

Safety Data Sheet

acc. to OSHA HCS

Printing date 12/06/2018

Reviewed on 12/06/2018

1 Identification

- **Product identifier**
- **Trade name:** M-BOND 610 ADHESIVE
- **Article number:** 50410-30A
- **Application of the substance / the mixture** Laboratory chemicals
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
Electron Microscopy Sciences
1560 Industry Road
USA-Hatfield, PA 19440
Tel: 215-412-8400 Fax: 215-412-8450
email: sgkcck@aol.com
www.emsdiasum.com
- **Information department:** Product safety department
- **Emergency telephone number:**
ChemTrec 1-800-424-9300 Contract CCN7661
1-703-527-3887

2 Hazard(s) identification

- **Classification of the substance or mixture**



GHS02 Flame

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



GHS08 Health hazard

Carc. 2 H351 Suspected of causing cancer.



GHS07

Acute Tox. 4 H302 Harmful if swallowed.

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



GHS08

- **Signal word** Danger

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Trade name: M-BOND 610 ADHESIVE

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

tetrahydrofuran

· **Hazard statements**

Highly flammable liquid and vapor.

Harmful if swallowed.

Causes skin irritation.

Causes serious eye irritation.

May cause an allergic skin reaction.

Suspected of causing cancer.

May cause respiratory irritation.

· **Precautionary statements**

Obtain special instructions before use.

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

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

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.

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

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 swallowed: Call a poison center/doctor if you feel unwell.

Rinse mouth.

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.

IF exposed or concerned: Get medical advice/attention.

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)**



Health = 2

Fire = 3

Reactivity = 0

· **HMIS-ratings (scale 0 - 4)**



Health = 2

Fire = 3

Reactivity = 0

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Trade name: **M-BOND 610 ADHESIVE**

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

3 Composition/information on ingredients

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

- **Dangerous components:**

| | | |
|----------|---------------------|-----------|
| 109-99-9 | tetrahydrofuran | >50-≤100% |
| 78-93-3 | METHYL ETHYL KETONE | >2.5-≤10% |

4 First-aid measures

- **Description of first aid measures**
- **General information:**
Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.
- **After inhalation:**
Supply fresh air 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. If symptoms persist, consult a doctor.
- **After swallowing:** Immediately call a doctor.
- **Information for doctor:**
- **Most important symptoms and effects, both acute and delayed** No further relevant information available.
- **Indication of any immediate medical attention and special treatment needed**
No further relevant information available.

5 Fire-fighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:** CO₂, sand, extinguishing powder. Do not use water.
- **For safety reasons unsuitable extinguishing agents:** Water with full jet
- **Special hazards arising from the substance or mixture** No further relevant information available.
- **Advice for firefighters**
- **Protective equipment:** No special measures required.

6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**
Wear protective equipment. Keep unprotected persons away.
- **Environmental precautions:**
Inform respective authorities in case of seepage into water course or sewage system.
Do not allow to enter sewers/ surface or ground water.
- **Methods and material for containment and cleaning up:**
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
Dispose contaminated material as waste according to item 13.

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

· **PAC-1:**

| | | |
|------------|----------------------|----------------------|
| 109-99-9 | tetrahydrofuran | 100 ppm |
| 28064-14-4 | EPOXY PHENOL NOVOLAC | 30 mg/m ³ |
| 78-93-3 | METHYL ETHYL KETONE | 200 ppm |

· **PAC-2:**

| | | |
|------------|----------------------|-----------------------|
| 109-99-9 | tetrahydrofuran | 500 ppm |
| 28064-14-4 | EPOXY PHENOL NOVOLAC | 330 mg/m ³ |
| 78-93-3 | METHYL ETHYL KETONE | 2700* ppm |

