C:** 47 hPa

· **Densité à 20 °C:** 0,9365 g/cm³

· **Densité relative** Non déterminé.

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

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

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

Entièrement miscible

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- | | |
|---|----------------|
| · Coefficient de partage: n-octanol/eau: Non déterminé. | |
| · Viscosité: | |
| Dynamique: | Non déterminé. |
| Cinématique: | Non déterminé. |
| · Teneur en solvants: | |
| Solvants organiques: | 5,0 % |
| VOC (CE) | 5,00 % |
| · 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.

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

80-62-6 méthacrylate de méthyle

| | | |
|------|------|-------------------|
| Oral | LD50 | 7.872 mg/kg (rat) |
|------|------|-------------------|

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

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- **Danger par aspiration**
Compte tenu des données disponibles, les critères de classification ne sont pas remplis.

RUBRIQUE 12: Informations écologiques

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

RUBRIQUE 13: Considérations relatives à l'élimination

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

RUBRIQUE 14: Informations relatives au transport

- **14.1 Numéro ONU**
- **ADR, IMDG, IATA** UN1866
- **14.2 Désignation officielle de transport de l'ONU**
- **ADR** 1866 RÉSINE EN SOLUTION
- **IMDG, IATA** RESIN SOLUTION
- **14.3 Classe(s) de danger pour le transport**
- **ADR, IMDG, IATA**



- **Classe** 3 Liquides inflammables.
- **Étiquette** 3

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| | |
|---|---|
| · 14.4 Groupe d'emballage · ADR, IMDG, IATA | II |
| · 14.5 Dangers pour l'environnement: | Non applicable. |
| · 14.6 Précautions particulières à prendre par l'utilisateur · Indice Kemler: · No EMS: · Stowage Category | Attention: Liquides inflammables. 33 F-E, <u>S-E</u> B |
| · 14.7 Transport en vrac conformément à l'annexe II de la convention Marpol et au recueil IBC | Non applicable. |
| · Indications complémentaires de transport: | |
| · ADR · Quantités limitées (LQ) · Quantités exceptées (EQ) | 5L Code: E2 Quantité maximale nette par emballage intérieur: 30 ml Quantité maximale nette par emballage extérieur: 500 ml |
| · Catégorie de transport · Code de restriction en tunnels | 2 D/E |
| · IMDG · 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 |
| · "Règlement type" de l'ONU: | UN 1866 RÉSINE EN SOLUTION, 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.

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· Phrases importantes

- H225 Liquide et vapeurs très inflammables.*
- H302 Nocif en cas d'ingestion.*
- H312 Nocif par contact cutané.*
- H315 Provoque une irritation cutanée.*
- H317 Peut provoquer une allergie cutanée.*
- H319 Provoque une sévère irritation des yeux.*
- H332 Nocif par inhalation.*
- H335 Peut irriter les voies respiratoires.*
- H336 Peut provoquer somnolence ou vertiges.*

· Acronymes et abréviations:

- ADR: Accord européen sur le transport des marchandises dangereuses par Route*
- IMDG: International Maritime Code for Dangerous Goods*
- IATA: International Air Transport Association*
- GHS: Globally Harmonised System of Classification and Labelling of Chemicals*
- EINECS: European Inventory of Existing Commercial Chemical Substances*
- ELINCS: European List of Notified Chemical Substances*
- CAS: Chemical Abstracts Service (division of the American Chemical Society)*
- VOC: Volatile Organic Compounds (USA, EU)*
- LC50: Lethal concentration, 50 percent*
- LD50: Lethal dose, 50 percent*
- PBT: Persistent, Bioaccumulative and Toxic*
- vPvB: very Persistent and very Bioaccumulative*
- Flam. Liq. 2: Liquides inflammables – Catégorie 2*
- Acute Tox. 4: Toxicité aiguë – Catégorie 4*
- Skin Irrit. 2: Corrosion cutanée/irritation cutanée – Catégorie 2*
- Eye Irrit. 2: Lésions oculaires graves/irritation oculaire – Catégorie 2*
- Skin Sens. 1: Sensibilisation cutanée – Catégorie 1*
- STOT SE 3: Toxicité spécifique pour certains organes cibles (exposition unique) – Catégorie 3*

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

· **1.1 Produktidentifikator**

· **Handelsname:** GEOFIX KIT - RESIN

· **Artikelnummer:** 1257-R

· **1.2 Relevante identifizierte Verwendungen des Stoffs oder Gemischs und Verwendungen, von denen abgeraten wird**

Keine weiteren relevanten Informationen verfügbar.

· **Verwendung des Stoffs / des Gemisches** Laborchemikalien

· **1.3 Einzelheiten zum Lieferanten, der das Sicherheitsdatenblatt bereitstellt**

· **Hersteller/Lieferant:**

Electron Microscopy Sciences

1560 Industry Road

USA-Hatfield, PA 19440

Tel: 215-412-8400 Fax: 215-412-8450

email: info@emsdiasum.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.



GHS07

Skin Irrit. 2 H315 Verursacht Hautreizungen.

Eye Irrit. 2 H319 Verursacht schwere Augenreizung.

Skin Sens. 1 H317 Kann allergische Hautreaktionen verursachen.

STOT SE 3 H335 Kann die Atemwege reizen.

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



GHS02 GHS07

- **Signalwort Gefahr**
- **Gefahrbestimmende Komponenten zur Etikettierung:**
Methyl-methacrylat
- **Gefahrenhinweise**
H225 Flüssigkeit und Dampf leicht entzündbar.
H315 Verursacht Hautreizungen.
H319 Verursacht schwere Augenreizung.
H317 Kann allergische Hautreaktionen verursachen.
H335 Kann die Atemwege reizen.
- **Sicherheitshinweise**
P210 Von Hitze, heißen Oberflächen, Funken, offenen Flammen und anderen Zündquellen fernhalten. Nicht rauchen.
P241 Explosionsgeschützte elektrische Geräte/Lüftungsanlagen/Beleuchtungsanlagen verwenden.
P303+P361+P353 BEI BERÜHRUNG MIT DER HAUT (oder dem Haar): Alle kontaminierten Kleidungsstücke sofort ausziehen. Haut mit Wasser abwaschen/duschen.
P305+P351+P338 BEI KONTAKT MIT DEN AUGEN: Einige Minuten lang behutsam mit Wasser spülen. Eventuell vorhandene Kontaktlinsen nach Möglichkeit entfernen. Weiter spülen.
P405 Unter Verschluss aufbewahren.
P501 Entsorgung des Inhalts / des Behälters gemäß den örtlichen / regionalen / nationalen/ internationalen Vorschriften.
- **2.3 Sonstige Gefahren**
- **Ergebnisse der PBT- und vPvB-Beurteilung**
- **PBT:** Nicht anwendbar.
- **vPvB:** Nicht anwendbar.

ABSCHNITT 3: Zusammensetzung/Angaben zu Bestandteilen

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

- **Gefährliche Inhaltsstoffe:**

| | | |
|-----------------------------------|---|-----------|
| CAS: 80-62-6 EINECS: 201-297-1 | Methyl-methacrylat ⚠ Flam. Liq. 2, H225; ⚠ Skin Irrit. 2, H315; Skin Sens. 1, H317; STOT SE 3, H335 | >50-≤100% |
| CAS: 67-64-1 EINECS: 200-662-2 | Aceton ⚠ Flam. Liq. 2, H225; ⚠ Acute Tox. 4, H302; Acute Tox. 4, H312; Acute Tox. 4, H332; Eye Irrit. 2, H319; STOT SE 3, H336 | >2,5-≤10% |

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| | | |
|-------------------|--|-----------|
| CAS: 2082-81-7 | 1,4-Butandioldimethacrylat | >2,5-≤10% |
| EINECS: 218-218-1 | ⚠ Skin Irrit. 2, H315; Eye Irrit. 2, H319; STOT SE 3, H335 | |

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:

Reichlich Frischluftzufuhr und sicherheitshalber Arzt aufsuchen.