· **PAC-3:**

| | | |
|------------|----------------------|-------------------------|
| 109-99-9 | tetrahydrofuran | 5000* ppm |
| 28064-14-4 | EPOXY PHENOL NOVOLAC | 2,000 mg/m ³ |
| 78-93-3 | METHYL ETHYL KETONE | 4000* ppm |

7 Handling and storage

- **Handling:**
- **Precautions for safe handling**
Ensure good ventilation/exhaustion at the workplace.
Open and handle receptacle with care.
Prevent formation of aerosols.
- **Information about protection against explosions and fires:**
Keep ignition sources away - Do not smoke.
Protect from heat.
Protect against electrostatic charges.
- **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.
Protect from heat and direct sunlight.
- **Specific end use(s)** No further relevant information available.

8 Exposure controls/personal protection

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

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· **Control parameters**

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

109-99-9 tetrahydrofuran

| | |
|-----|--|
| PEL | Long-term value: 590 mg/m ³ , 200 ppm |
| REL | Short-term value: 735 mg/m ³ , 250 ppm Long-term value: 590 mg/m ³ , 200 ppm |
| TLV | Short-term value: 295 mg/m ³ , 100 ppm Long-term value: 147 mg/m ³ , 50 ppm Skin |

78-93-3 METHYL ETHYL KETONE

| | |
|-----|--|
| PEL | Long-term value: 590 mg/m ³ , 200 ppm |
| REL | Short-term value: 885 mg/m ³ , 300 ppm Long-term value: 590 mg/m ³ , 200 ppm |
| TLV | Short-term value: 885 mg/m ³ , 300 ppm Long-term value: 590 mg/m ³ , 200 ppm BEI |

· **Ingredients with biological limit values:**

109-99-9 tetrahydrofuran

| | |
|-----|---|
| BEI | 2 mg/L Medium: urine Time: end of shift Parameter: Tetrahydrofuran |
|-----|---|

78-93-3 METHYL ETHYL KETONE

| | |
|-----|---|
| BEI | 2 mg/L Medium: urine Time: end of shift Parameter: MEK |
|-----|---|

· **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 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

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- **Material of gloves**

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

- **Penetration time of glove material**

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

- **Eye protection:**



Tightly sealed goggles

9 Physical and chemical properties

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

- **General Information**

- **Appearance:**

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

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

- **Change in condition**

| | |
|-------------------------------------|------------------|
| Melting point/Melting range: | Undetermined. |
| Boiling point/Boiling range: | 66 °C (150.8 °F) |

- **Flash point:** -14 °C (6.8 °F)

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

- **Ignition temperature:** 320 °C (608 °F)

- **Decomposition temperature:** Not determined.

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

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

- **Explosion limits:**

| | |
|---------------|-----------|
| Lower: | 1.5 Vol % |
| Upper: | 12 Vol % |

- **Vapor pressure at 20 °C (68 °F):** 200 hPa (150 mm Hg)

- **Density at 20 °C (68 °F):** 2.4 g/cm³ (20.028 lbs/gal)

- **Relative density** Not determined.

- **Vapor density** Not determined.

- **Evaporation rate** Not determined.

- **Solubility in / Miscibility with**

Water: Not miscible or difficult to mix.

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

- **Viscosity:**

Dynamic: Not determined.

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| | |
|----------------------------|--|
| Kinematic: | Not determined. |
| · Solvent content: | |
| Organic solvents: | 70.1 % |
| VOC content: | 70.09 % |
| | 1,682.2 g/l / 14.04 lb/gal |
| 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:

109-99-9 tetrahydrofuran

| | | |
|------|------|-------------------|
| Oral | LD50 | 2,500 mg/kg (rat) |
|------|------|-------------------|

· Primary irritant effect:

- **on the skin:** Irritant to skin and mucous membranes.
- **on the eye:** 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:
Harmful
Irritant

· Carcinogenic categories

· IARC (International Agency for Research on Cancer)

None of the ingredients is listed.

· NTP (National Toxicology Program)

None of the ingredients is listed.