Bei Bewußtlosigkeit Lagerung und Transport in stabiler Seitenlage.

Nach Hautkontakt: Sofort mit Wasser und Seife abwaschen und gut nachspülen.

Nach Augenkontakt:

Augen bei geöffnetem Lidspalt mehrere Minuten unter fließendem Wasser abspülen und Arzt konsultieren.

Nach Verschlucken: Bei anhaltenden Beschwerden Arzt konsultieren.

4.2 Wichtigste akute und verzögert auftretende Symptome und Wirkungen

Keine weiteren relevanten Informationen verfügbar.

4.3 Hinweise auf ärztliche Soforthilfe oder Spezialbehandlung

Keine weiteren relevanten Informationen verfügbar.

ABSCHNITT 5: Maßnahmen zur Brandbekämpfung

5.1 Löschmittel
Geeignete Löschmittel:

CO₂, Löschpulver oder Wassersprühstrahl. Größeren Brand mit Wassersprühstrahl oder alkoholbeständigem Schaum bekämpfen.

5.2 Besondere vom Stoff oder Gemisch ausgehende Gefahren

Keine weiteren relevanten Informationen verfügbar.

5.3 Hinweise für die Brandbekämpfung
Besondere Schutzausrüstung: Keine besonderen Maßnahmen erforderlich.

ABSCHNITT 6: Maßnahmen bei unbeabsichtigter Freisetzung

6.1 Personenbezogene Vorsichtsmaßnahmen, Schutzausrüstungen und in Notfällen anzuwendende Verfahren

Schutzausrüstung tragen. Ungeschützte Personen fernhalten.

6.2 Umweltschutzmaßnahmen:

Mit viel Wasser verdünnen.

Nicht in die Kanalisation/Oberflächenwasser/Grundwasser gelangen lassen.

6.3 Methoden und Material für Rückhaltung und Reinigung:

Mit flüssigkeitsbindendem Material (Sand, Kieselgur, Säurebinder, Universalbinder, Sägemehl) aufnehmen.

Für ausreichende Lüftung sorgen.

6.4 Verweis auf andere Abschnitte

Informationen zur sicheren Handhabung siehe Abschnitt 7.

Informationen zur persönlichen Schutzausrüstung siehe Abschnitt 8.

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Informationen zur Entsorgung siehe Abschnitt 13.

ABSCHNITT 7: Handhabung und Lagerung

- **7.1 Schutzmaßnahmen zur sicheren Handhabung**
Für gute Belüftung/Absaugung am Arbeitsplatz sorgen.
Aerosolbildung vermeiden.
- **Hinweise zum Brand- und Explosionsschutz:**
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.

- **8.1 Zu überwachende Parameter**

- **Bestandteile mit arbeitsplatzbezogenen, zu überwachenden Grenzwerten:**

80-62-6 Methyl-methacrylat

| | |
|-----|---|
| AGW | Langzeitwert: 210 mg/m ³ , 50 ml/m ³ 2(I);DFG, EU, Y |
|-----|---|

67-64-1 Aceton

| | |
|-----|--|
| AGW | Langzeitwert: 1200 mg/m ³ , 500 ml/m ³ 2(I);AGS, DFG, EU, Y |
|-----|--|

2082-81-7 1,4-Butandioldimethacrylat

| | |
|-----|---------------|
| MAK | vgl.Abschn.IV |
|-----|---------------|

- **Bestandteile mit biologischen Grenzwerten:**

67-64-1 Aceton

| | |
|-----|---|
| BGW | 80 mg/l Untersuchungsmaterial: Urin Probennahmezeitpunkt: Expositionsende bzw. Schichtende Parameter: Aceton |
|-----|---|

- **Zusätzliche Hinweise:** Als Grundlage dienen die bei der Erstellung gültigen Listen.

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- **8.2 Begrenzung und Überwachung der Exposition**
- **Persönliche Schutzausrüstung:**
- **Allgemeine Schutz- und Hygienemaßnahmen:**
*Von Nahrungsmitteln, Getränken und Futtermitteln fernhalten.
 Beschmutzte, getränkte Kleidung sofort ausziehen.
 Vor den Pausen und bei Arbeitsende Hände waschen.
 Berührung mit der Haut vermeiden.
 Berührung mit den Augen und der Haut vermeiden.*
- **Atemschutz:**
Bei kurzzeitiger oder geringer Belastung Atemfiltergerät; bei intensiver bzw. längerer Exposition unluftunabhängiges Atemschutzgerät verwenden.
- **Handschutz:**



Schutzhandschuhe

Das Handschuhmaterial muss undurchlässig und beständig gegen das Produkt / den Stoff / die Zubereitung sein.

Aufgrund fehlender Tests kann keine Empfehlung zum Handschuhmaterial für das Produkt / die Zubereitung / das Chemikaliengemisch abgegeben werden.

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

- **Handschuhmaterial**
Die Auswahl eines geeigneten Handschuhs ist nicht nur vom Material, sondern auch von weiteren Qualitätsmerkmalen abhängig und von Hersteller zu Hersteller unterschiedlich. Da das Produkt eine Zubereitung aus mehreren Stoffen darstellt, ist die Beständigkeit von Handschuhmaterialen 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:** Esterartig
- **Geruchsschwelle:** Nicht bestimmt.
- **pH-Wert:** Nicht bestimmt.
- **Zustandsänderung**

| | |
|-----------------------------------|-----------------|
| Schmelzpunkt/Gefrierpunkt: | Nicht bestimmt. |
|-----------------------------------|-----------------|

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| | |
|--|--|
| Siedebeginn und Siedebereich: | 101 °C |
| · Flammpunkt: | 10 °C |
| · Entzündbarkeit (fest, gasförmig): | Nicht anwendbar. |
| · Zündtemperatur: | 430 °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: | 2,1 Vol % |
| Obere: | 12,5 Vol % |
| · Dampfdruck bei 20 °C: | 47 hPa |
| · Dichte bei 20 °C: | 0,9365 g/cm ³ |
| · Relative Dichte | Nicht bestimmt. |
| · Dampfdichte | Nicht bestimmt. |
| · Verdampfungsgeschwindigkeit | Nicht bestimmt. |
| · Löslichkeit in / Mischbarkeit mit Wasser: | Vollständig mischbar. |
| · Verteilungskoeffizient: n-Octanol/Wasser: | Nicht bestimmt. |
| · Viskosität: | |
| Dynamisch: | Nicht bestimmt. |
| Kinematisch: | Nicht bestimmt. |
| · Lösemittelgehalt: | |
| Organische Lösemittel: | 5,0 % |
| VOC (EU) | 5,00 % |
| · 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.

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ABSCHNITT 11: Toxikologische Angaben

- **11.1 Angaben zu toxikologischen Wirkungen**
- **Akute Toxizität** Aufgrund der verfügbaren Daten sind die Einstufungskriterien nicht erfüllt.

| | |
|--|------------------------|
| · Einstufungsrelevante LD/LC50-Werte: | |
| 80-62-6 Methyl-methacrylat | |
| Oral | LD50 7.872 mg/kg (rat) |

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

ABSCHNITT 12: Umweltbezogene Angaben

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

ABSCHNITT 13: Hinweise zur Entsorgung

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

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- **Ungereinigte Verpackungen:**
- **Empfehlung:** Entsorgung gemäß den behördlichen Vorschriften.
- **Empfohlenes Reinigungsmittel:** Wasser, gegebenenfalls mit Zusatz von Reinigungsmitteln.

ABSCHNITT 14: Angaben zum Transport

| | |
|--|--|
| <ul style="list-style-type: none"> · 14.1 UN-Nummer · ADR, IMDG, IATA | <p style="text-align: right;">UN1866</p> |
| <ul style="list-style-type: none"> · 14.2 Ordnungsgemäße UN-Versandbezeichnung · ADR · IMDG, IATA | <p style="text-align: right;">1866 HARZLÖSUNG RESIN SOLUTION</p> |
| <ul style="list-style-type: none"> · 14.3 Transportgefahrenklassen · ADR, IMDG, IATA | <div style="text-align: center;">  </div> <p style="text-align: right;">3 Entzündbare flüssige Stoffe 3</p> |
| <ul style="list-style-type: none"> · 14.4 Verpackungsgruppe · ADR, IMDG, IATA | <p style="text-align: right;">II</p> |
| <ul style="list-style-type: none"> · 14.5 Umweltgefahren: | <p style="text-align: right;">Nicht anwendbar.</p> |
| <ul style="list-style-type: none"> · 14.6 Besondere Vorsichtsmaßnahmen für den Verwender · Kemler-Zahl: · EMS-Nummer: · Stowage Category | <p style="text-align: right;">Achtung: Entzündbare flüssige Stoffe 33 F-E,<u>S-E</u> B</p> |
| <ul style="list-style-type: none"> · 14.7 Massengutbeförderung gemäß Anhang II des MARPOL-Übereinkommens und gemäß IBC-Code | <p style="text-align: right;">Nicht anwendbar.</p> |
| <ul style="list-style-type: none"> · Transport/weitere Angaben: | |
| <ul style="list-style-type: none"> · ADR · Begrenzte Menge (LQ) · Freigestellte Mengen (EQ) | <p style="text-align: right;">5L Code: E2 Höchste Nettomenge je Innenverpackung: 30 ml Höchste Nettomenge je Außenverpackung: 500 ml</p> |
| <ul style="list-style-type: none"> · Beförderungskategorie · Tunnelbeschränkungscode | <p style="text-align: right;">2 D/E</p> |
| <ul style="list-style-type: none"> · IMDG · Limited quantities (LQ) · Excepted quantities (EQ) | <p style="text-align: right;">1L Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500</p> |

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| | |
|---------------------------------|---------------------------|
| · | ml |
| · UN "Model Regulation": | UN 1866 HARZLÖSUNG, 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**
 - **Nationale Vorschriften:**
 - **Technische Anleitung Luft:**
- | Klasse | Anteil in % |
|--------|-------------|
| NK | 5,0 |
- **Wassergefährdungsklasse: WGK 1 (Selbsteinstufung): schwach wassergefährdend.**
 - **15.2 Stoffsicherheitsbeurteilung: Eine Stoffsicherheitsbeurteilung wurde nicht durchgeführt.**

ABSCHNITT 16: Sonstige Angaben

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

- **Relevante Sätze**
- H225 Flüssigkeit und Dampf leicht entzündbar.
- H302 Gesundheitsschädlich bei Verschlucken.
- H312 Gesundheitsschädlich bei Hautkontakt.
- H315 Verursacht Hautreizungen.
- H317 Kann allergische Hautreaktionen verursachen.
- H319 Verursacht schwere Augenreizung.
- H332 Gesundheitsschädlich bei Einatmen.
- H335 Kann die Atemwege reizen.
- H336 Kann Schläfrigkeit und Benommenheit verursachen.
- **Abkürzungen und Akronyme:**
- ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
- IMDG: International Maritime Code for Dangerous Goods
- IATA: International Air Transport Association
- GHS: Globally Harmonised System of Classification and Labelling of Chemicals
- EINECS: European Inventory of Existing Commercial Chemical Substances
- ELINCS: European List of Notified Chemical Substances
- CAS: Chemical Abstracts Service (division of the American Chemical Society)
- VOC: Volatile Organic Compounds (USA, EU)
- LC50: Lethal concentration, 50 percent
- LD50: Lethal dose, 50 percent
- PBT: Persistent, Bioaccumulative and Toxic
- vPvB: very Persistent and very Bioaccumulative
- Flam. Liq. 2: Entzündbare Flüssigkeiten – Kategorie 2

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*Acute Tox. 4: Akute Toxizität – Kategorie 4**Skin Irrit. 2: Hautreizende/-ätzende Wirkung – Kategorie 2**Eye Irrit. 2: Schwere Augenschädigung/Augenreizung – Kategorie 2**Skin Sens. 1: Sensibilisierung der Haut – Kategorie 1**STOT SE 3: Spezifische Zielorgan-Toxizität (einmalige Exposition) – Kategorie 3*

DE

Scheda di dati di sicurezza
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SEZIONE 1: Identificazione della sostanza o della miscela e della società/impresa

· **1.1 Identificatore del prodotto**

· **Denominazione commerciale:** GEOFIX KIT - RESIN

· **Articolo numero:** 1257-R

· **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: info@emsdiasum.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.



GHS07

Skin Irrit. 2 H315 Provoca irritazione cutanea.

Eye Irrit. 2 H319 Provoca grave irritazione oculare.

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

STOT SE 3 H335 Può irritare le vie respiratorie.

· **2.2 Elementi dell'etichetta**

· **Etichettatura secondo il regolamento (CE) n. 1272/2008**

Il prodotto è classificato ed etichettato conformemente al regolamento CLP.

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Pittogrammi di pericolo


GHS02 GHS07

Avvertenza Pericolo
Componenti pericolosi che ne determinano l'etichettatura:

metacrilato di metile

Indicazioni di pericolo

H225 Liquido e vapori facilmente infiammabili.

H315 Provoca irritazione cutanea.

H319 Provoca grave irritazione oculare.

H317 Può provocare una reazione allergica cutanea.

H335 Può irritare le vie respiratorie.

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.

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.

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

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: 80-62-6 EINECS: 201-297-1 | metacrilato di metile ⚠ Flam. Liq. 2, H225; ⚠ Skin Irrit. 2, H315; Skin Sens. 1, H317; STOT SE 3, H335 | >50-≤100% |
| CAS: 67-64-1 EINECS: 200-662-2 | acetone ⚠ Flam. Liq. 2, H225; ⚠ Acute Tox. 4, H302; Acute Tox. 4, H312; Acute Tox. 4, H332; Eye Irrit. 2, H319; STOT SE 3, H336 | >2,5-≤10% |
| CAS: 2082-81-7 EINECS: 218-218-1 | dimetacrilato di tetrametilene ⚠ Skin Irrit. 2, H315; Eye Irrit. 2, H319; STOT SE 3, H335 | >2,5-≤10% |

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

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

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

· **Contatto con gli occhi:**

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

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

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

· **4.3 Indicazione 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, polvere o acqua nebulizzata. Estinguere gli incendi di grosse dimensioni con acqua nebulizzata o con schiuma resistente all'alcool.

· **5.2 Pericoli speciali derivanti dalla sostanza o dalla miscela**

Non sono disponibili altre informazioni.

· **5.3 Raccomandazioni per gli addetti all'estinzione degli incendi**

· **Mezzi protettivi specifici:** Non sono richiesti provvedimenti particolari.

SEZIONE 6: Misure in caso di rilascio accidentale

· **6.1 Precauzioni personali, dispositivi di protezione e procedure in caso di emergenza**

Indossare equipaggiamento protettivo. Allontanare le persone non equipaggiate.

· **6.2 Precauzioni ambientali:**

Diluire abbondantemente con acqua.

Impedire infiltrazioni nella fognatura/nelle acque superficiali/nelle acque freatiche.

· **6.3 Metodi e materiali per il contenimento e per la bonifica:**

Raccogliere il liquido con materiale assorbente (sabbia, tripoli, legante di acidi, legante universale, segatura).

Provvedere ad una sufficiente areazione.

· **6.4 Riferimento ad altre sezioni**

Per informazioni relative ad un manipolazione sicura, vedere capitolo 7.

Per informazioni relative all'equipaggiamento protettivo ad uso personale vedere Capitolo 8.

Per informazioni relative allo smaltimento vedere Capitolo 13.