· OSHA-Ca (Occupational Safety Health Administration)

None of the ingredients is listed.

12 Ecological information

- **Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **Persistence and degradability** No further relevant information available.

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- **Behavior in environmental systems:**
- **Bioaccumulative potential** No further relevant information available.
- **Mobility in soil** No further relevant information available.
- **Ecotoxicological effects:**
- **Remark:** Toxic for fish
- **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.
Also poisonous for fish and plankton in water bodies.
Toxic for aquatic organisms
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **Other adverse effects** No further relevant information available.

13 Disposal considerations

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

14 Transport information

- | | |
|---|--|
| <ul style="list-style-type: none"> · UN-Number · DOT, ADR, IMDG, IATA | <p style="text-align: right;">UN1133</p> |
| <ul style="list-style-type: none"> · UN proper shipping name · DOT · ADR · IMDG, IATA | <p style="text-align: right;">Adhesives 1133 ADHESIVES, ENVIRONMENTALLY HAZARDOUS ADHESIVES</p> |
| <ul style="list-style-type: none"> · Transport hazard class(es) · DOT | <div style="text-align: center;">  </div> |
| <ul style="list-style-type: none"> · Class · Label | <p style="text-align: right;">3 Flammable liquids 3</p> |
| <ul style="list-style-type: none"> · ADR | <div style="text-align: center;">   </div> |
| <ul style="list-style-type: none"> · Class | <p style="text-align: right;">3 Flammable liquids</p> |

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Trade name: M-BOND 610 ADHESIVE

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· **Label** 3· **IMDG, IATA**

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

· **Packing group**
 · **DOT, ADR, IMDG, IATA** II

· **Environmental hazards:**
 · **Special marking (ADR):** Symbol (fish and tree)

· **Special precautions for user** Warning: Flammable liquids
 · **Danger code (Kemler):** 33
 · **EMS Number:** F-E,S-D
 · **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 1133 ADHESIVES, 3, II, ENVIRONMENTALLY HAZARDOUS

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):**

78-93-3 | METHYL ETHYL KETONE

· **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)**

| | | |
|----------|---------------------|----|
| 109-99-9 | tetrahydrofuran | SC |
| 78-93-3 | METHYL ETHYL KETONE | I |

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

| | | |
|----------|-----------------|----|
| 109-99-9 | tetrahydrofuran | A3 |
|----------|-----------------|----|

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

None of the ingredients is listed.

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

· **Hazard pictograms**



GHS02 GHS07 GHS08

· **Signal word** *Danger*

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

tetrahydrofuran

· **Hazard statements**

Highly flammable liquid and vapor.

Harmful if swallowed.

Causes skin irritation.

Causes serious eye irritation.

May cause an allergic skin reaction.

Suspected of causing cancer.

May cause respiratory irritation.

· **Precautionary statements**

Obtain special instructions before use.

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

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

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.

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

Use only outdoors or in a well-ventilated area.

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

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Wear protective gloves/protective clothing/eye protection/face protection.
 If swallowed: Call a poison center/doctor if you feel unwell.
 Rinse mouth.
 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.
 IF exposed or concerned: Get medical advice/attention.
 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** 12/06/2018 / -

· **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

Acute Tox. 4: Acute toxicity – Category 4

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

Carc. 2: Carcinogenicity – Category 2

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

Safety Data Sheet

according to WHS Regulations

Printing date 06.12.2018

Revision: 06.12.2018

1 Identification

- **Product identifier**
- **Trade name:** M-BOND 610 ADHESIVE
- **Article number:** 50410-30A
- **Relevant identified uses of the substance or mixture and uses advised against**
No further relevant information available.
- **Application of the substance / the mixture** Laboratory chemicals
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
Electron Microscopy Sciences
1560 Industry Road
USA-Hatfield, PA 19440
Tel: 215-412-8400 Fax: 215-412-8450
email: sgkcck@aol.com
www.emsdiasum.com
- ProSciTech Pty Ltd
11 Carlton Street, Kirwan QLD 4817 Australia
Telephone Number: (07) 4773 9444 - 8:30am - 5:00pm, Monday to Friday (excluding Public Holidays)
Emergency Contact: (07) 4773 9444 - 8:30am - 5:00pm, Monday to Friday (excluding Public Holidays)
Website: ems.proscitech.com
- Emgrid Australia Pty. Ltd.
P.O. Box 118
The Patch VIC 3792
Australia
Tel: 03 9752 1785
Fax: 03 9752 1784
Website: www.emgrid.com.au
- **Further information obtainable from:** Product safety department
- **Emergency telephone number:**
ChemTrec 1-800-424-9300 Contract CCN7661
1-703-527-3887

2 Hazard(s) Identification

- **Classification of the substance or mixture**



GHS02 flame

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



GHS08 health hazard

Carc. 2 H351 Suspected of causing cancer.



GHS07

Acute Tox. 4 H302 Harmful if swallowed.

Skin Irrit. 2 H315 Causes skin irritation.

Eye Irrit. 2A H319 Causes serious eye irritation.

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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 labelled according to the Globally Harmonised System (GHS).

· **Hazard pictograms**



GHS02 GHS07 GHS08

· **Signal word** *Danger*

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

tetrahydrofuran

· **Hazard statements**

Highly flammable liquid and vapour.

Harmful if swallowed.

Causes skin irritation.

Causes serious eye irritation.

May cause an allergic skin reaction.

Suspected of causing cancer.

May cause respiratory irritation.

· **Precautionary statements**

Obtain special instructions before use.

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

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

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.

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

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

Rinse mouth.

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.

IF exposed or concerned: Get medical advice/attention.

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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according to WHS Regulations

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- **Additional information:**
May form explosive peroxides.
- **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:**

| | | |
|----------|---------------------|-----------|
| 109-99-9 | tetrahydrofuran | >50-≤100% |
| 78-93-3 | METHYL ETHYL KETONE | >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**
- **General information:**
Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.
- **After inhalation:**
Supply fresh air 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. If symptoms persist, consult a doctor.
- **After swallowing:** Call for a doctor immediately.
- **Information for doctor:**
- **Most important symptoms and effects, both acute and delayed** No further relevant information available.
- **Indication of any immediate medical attention and special treatment needed**
No further relevant information available.

5 Fire Fighting Measures

- **Extinguishing media**
- **Suitable extinguishing agents:** CO₂, sand, extinguishing powder. Do not use water.
- **For safety reasons unsuitable extinguishing agents:** Water with full jet
- **Special hazards arising from the substance or mixture** No further relevant information available.
- **Advice for firefighters**
- **Protective equipment:** No special measures required.

6 Accidental Release Measures

- **Personal precautions, protective equipment and emergency procedures**
Wear protective equipment. Keep unprotected persons away.
- **Environmental precautions:**
Inform respective authorities in case of seepage into water course or sewage system.
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).
Dispose contaminated material as waste according to item 13.
Ensure adequate ventilation.
Do not flush with water or aqueous cleansing agents
- **Reference to other sections**
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

7 Handling and Storage

- **Handling:**
- **Precautions for safe handling**
Ensure good ventilation/exhaustion at the workplace.
Open and handle receptacle with care.
Prevent formation of aerosols.
- **Information about fire - and explosion protection:**
Keep ignition sources away - Do not smoke.
Protect from heat.
Protect against electrostatic charges.
- **Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** Store in a cool location.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:**
Keep container tightly sealed.
Store in cool, dry conditions in well sealed receptacles.
Protect from heat and direct sunlight.
- **Specific end use(s)** No further relevant information available.