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SEZIONE 7: Manipolazione e immagazzinamento

- **7.1 Precauzioni per la manipolazione sicura**
Accurata ventilazione/aspirazione nei luoghi di lavoro.
Evitare la formazione di aerosol.
- **Indicazioni in caso di incendio ed esplosione:**
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:**

80-62-6 metacrilato di metile

| | |
|-----|--|
| TWA | Valore a breve termine: 410 mg/m ³ , 100 ppm Valore a lungo termine: 205 mg/m ³ , 50 ppm sen, A4 |
| VL | Valore a breve termine: 100 ppm Valore a lungo termine: 50 ppm |

67-64-1 acetone

| | |
|-----|---|
| TWA | Valore a breve termine: 1781 mg/m ³ , (750) ppm Valore a lungo termine: 1187 mg/m ³ , (500) ppm A4, IBE |
| VL | Valore a lungo termine: 1210 mg/m ³ , 500 ppm |

- **Componenti con valori limite biologici:**

67-64-1 acetone

| | |
|-----|---|
| IBE | 50 mg/l Campioni: urine Momento del prelievo: a fine turno Indicatore biologico: acetone |
|-----|---|

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

· 8.2 Controlli dell'esposizione

· Mezzi protettivi individuali:

· Norme generali protettive e di igiene del lavoro:

- Tenere lontano da cibo, bevande e foraggi.
- Togliere immediatamente gli abiti contaminati.
- Lavarsi le mani prima dell'intervallo o a lavoro terminato.

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

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Evitare il contatto con la pelle.
Evitare il contatto con gli occhi e la pelle.

· **Maschera protettiva:**

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

· **Guanti protettivi:**



Guanti protettivi

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

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

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

· **Materiale dei guanti**

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

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

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

· **Occhiali protettivi:**



Occhiali protettivi a tenuta

SEZIONE 9: Proprietà fisiche e chimiche

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

· **Indicazioni generali**

· **Aspetto:**

| | |
|--------------------------|-------------------|
| Forma: | Liquido |
| Colore: | Incolore |
| Odore: | Simile all'estere |
| 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: | 101 °C |

· **Punto di infiammabilità:** 10 °C

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

· **Temperatura di accensione:** 430 °C

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| | |
|--|---|
| · 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: | 2,1 Vol % |
| Superiore: | 12,5 Vol % |
| · Tensione di vapore a 20 °C: | 47 hPa |
| · Densità a 20 °C: | 0,9365 g/cm ³ |
| · Densità relativa | Non definito. |
| · Densità di vapore: | Non definito. |
| · Velocità di evaporazione | Non definito. |
| · Solubilità in/Miscibilità con acqua: | Completamente miscibile. |
| · Coefficiente di ripartizione: n-ottanolo/acqua: | Non definito. |
| · Viscosità: | |
| Dinamica: | Non definito. |
| Cinematica: | Non definito. |
| · Tenore del solvente: | |
| Solventi organici: | 5,0 % |
| VOC (CE) | 5,00 % |
| 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.

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

80-62-6 metacrilato di metile

| | | |
|-------|------|-------------------|
| Orale | LD50 | 7.872 mg/kg (rat) |
|-------|------|-------------------|

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- **Irritabilità primaria:**
- **Corrosione/irritazione cutanea**
Provoca irritazione cutanea.
- **Lesioni oculari gravi/irritazioni oculari gravi**
Provoca grave irritazione oculare.
- **Sensibilizzazione respiratoria o cutanea**
Può provocare una reazione allergica cutanea.
- **Effetti CMR (cancerogenicità, mutagenicità e tossicità per la riproduzione)**
- **Mutagenicità delle cellule germinali**
Basandosi sui dati disponibili i criteri di classificazione non sono soddisfatti.
- **Cancerogenicità** Basandosi sui dati disponibili i criteri di classificazione non sono soddisfatti.
- **Tossicità per la riproduzione**
Basandosi sui dati disponibili i criteri di classificazione non sono soddisfatti.
- **Tossicità specifica per organi bersaglio (STOT) - esposizione singola**
Può irritare le vie respiratorie.
- **Tossicità specifica per organi bersaglio (STOT) - esposizione ripetuta**
Basandosi sui dati disponibili i criteri di classificazione non sono soddisfatti.
- **Pericolo in caso di aspirazione**
Basandosi sui dati disponibili i criteri di classificazione non sono soddisfatti.

SEZIONE 12: Informazioni ecologiche

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

SEZIONE 13: Considerazioni sullo smaltimento

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

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SEZIONE 14: Informazioni sul trasporto

| | |
|---|---|
| · 14.1 Numero ONU · ADR, IMDG, IATA | UN1866 |
| · 14.2 Nome di spedizione dell'ONU · ADR · IMDG, IATA | 1866 RESINA IN SOLUZIONE RESIN SOLUTION |
| · 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, <u>S-E</u> B |
| · 14.7 Trasporto di rifiuti secondo l'allegato II di MARPOL ed il codice IBC | Non applicabile. |
| · Trasporto/ulteriori indicazioni: | |
| · ADR · Quantità limitate (LQ) · Quantità esenti (EQ) | 5L Codice: E2 Quantità massima netta per imballaggio interno: 30 ml Quantità massima netta per imballaggio esterno: 500 ml |
| · Categoria di trasporto · Codice di restrizione in galleria | 2 D/E |
| · IMDG · 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 |
| · UN "Model Regulation": | UN 1866 RESINA IN SOLUZIONE, 3, II |

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Scheda di dati di sicurezza

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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 | 5,0 |

· **15.2 Valutazione della sicurezza chimica:**

Una valutazione della sicurezza chimica non è stata effettuata.

SEZIONE 16: Altre informazioni

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

· **Frasei rilevanti**

H225 Liquido e vapori facilmente infiammabili.

H302 Nocivo se ingerito.

H312 Nocivo per contatto con la pelle.

H315 Provoca irritazione cutanea.

H317 Può provocare una reazione allergica cutanea.

H319 Provoca grave irritazione oculare.

H332 Nocivo se inalato.

H335 Può irritare le vie respiratorie.

H336 Può provocare sonnolenza o vertigini.

· **Abbreviazioni e acronimi:**

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

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

GHS: Globally Harmonised System of Classification and Labelling of Chemicals

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

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

VOC: Volatile Organic Compounds (USA, EU)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

Flam. Liq. 2: Liquidi infiammabili – Categoria 2

Acute Tox. 4: Tossicità acuta – Categoria 4

Skin Irrit. 2: Corrosione/irritazione della pelle – Categoria 2

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

Skin Sens. 1: Sensibilizzazione della pelle – Categoria 1

STOT SE 3: Tossicità specifica per organi bersaglio (esposizione singola) – Categoria 3

물질안전보건자료
GHS에 따라라따

기압점: 2018.06.20

개정: 2018.06.20

1 화학제품과 회사에 관한 정보

제품제품명: **젤리자**

· **제품명:** GEOFIX KIT - RESIN

· **상품번호:** 1257-R

해당 해당 물질이나 혼합물이 관련 위험도 및 사용금지용도 추가적인 정보가 존재하지 않습니다.

· **제품의 권고 용도와 사용 제한** (제한 사항) 실화 화폭

· **안전데이터표(Safety Data Sheet) 내 공급 업체 관련 정보**

· **제조사/수입자/유통업체 정보**

Electron Microscopy Sciences
1560 Industry Road
USA-Hatfield, PA 19440
Tel: 215-412-8400 Fax: 215-412-8450
email: info@emsdiasum.com
www.emsdiasum.com

Samchang Commercial Co., Ltd.
Yeo Eui Do
PO Box 1110
Seoul, Korea
Tel: 82 2 703 3040
Fax: 82 2 717 3298

· **추가적인 정보** (응급 대응 가능) duct safety department

· **비상연락 전화번호:**

ChemTrec 1-800-424-9300 Contract CCN7661
1-703-527-3887

2 유해성·위험성

· **순물질 또는 혼합물**의 분류 분류



화염

인화성 액체 - 구분 2

H225 고인화성 액체 및 증기



피부 부식성/피부 자극성 - 구분 2

H315 피부에 자극을 일으킴

심한 눈 손상성/눈 자극성 - 구분 2

H319 눈에 심한 자극을 일으킴

피부 과민성 - 구분 1

H317 알레르기성 피부 반응을 일으킬 수 있음

특정표적장기 독성 - 1회 노출 - 구분 3

H335 호흡기계 자극을 일으킬 수 있음

· **라벨 표기 요소**

· **라벨 라벨 요소**

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

(2 쪽에계속)

물질안전보건자료

GHS에 따라라따

기압점: 2018.06.20

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(1 쪽부터계속)

· 그림문자



GHS02 GHS07

· 신호어 위험

· **상표상에명확히위험성이표시된성분:**

Methyl Methacrylate

유해유해유해유해유해 문구

고인화성 액체 및 증기

피부에 자극을 일으킴

눈에 심한 자극을 일으킴

알레르기성 피부 반응을 일으킬 수 있음

호흡기계 자극을 일으킬 수 있음

· 예방조치 문구 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

기타기타 유해성

· PBT(잔류성, 생물농축성, 물질분해성) 및 vPvB(고 잔류성, 고 생물농축성) 물질로 분류된 물질이 포함되어 있음.

· PBT(잔류성, 생물농축성, 물질분해성) 및 vPvB(고 잔류성, 고 생물농축성) 물질로 분류된 물질이 포함되어 있음.

3 구성성분의 명칭 및 함유량

· 화학적 특성: 혼합물

설명설명설명명칭한 첨가물 이 함유된 아래에 열거된 물질로 만들어진 혼합물.

· 위험요소요소

| | | |
|-----------|---|-----------|
| 80-62-6 | Methyl Methacrylate ⚠ 인화성 액체 - 구분 2, H225; ⚠ 피부 부식성/피부 자극성 - 구분 2, H315; 피부 과민성 - 구분 1, H317; 특정표적장기 독성 - 1회 노출 - 구분 3, H335 | >50-≤100% |
| 67-64-1 | Acetone, Reagent Grade ⚠ 인화성 액체 - 구분 2, H225; ⚠ 심한 눈 손상성/눈 자극성 - 구분 2, H319; 특정표적장기 독성 - 1회 노출 - 구분 3, H336 | >2.5-≤10% |
| 2082-81-7 | tetramethylene dimethacrylate ⚠ 피부 부식성/피부 자극성 - 구분 2, H315; 심한 눈 손상성/눈 자극성 - 구분 2, H319; 특정표적장기 독성 - 1회 노출 - 구분 3, H335 | >2.5-≤10% |

KR

(3 쪽에계속)

물질안전보건자료

GHS에 따라 라다

기압점: 2018.06.20

개정: 2018.06.20

제품명: GEOFIX KIT - RESIN

(2 쪽부터 계속)

4 응급조치 요령

- **응급조치요령 내용내용**
 - **흡입했을 때:**
신선한 공기를 쐬고 나서 반드시 의료진의 도움을 구한다.
환자가 의식을 잃었을 경우에는 안전한 자세에서 환자를 운반한다.
 - **피부에 접촉했을 때:** 즉시 물과 비누로 씻고 잘 행군다.
 - **눈에 눈에 들어갔을 때:** 흐르는 물에 눈을 몇 분 동안 씻어내고 나서, 의사와 상담한다
 - **먹었을 때:** 증상이 지속될 경우에는 의사와 상담한다.
- 기타 기타 **각각**의 주의사항:
가장 가장 **중요한** **응급조치요령**에 **영향**이 있는 정보가 존재하지 않습니다.
- **즉각적인 의료처리 및 특별처리가 필요함을 시사하는 징후** 징후
추가적인 정보가 존재하지 않습니다.

5 폭발·화재시 대처방법

- **소화제**
 - **적절한 소화제:**
이산화탄소, 진화용 석회가루 또는 물 방사를 사용하고, 더 큰 화재는 물을 분사하거나 알코올이 함유된 거품으로 끈다.
 - **본 화학물질이나 혼합물에서 발생가능한 특별한 위험성** 추가적인 정보가 존재하지 않습니다.
 - **소방관**에 대한 **대응사항**
- 화재 **화재**에 **적용할** **보호구 및 예방조치:** 특별한 조치가 필요없음.

6 누출 사고 시 대처방법

- **개인적 예방조치, 보호장비 및 응급제** **절차**
안전장비 착용하고, 무방비 의 사람은 격리시킨다.
- **환경** **환경**에 **대응** **조치:**
많은 물로 희석시킨다.
하수도망/해수면 위 의 물/지하수로 도달하지 않게 한다.
- **밀폐** **밀폐** **정화** **정화** **소재** **소재**
액체가 혼합된 물질 (모래, 규조토, 산성 결합물, 일반 결합물, 톱밥)에 흡입되도록 한다.
충분한 환기가 되도록 한다.
- **추가** **추가** **참조**
안전관리에 대한 정보는 제7장을 참고하십시오.
개인 보호장비에 대한 정보는 제8장을 참고하십시오.
쓰레기 처리에 대한 정보는 제13장을 참고하십시오.

7 취급 및 저장방법

- **취급** **취급** **취급**
- **안전** **안전** **예방** **조치**
작업장에서는 통풍이 잘 되고 습기 제거가 잘 되게 주의한다.
연무질이 형성되는 것을 피한다.
- **화재** **화재** **예방** **조치** **대** **체** **에** **관** **한** **정보**
발화 요소는 멀리 둔다. 금연.

(4 쪽에 계속)

물질안전보건자료

GHS에 따라 라다

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정 전기 의 충 전 으로부터 보호한다.

- **혼합 위험성** 및 **안정성** 관련 조건

보관 보관 보관

- **안정성** 저장 방법 가운 장 소 에 보 관 한다.
- **하 나 의 공 통 장 목 사 실 에 대 한 보 관 조 건 은 같 아 없 음**
- **보 관 조 건 에 관 한 추 가 적 인 정 보 정 보**

용기를 새지 않게 밀폐한 채 보관한다.
 밀폐된 용기 속에서 늘 하고 건조 하게 보 관 한 다.
 · **구 체 적 최 종 처 리 자** 추 가 적 인 정 보 가 존 재 하 지 않 습 니 다.

8 노출방지 및 개인보호구

- **첨단시설 디자인에 대한 추가정보:** 더 이상 의 자료는 없 음. 항 목 7 을 참 고 하 시 오.

통제 통제 통제 변수

| | |
|---------------------------------------|--|
| · 화학물질의 노출기준, 생물학적 노출기준 등: | |
| 80-62-6 Methyl Methacrylate | |
| TLV (KR) | 단기간의값: 410 mg/m ³ , 100 ppm 장기간의값: 205 mg/m ³ , 50 ppm |
| IOELV (EU) | 단기간의값: 100 ppm 장기간의값: 50 ppm |
| PEL (US) | 장기간의값: 410 mg/m ³ , 100 ppm |
| REL (US) | 장기간의값: 410 mg/m ³ , 100 ppm |
| TLV (US) | 단기간의값: 410 mg/m ³ , 100 ppm 장기간의값: 205 mg/m ³ , 50 ppm DSEN |
| 67-64-1 Acetone, Reagent Grade | |
| TLV (KR) | 단기간의값: 1782 mg/m ³ , 750 ppm 장기간의값: 1188 mg/m ³ , 500 ppm |
| IOELV (EU) | 장기간의값: 1210 mg/m ³ , 500 ppm |
| PEL (US) | 장기간의값: 2400 mg/m ³ , 1000 ppm |
| REL (US) | 장기간의값: 590 mg/m ³ , 250 ppm |
| TLV (US) | 단기간의값: 1187 mg/m ³ , 500 ppm 장기간의값: 594 mg/m ³ , 250 ppm BEI |

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

노출 통제 통제 통제

개인 개인 보호 구

- **일반적 보호조치 및 위생조치:**

- 식료 품, 음 료 수 와 사 료 로 부 터 멀 리 떨 어 뜨 려 놓 는 다.
- 더 러 워 지 거 나 음 료 수 가 물 은 옷 은 즉 시 탈 의 한 다.
- 휴 식 전 이 나 작 업 이 끝 날 때 마 다 손 을 씻 는 다.
- 피 부 와 의 접 촉 을 피 한 다.
- 눈 과 피 부 와 의 접 촉 은 피 한 다.