8 Exposure controls 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:**

109-99-9 tetrahydrofuran

NES Long-term value: 295 mg/m³, 100 ppm
Sk

WES Long-term value: 295 mg/m³, 100 ppm
Sk

78-93-3 METHYL ETHYL KETONE

NES Short-term value: 890 mg/m³, 300 ppm
Long-term value: 445 mg/m³, 150 ppm

WES Short-term value: 890 mg/m³, 300 ppm
Long-term value: 445 mg/m³, 150 ppm

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

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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 eyes and skin.
- **Respiratory protection:**
In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device.
- **Protection of hands:**



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

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

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



Tightly sealed goggles

9 Physical and Chemical Properties

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

- **General Information**

- **Appearance:**

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

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

- **Change in condition**

| | |
|---|---------------|
| Melting point/freezing point: | Undetermined. |
| Initial boiling point and boiling range: | 66 °C |

- **Flash point:** -14 °C

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

- **Ignition temperature:** 320 °C

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| | |
|--|--|
| · Decomposition temperature: | Not determined. |
| · Auto-ignition temperature: | Product is not selfigniting. |
| · Explosive properties: | May form explosive peroxides. |
| · Explosion limits: | |
| Lower: | 1.5 Vol % |
| Upper: | 12 Vol % |
| · Vapour pressure at 20 °C: | 200 hPa |
| · Density at 20 °C: | 2.4 g/cm ³ |
| · Relative density | Not determined. |
| · Vapour density | Not determined. |
| · Evaporation rate | Not determined. |
| · Solubility in / Miscibility with water: | Not miscible or difficult to mix. |
| · Partition coefficient: n-octanol/water: | Not determined. |
| · Viscosity: | |
| Dynamic: | Not determined. |
| Kinematic: | Not determined. |
| · Solvent content: | |
| Organic solvents: | 70.1 % |
| VOC (EC) | 70.09 % |
| · 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:**

109-99-9 tetrahydrofuran

Oral LD50 2,500 mg/kg (rat)

- **Primary irritant effect:**
- **Skin corrosion/irritation** Irritant to skin and mucous membranes.
- **Serious eye damage/irritation** Irritating effect.
- **Respiratory or skin sensitisation** Sensitisation possible through skin contact.

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- **Additional toxicological information:**
The product shows the following dangers according to the calculation method of the General EU Classification Guidelines for Preparations as issued in the latest version:
Harmful
Irritant
- **CMR effects (carcinogenity, mutagenicity and toxicity for reproduction)**
Carc. 2

12 Ecological Information

- **Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **Persistence and degradability** No further relevant information available.
- **Behaviour in environmental systems:**
- **Bioaccumulative potential** No further relevant information available.
- **Mobility in soil** No further relevant information available.
- **Ecotoxicological effects:**
- **Remark:** Toxic for fish
- **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.
Also poisonous for fish and plankton in water bodies.
Toxic for aquatic organisms
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **Other adverse effects** No further relevant information available.

13 Disposal considerations

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

14 Transport information

- | | |
|----------------------------------|---|
| · UN-Number | |
| · ADG, IMDG, IATA | UN1133 |
| · UN proper shipping name | |
| · ADG | 1133 ADHESIVES, ENVIRONMENTALLY HAZARDOUS |
| · IMDG, IATA | ADHESIVES |

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· Transport hazard class(es)

· ADG



· Class

3 Flammable liquids.

· Label

3

· IMDG, IATA



· Class

3 Flammable liquids.

· Label

3

· Packing group

· ADG, IMDG, IATA

II

· Environmental hazards:

· Special marking (ADG):

Symbol (fish and tree)

· Special precautions for user

Warning: Flammable liquids.

· Danger code (Kemler):

33

· EMS Number:

F-E,S-D

· 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 1133 ADHESIVES, 3, II, ENVIRONMENTALLY HAZARDOUS

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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**

78-93-3 METHYL ETHYL KETONE

S5

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

· **Hazard pictograms**



GHS02

GHS07

GHS08

· **Signal word** *Danger*

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

tetrahydrofuran

· **Hazard statements**

Highly flammable liquid and vapour.

Harmful if swallowed.

Causes skin irritation.

Causes serious eye irritation.

May cause an allergic skin reaction.

Suspected of causing cancer.

May cause respiratory irritation.

· **Precautionary statements**

Obtain special instructions before use.

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

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

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.

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

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

Rinse mouth.

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.

IF exposed or concerned: Get medical advice/attention.

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.

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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**
 - E2 Hazardous to the Aquatic Environment
 - P5c FLAMMABLE LIQUIDS
- **Qualifying quantity (tonnes) for the application of lower-tier requirements** 200 t
- **Qualifying quantity (tonnes) for the application of upper-tier requirements** 500 t
- **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

16 Other information

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

· **Abbreviations and acronyms:**

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

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

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

VOC: Volatile Organic Compounds (USA, EU)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

Flam. Liq. 2: Flammable liquids – Category 2

Acute Tox. 4: Acute toxicity – Category 4

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

Carc. 2: Carcinogenicity – Category 2

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

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1 Identification

- **Product identifier**
- **Trade name:** M-BOND 610 ADHESIVE
- **Article number:** 50410-30A
- **Application of the substance / the mixture** Laboratory chemicals
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
Electron Microscopy Sciences
1560 Industry Road
USA-Hatfield, PA 19440
Tel: 215-412-8400 Fax: 215-412-8450
email: sgkcck@aol.com
www.emsdiasum.com
- **Information department:** Product safety department
- **Emergency telephone number:**
ChemTrec 1-800-424-9300 Contract CCN7661
1-703-527-3887

2 Hazard(s) identification

- **Classification of the substance or mixture**



GHS02 Flame

Flammable Liquids - Category 2

H225 Highly flammable liquid and vapour.



GHS08 Health hazard

Carcinogenicity – Category 2

H351 Suspected of causing cancer.



GHS07

Acute Toxicity (Oral) - Category 4

H302 Harmful if swallowed.

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 -
Category 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



GHS08

- **Signal word** Danger

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Trade name: M-BOND 610 ADHESIVE

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

tetrahydrofuran

· **Hazard statements**

Highly flammable liquid and vapour.

Harmful if swallowed.

Causes skin irritation.

Causes serious eye irritation.

May cause an allergic skin reaction.

Suspected of causing cancer.

May cause respiratory irritation.

· **Precautionary statements**

Obtain special instructions before use.

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

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

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.

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

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 swallowed: Call a poison center/doctor if you feel unwell.

Rinse mouth.

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.

IF exposed or concerned: Get medical advice/attention.

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.

· **Classification system:**

· **NFPA ratings (scale 0 - 4)**



Health = 2

Fire = 3

Reactivity = 0

· **HMIS-ratings (scale 0 - 4)**



Health = 2

Fire = 3

Reactivity = 0

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3 Composition/information on ingredients

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

- **Dangerous components:**

| | | |
|----------|---------------------|--------------|
| 109-99-9 | tetrahydrofuran | 45-70% w/w * |
| 78-93-3 | METHYL ETHYL KETONE | 5-10% w/w * |

* Actual concentration ranges are withheld as a trade secret.

4 First-aid measures

- **Description of first aid measures**
- **General information:**
Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.
- **After inhalation:**
Supply fresh air 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. If symptoms persist, consult a doctor.
- **After swallowing:** Immediately call a doctor.
- **Information for doctor:**
- **Most important symptoms and effects, both acute and delayed** No further relevant information available.
- **Indication of any immediate medical attention and special treatment needed**
No further relevant information available.

5 Fire-fighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:** CO₂, sand, extinguishing powder. Do not use water.
- **For safety reasons unsuitable extinguishing agents:** Water with full jet
- **Special hazards arising from the substance or mixture** No further relevant information available.
- **Advice for firefighters**
- **Protective equipment:** No special measures required.