- **호흡기 보호 보호**

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

(5 쪽에 계속)

물질안전보건자료

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보호 보호 보호



보호용 장갑

장갑재질은 제품 / 원료 / 조제를 통과시키지 않아야 하고, 내구성이 있어야 한다.
테스트를 하지 않았기 때문에 제품 / 조제 / 화학 혼합물에 적합한 장갑재질에 대한 추천이 없다.

투과 시간, 침투율과 저하를 고려해서 장갑 재료를 선택한다.

장갑의 재료

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

장갑 재료의 통과 시간

정확한 관통 시간은 보호 장갑 제조자에 의하여 인지되고, 준수되어야 한다.

보호 보호 보호



확조이는 보안경

9 물리화학적 특성

기본 정보: 물리화학적 특성에 대한 정보

| | |
|-----------------------|---|
| 일반정보 | |
| 외형 외형 외형 | 액체 |
| 물리적 상태 상태 | 색소가 없는 |
| 색: | 에스테르 종류의 |
| 냄새 냄새 냄새 | 알맞지 않다. |
| 후각역치 | |
| pH: | 알맞지 않다. |
| 상태변화 | |
| 녹는점/어는점: | 맞지 않는 |
| 초기 녹는 점과 끓는점 범위 범위 | 101 °C |
| 인화점: | 10 °C |
| 인화성 고체/기체/기체 | 해당 사항 없음. |
| 점화 온도: | 430 °C |
| 분해 온도/분해 온도 | 알맞지 않다. |
| 자기점화: | 이 제품은 자연 발화성이 없다. |
| 폭발 위험: | 이 제품은 폭발 위험성이 없지만, 폭발 가능성이 있는 증기화합물/공기화합물 의 형성 가능성이 있다. |
| 인화 인화 인화 폭발 위험의 상한/하한 | 하한 |
| 아래로: | 2.1 Vol % |

(6 쪽에 계속)

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(5 쪽부터 계속)

| | |
|----------------------------------|-------------------------------------|
| 위로위로위로 | 12.5 Vol % |
| · 증기압 의 경우 20 °C: | 47 hPa |
| 밀도 밀도 밀도 의 경우 20 °C: 비중 비중 비중 | 0.9365 g/cm ³ 알맞지 않다. |
| · 증기 밀도: | 알맞지 않다. |
| 증발 증발 증발 속도 | 알맞지 않다. |
| · 용해도: 물: | 완전히 혼합할 수 있는 |
| · n 옥탄올/물 분배계수: | 알맞지 않다. |
| 점도 점도 점도 | |
| 역학적성: | 알맞지 않다. |
| 동점성: | 알맞지 않다. |
| · 용매 내용물 유기 용매: VOC (EU) | 5.0 % 5.00 % |
| 고체 양 함량 함량 | 0.0 % |
| 기타 정보 정보 | 추가적인 정보가 존재하지 않습니다. |

10 안정성 및 반응성

- 반응성 추가적인 정보가 존재하지 않습니다.
- 화학적 안정성
- 화학적 안정성 및 유해 반응의 가능성 / 피해 예방 조건 조건에 따라 사용할 경우 해체는 없다
- 유해 반응 가능성 위험한 반응으로는 알려지지 않았다.
- 피해 예방 조건 조건에 대한 추가적인 정보가 존재하지 않습니다.
- 혼합 유해 물질 유해 물질에 대한 추가적인 정보가 존재하지 않습니다.
- 유해 분해 물질: 위험성 있는 분해 물들은 알려지지 않았다.

11 독성에 관한 정보

· 독성학적 영향에 대한 정보 정보
급성 급성 독성 독성

| |
|-----------------------------|
| · LD/LC50-수 체에 대한 분류 |
| 80-62-6 Methyl Methacrylate |
| 구간의 LD50 7,872 mg/kg (rat) |

- 일체적 자극 자극 효과
 - 피부 피부 자극성 또는 자극성: 피부와 접촉을 자극한다.
 - 심한 심한 자극성 또는 자극성: 무자극.
 - 감각 화: 피부 접촉을 통하여 감각 화 가능성이 있다.
 - 추가 적 인 독 성에 관 한 정보 정보
- 이 제품은 유럽 공동체의 공동 분류 원칙의 합법적인 절차에 근거하여 최근에 발효된 원고에서 아래 위험들의 사전 준비에 대하여 제시하고 있다.

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물질안전보건자료

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자극적인 (6 쪽부터계속)

12 환경에 미치는 영향

독성독성독성

- **수생독성:** 추가적인 정보가 존재하지 않습니다.
- **지속성 및 분해성** 추가적인 정보가 존재하지 않습니다.
- **환경 시스템에서의 행동:**
- **생물농축 잠재성** 추가적인 정보가 존재하지 않습니다.
- **토양내 이동성** 추가적인 정보가 존재하지 않습니다.
- **추가적인 생태학 정보정보**


일반 열안정성특징

- 수질오염등급 1 (자체등급분류): 약하게수질오염이된 희석시키지않은채대량으로지하수나, 하천으로그리고하수도망에도달하지않게한다.
 - PBT(잔류성, 생물농축성, 물질분해성) 및 vPvB(고 잔류성, 고 생물농축성, 물질분해성)에 해당하지 않음.
 - PBT(잔류성, 생물농축성, 물질분해성) 및 vPvB(고 잔류성, 고 생물농축성, 물질분해성)에 해당하지 않음.
 - vPvB(고 잔류성, 고 생물농축성, 물질분해성)에 해당하지 않음.
- 기타기타 **특징** 추가적인 정보가 존재하지 않습니다.

13 폐기시 주의사항

- **폐기물 처리 방법**
권고 권고 권고 할 쓰레기와 함께 처리되어서는 안 된다. 하수도망으로 유입되어서는 안 된다.
- **비위생적 포장 포장**
권고 권고 권고 의지 침에 입각 한 쓰레기 처리.
- **추천 세정제:** 경우에 따라서 세제가 첨가된 물

14 운송에 필요한 정보

| | |
|---|---------------------|
| 유엔 유엔 번호 | UN1866 |
| · ADR, IMDG, IATA | |
| 정확적 정정명 | 1866 RESIN SOLUTION |
| · ADR | RESIN SOLUTION |
| · IMDG, IATA | |
| 교통 위험 위험 클래스 | |
| · ADR, IMDG, IATA | |
|  | |
| 등급 등급 등급 | 3 발화성 용액 |
| · 위험 라벨라벨 | 3 |
| 용기 등급 | II |
| · ADR, IMDG, IATA | |

(8 쪽에계속)

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(7 쪽부터 계속)

| | |
|---|---|
| <ul style="list-style-type: none"> · 환경적 유해물질: · 이동체 특별 취급 조치 · 위험 유형 코드 · 번호 번호 · Stowage Category | <p>해당사항 없음.</p> <p>경고: 발화성용액 33 F-E,S-E B</p> |
| <ul style="list-style-type: none"> · MARPOL73/78(선박으로부터의 해양오염방지협약) 부속서2 및 IBC Code(국제선적화물 코드 코드) | <p>해당사항 없음.</p> |
| <ul style="list-style-type: none"> · ADR · Excepted quantities (EQ) | <p>5L Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml</p> |
| <ul style="list-style-type: none"> · IMDG · Limited quantities (LQ) · Excepted quantities (EQ) | <p>1L Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml</p> |
| <ul style="list-style-type: none"> · UN 번호 | <p>UN 1866 RESIN SOLUTION, 3, II</p> |

15 법적 규제 현황

- **산업안전보건법에 의해 규제**

| | |
|----------------------|--|
| 제조조제 중 금지물질: | |
| 어떠한 내용물도 목록화 되어있지 않다 | |

- **허가대상물질:**

| | |
|----------------------|--|
| | |
| 어떠한 내용물도 목록화 되어있지 않다 | |

- **관리대상유해물질:**

| | | |
|---------|------------------------|--|
| 67-64-1 | Acetone, Reagent Grade | |
|---------|------------------------|--|

해당 해당 물질 또는 혼합물에 대한 안전보건자료는 환경부 지정 화학물질 관리법을

| | | |
|---|-------------------------------|----------|
| · Korean Existing Chemical Inventory | | |
| 80-62-6 | Methyl Methacrylate | KE-25050 |
| 67-64-1 | Acetone, Reagent Grade | KE-29367 |
| 2082-81-7 | tetramethylene dimethacrylate | 98-3-958 |

(9 쪽에 계속)

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(8 쪽부터계속)

· **화학물질관리법**

· **사고대비물질**

어떠한내용물도목록화 되어있지않다

· **금지물질**

어떠한내용물도목록화 되어있지않다

· **제한물질**

어떠한내용물도목록화 되어있지않다

· **유독물질**

어떠한내용물도목록화 되어있지않다

· **허가물질**

어떠한내용물도목록화 되어있지않다

· **GHS02, GHS07**

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

· **그림문자**



GHS02 GHS07

· **신호어 위험**

· **상표상에명확히위험성이표시된성분:**

Methyl Methacrylate

유해 **유해유기화합물** 문구

- 고인화성 액체 및 증기
- 피부에 자극을 일으킴
- 눈에 심한 자극을 일으킴
- 알레르기성 피부 반응을 일으킬 수 있음
- 호흡기계 자극을 일으킬 수 있음

· **예방조치** 문구문구

- 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/샤워하 시오.
 - 눈에 묻으면 몇 분간 물로 조심해서 씻으시오. 가능하면콘택트렌즈를 제거하시오. 계속 씻 으시오.
 - 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, 하지만이보고서는생산특성 에관한보증은기술하지않았으며계약적인법률관계에기반을두고있지도않다

최초 **최초 작성일자:** 2018.06.20

개정 **개정 일자:** 2018.06.20

(10 쪽에계속)

물질안전보건자료

GHS에 따라라따

기압점: 2018.06.20

개정: 2018.06.20

제품명: GEOFIX KIT - RESIN

(9 쪽부터계속)

· 약어와 두문자어:

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

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

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

VOC: Volatile Organic Compounds (USA, EU)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

KR

Ficha de datos de seguridad

según 1907/2006/CE, Artículo 31

fecha de impresión 20.06.2018

Revisión: 20.06.2018

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

· **1.1 Identificador del producto**

· **Nombre comercial:** GEOFIX KIT - RESIN

· **Número del artículo:** 1257-R

· **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: info@emsdiasum.com

www.emsdiasum.com

Aname

C/ Perez Galdos no. 2

28693 Quijorna

Madrid, Spain

Tel: +34.91.816.89.50

Fax: +34.91.816.85.94

email: ventas@aname.es

· **Área de información:** Product safety department

· **1.4 Teléfono de emergencia:**

ChemTrec 1-800-424-9300 Contract CCN7661

1-703-527-3887

SECCIÓN 2: Identificación de los peligros

· **2.1 Clasificación de la sustancia o de la mezcla**

· **Clasificación con arreglo al Reglamento (CE) n° 1272/2008**



GHS02 llama

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



GHS07

Skin Irrit. 2 H315 Provoca irritación cutánea.

Eye Irrit. 2 H319 Provoca irritación ocular grave.

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

STOT SE 3 H335 Puede irritar las vías respiratorias.

· **2.2 Elementos de la etiqueta**

· **Etiquetado con arreglo al Reglamento (CE) n° 1272/2008**

El producto se ha clasificado y etiquetado de conformidad con el reglamento CLP.

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· **Pictogramas de peligro**

GHS02 GHS07

· **Palabra de advertencia Peligro**· **Componentes peligrosos a indicar en el etiquetaje:**

metacrilato de metilo

· **Indicaciones de peligro**

H225 Líquido y vapores muy inflamables.

H315 Provoca irritación cutánea.

H319 Provoca irritación ocular grave.

H317 Puede provocar una reacción alérgica en la piel.

H335 Puede irritar las vías respiratorias.

· **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.

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.

P305+P351+P338 EN CASO DE CONTACTO CON LOS OJOS: Aclarar cuidadosamente con agua durante varios minutos. Quitar las lentes de contacto, si lleva y resulta fácil. Seguir aclarando.

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: 80-62-6 EINECS: 201-297-1 | metacrilato de metilo ⚠ Flam. Liq. 2, H225; ⚠ Skin Irrit. 2, H315; Skin Sens. 1, H317; STOT SE 3, H335 | >50-≤100% |
| CAS: 67-64-1 EINECS: 200-662-2 | propanona ⚠ Flam. Liq. 2, H225; ⚠ Acute Tox. 4, H302; Acute Tox. 4, H312; Acute Tox. 4, H332; Eye Irrit. 2, H319; STOT SE 3, H336 | >2,5-≤10% |
| CAS: 2082-81-7 EINECS: 218-218-1 | dimetacrilato de tetrametileno ⚠ Skin Irrit. 2, H315; Eye Irrit. 2, H319; STOT SE 3, H335 | >2,5-≤10% |

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

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

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

· **En caso de con los ojos:**

Limpicar los ojos abiertos durante varios minutos con agua corriente y consultar un médico.

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

· **4.2 Principales síntomas y efectos, agudos y retardados**

No existen más datos relevantes disponibles.

· **4.3 Indicación de toda atención médica y de los tratamientos especiales que deban dispensarse inmediatamente**

No existen más datos relevantes disponibles.

SECCIÓN 5: Medidas de lucha contra incendios

· **5.1 Medios de extinción**

· **Sustancias extintoras apropiadas:**

CO₂, polvo extintor o chorro de agua rociada. Combatir incendios mayores con chorro de agua rociada o espuma resistente al alcohol.

· **5.2 Peligros específicos derivados de la sustancia o la mezcla**

No existen más datos relevantes disponibles.

· **5.3 Recomendaciones para el personal de lucha contra incendios**

· **Equipo especial de protección:** *No se requieren medidas especiales.*

SECCIÓN 6: Medidas en caso de vertido accidental

· **6.1 Precauciones personales, equipo de protección y procedimientos de emergencia**

Llevar puesto equipo de protección. Mantener alejadas las personas sin protección.

· **6.2 Precauciones relativas al medio ambiente:**

Diluir con mucha agua.

Evitar que penetre en la canalización /aguas de superficie /agua subterráneas.

· **6.3 Métodos y material de contención y de limpieza:**

Quitar con material absorbente (arena, kieselgur, aglutinante de ácidos, aglutinante universal, aserrín).

Asegurar suficiente ventilación.

· **6.4 Referencia a otras secciones**

Ver capítulo 7 para mayor información sobre una manipulación segura.

Ver capítulo 8 para mayor información sobre el equipo personal de protección.

Para mayor información sobre cómo desechar el producto, ver capítulo 13.

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SECCIÓN 7: Manipulación y almacenamiento

- **7.1 Precauciones para una manipulación segura**
Asegurar suficiente ventilación /aspiración en el puesto de trabajo.
Evitar la formación de aerosoles.
- **Prevención de incendios y explosiones:**
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:**

80-62-6 metacrilato de metilo

| | |
|-----|---|
| LEP | Valor de corta duración: 100 ppm Valor de larga duración: 50 ppm Sen, VLI |
|-----|---|

67-64-1 propanona

| | |
|-----|---|
| LEP | Valor de larga duración: 1210 mg/m ³ , 500 ppm VLB, VLI |
|-----|---|

- **Componentes con valores límite biológicos:**

67-64-1 propanona

| | |
|-----|---|
| VLB | 50 mg/l Muestra: orina Momento de Muestero: Final de la jornada laboral Indicador Biológico: Acetona |
|-----|---|

- **Indicaciones adicionales:**
Como base se han utilizado las listas vigentes en el momento de la elaboración.
- **8.2 Controles de la exposición**
- **Equipo de protección individual:**
- **Medidas generales de protección e higiene:**
Mantener alejado de alimentos, bebidas y alimentos para animales.
Quitarse de inmediato la ropa ensuciada o impregnada.
Lavarse las manos antes de las pausas y al final del trabajo.
Evitar el contacto con la piel.
Evitar el contacto con los ojos y la piel.

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· **Protección respiratoria:**

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

· **Protección de manos:**



Guantes de protección

El material del guante deberá ser impermeable y resistente al producto / sustancia / preparado. Ante la ausencia de tests específicos, no se puede recomendar ningún material específico para guantes de protección contra el producto / preparado / mezcla de sustancias químicas. Selección del material de los guantes en función de los tiempos de rotura, grado de permeabilidad y degradación.

· **Material de los guantes**

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

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

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

· **Protección de ojos:**



Gafas de protección herméticas

SECCIÓN 9: Propiedades físicas y químicas

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

· **Datos generales**

· **Aspecto:**

Forma: Líquido

Color: Incoloro

· **Olor:** Similar al de los ésteres

· **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: 101 °C

· **Punto de inflamación:** 10 °C

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

· **Temperatura de ignición:** 430 °C

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

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| | |
|---|--|
| · Temperatura de auto-inflamación: | <i>El producto no es autoinflamable.</i> |
| · Propiedades explosivas: | <i>El producto no es explosivo; sin embargo, pueden formarse mezclas explosivas de vapor / aire.</i> |
| · Límites de explosión: | |
| Inferior: | 2,1 Vol % |
| Superior: | 12,5 Vol % |
| · Presión de vapor a 20 °C: | 47 hPa |
| · Densidad a 20 °C: | 0,9365 g/cm ³ |
| · Densidad relativa | No determinado. |
| · Densidad de vapor | No determinado. |
| · Tasa de evaporación: | No determinado. |
| · Solubilidad en / miscibilidad con agua: | Completamente mezclable. |
| · Coefficiente de reparto: n-octanol/agua: | No determinado. |
| · Viscosidad: | |
| Dinámica: | No determinado. |
| Cinemática: | No determinado. |
| · Concentración del disolvente: | |
| Disolventes orgánicos: | 5,0 % |
| VOC (CE) | 5,00 % |
| Contenido de cuerpos sólidos: | 0,0 % |
| · 9.2 Otros datos | <i>No existen más datos relevantes disponibles.</i> |

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

80-62-6 metacrilato de metilo

Oral | LD50 | 7.872 mg/kg (rat)

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- **Efecto estimulante primario:**
- **Corrosión o irritación cutáneas**
Provoca irritación cutánea.
- **Lesiones o irritación ocular graves**
Provoca irritación ocular grave.
- **Sensibilización respiratoria o cutánea**
Puede provocar una reacción alérgica en la piel.
- **Efectos CMR (carcinogenicidad, mutagenicidad y toxicidad para la reproducción)**
- **Mutagenicidad en células germinales**
A la vista de los datos disponibles, no se cumplen los criterios de clasificación.
- **Carcinogenicidad** A la vista de los datos disponibles, no se cumplen los criterios de clasificación.
- **Toxicidad para la reproducción**
A la vista de los datos disponibles, no se cumplen los criterios de clasificación.
- **Toxicidad específica en determinados órganos (STOT) – exposición única**
Puede irritar las vías respiratorias.
- **Toxicidad específica en determinados órganos (STOT) – exposición repetida**
A la vista de los datos disponibles, no se cumplen los criterios de clasificación.
- **Peligro de aspiración**
A la vista de los datos disponibles, no se cumplen los criterios de clasificación.

SECCIÓN 12: Información ecológica

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

SECCIÓN 13: Consideraciones relativas a la eliminación

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

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SECCIÓN 14: Información relativa al transporte

| | |
|---|---|
| <ul style="list-style-type: none"> · 14.1 Número ONU · ADR, IMDG, IATA | <p style="text-align: right;">UN1866</p> |
| <ul style="list-style-type: none"> · 14.2 Designación oficial de transporte de las Naciones Unidas · ADR · IMDG, IATA | <p style="text-align: right;">1866 RESINA, SOLUCIONES DE RESIN SOLUTION</p> |
| <ul style="list-style-type: none"> · 14.3 Clase(s) de peligro para el transporte · ADR, IMDG, IATA | <div style="text-align: center;">  </div> <p style="text-align: right;">3 Líquidos inflamables 3</p> |
| <ul style="list-style-type: none"> · Clase · Etiqueta | <p style="text-align: right;">3 Líquidos inflamables 3</p> |
| <ul style="list-style-type: none"> · 14.4 Grupo de embalaje · ADR, IMDG, IATA | <p style="text-align: right;">II</p> |
| <ul style="list-style-type: none"> · 14.5 Peligros para el medio ambiente: | <p style="text-align: right;">No aplicable.</p> |
| <ul style="list-style-type: none"> · 14.6 Precauciones particulares para los usuarios · Número Kemler: · Número EMS: · Stowage Category | <p style="text-align: right;">Atención: Líquidos inflamables 33 F-E,<u>S-E</u> B</p> |
| <ul style="list-style-type: none"> · 14.7 Transporte a granel con arreglo al anexo II del Convenio MARPOL y el Código IBC | <p style="text-align: right;">No aplicable.</p> |
| <ul style="list-style-type: none"> · Transporte/datos adicionales: | |
| <ul style="list-style-type: none"> · ADR · Cantidades limitadas (LQ) · Cantidades exceptuadas (EQ) | <p style="text-align: right;">5L Código: E2 Cantidad neta máxima por envase interior: 30 ml Cantidad neta máxima por embalaje exterior: 500 ml</p> |
| <ul style="list-style-type: none"> · Categoría de transporte · Código de restricción del túnel | <p style="text-align: right;">2 D/E</p> |
| <ul style="list-style-type: none"> · IMDG · Limited quantities (LQ) · Excepted quantities (EQ) | <p style="text-align: right;">1L Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml</p> |
| <ul style="list-style-type: none"> · "Reglamentación Modelo" de la UNECE: | <p style="text-align: right;">UN 1866 RESINA, SOLUCIONES DE, 3, II</p> |

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SECCIÓN 15: Información reglamentaria

- **15.1 Reglamentación y legislación en materia de seguridad, salud y medio ambiente específicas para la sustancia o la mezcla**
 - **Directiva 2012/18/UE**
 - **Sustancias peligrosas nominadas - ANEXO I**
ninguno de los componentes está incluido en una lista
 - **Categoría Seveso 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.
 - H302 Nocivo en caso de ingestión.
 - H312 Nocivo en contacto con la piel.
 - H315 Provoca irritación cutánea.
 - H317 Puede provocar una reacción alérgica en la piel.
 - H319 Provoca irritación ocular grave.
 - H332 Nocivo en caso de inhalación.
 - H335 Puede irritar las vías respiratorias.
 - H336 Puede provocar somnolencia o vértigo.
- **Abreviaturas y acrónimos:**
 - ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
 - IMDG: International Maritime Code for Dangerous Goods
 - IATA: International Air Transport Association
 - GHS: Globally Harmonised System of Classification and Labelling of Chemicals
 - EINECS: European Inventory of Existing Commercial Chemical Substances
 - ELINCS: European List of Notified Chemical Substances
 - CAS: Chemical Abstracts Service (division of the American Chemical Society)
 - VOC: Volatile Organic Compounds (USA, EU)
 - LC50: Lethal concentration, 50 percent
 - LD50: Lethal dose, 50 percent
 - PBT: Persistent, Bioaccumulative and Toxic
 - vPvB: very Persistent and very Bioaccumulative
 - Flam. Liq. 2: Líquidos inflamables – Categoría 2
 - Acute Tox. 4: Toxicidad aguda – Categoría 4
 - Skin Irrit. 2: Corrosión o irritación cutáneas – Categoría 2
 - Eye Irrit. 2: Lesiones oculares graves o irritación ocular – Categoría 2
 - Skin Sens. 1: Sensibilización cutánea – Categoría 1
 - STOT SE 3: Toxicidad específica en determinados órganos (exposición única) – Categoría 3