6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**
Wear protective equipment. Keep unprotected persons away.
- **Environmental precautions:**
Inform respective authorities in case of seepage into water course or sewage system.
Do not allow to enter sewers/ surface or ground water.
- **Methods and material for containment and cleaning up:**
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
Dispose contaminated material as waste according to item 13.
Ensure adequate ventilation.
Do not flush with water or aqueous cleansing agents
- **Reference to other sections**
See Section 7 for information on safe handling.

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See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

7 Handling and storage

- **Handling:**
- **Precautions for safe handling**
 Ensure good ventilation/exhaustion at the workplace.
 Open and handle receptacle with care.
 Prevent formation of aerosols.
- **Information about protection against explosions and fires:**
 Keep ignition sources away - Do not smoke.
 Protect from heat.
 Protect against electrostatic charges.
- **Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** Store in a cool location.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:**
 Keep receptacle tightly sealed.
 Store in cool, dry conditions in well sealed receptacles.
 Protect from heat and direct sunlight.
- **Specific end use(s)** No further relevant information available.

8 Exposure controls/personal protection

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

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

109-99-9 tetrahydrofuran

EL Short-term value: 100 ppm
 Long-term value: 50 ppm
 Skin

EV Short-term value: 100 ppm
 Long-term value: 50 ppm
 Skin

78-93-3 METHYL ETHYL KETONE

EL Short-term value: 100 ppm
 Long-term value: 50 ppm

EV Short-term value: 885 mg/m³, 300 ppm
 Long-term value: 590 mg/m³, 200 ppm

- **Additional information:** The lists that were valid during the creation were used as basis.
- **Exposure controls**
- **Personal protective equipment:**
- **General protective and hygienic measures:**
 Keep away from foodstuffs, beverages and feed.
 Immediately remove all soiled and contaminated clothing.
 Wash hands before breaks and at the end of work.
 Avoid contact with the eyes and skin.

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Trade name: M-BOND 610 ADHESIVE

(Contd. of page 4)

- **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: | Ether-like |
| Odor threshold: | Not determined. |

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

- **Change in condition**

| | |
|-------------------------------------|---------------|
| Melting point/Melting range: | Undetermined. |
| Boiling point/Boiling range: | 66 °C |

- **Flash point:** -14 °C

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

- **Ignition temperature:** 320 °C

- **Decomposition temperature:** Not determined.

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

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

- **Explosion limits:**

| | |
|---------------|-----------|
| Lower: | 1.5 Vol % |
|---------------|-----------|

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Trade name: M-BOND 610 ADHESIVE

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| | |
|---|--|
| Upper: | 12 Vol % |
| · Vapor pressure at 20 °C: | 200 hPa |
| · Density at 20 °C: | 2.4 g/cm ³ |
| · Relative density | Not determined. |
| · Vapor density | Not determined. |
| · Evaporation rate | Not determined. |
| · Solubility in / Miscibility with Water: | Not miscible or difficult to mix. |
| · Partition coefficient (n-octanol/water): | Not determined. |
| · Viscosity: | |
| Dynamic: | Not determined. |
| Kinematic: | Not determined. |
| · Solvent content: | |
| Organic solvents: | 70.1 % |
| 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:**

109-99-9 tetrahydrofuran

| | | |
|------|------|-------------------|
| Oral | LD50 | 2,500 mg/kg (rat) |
|------|------|-------------------|

- **Primary irritant effect:**
- **on the skin:** Irritant to skin and mucous membranes.
- **on the eye:** 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:
Harmful
Irritant

- **Carcinogenic categories**

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

None of the ingredients is listed.

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Safety Data Sheet

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· **NTP (National Toxicology Program)**

None of the ingredients is listed.


12 Ecological information

- **Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **Persistence and degradability** No further relevant information available.
- **Behavior in environmental systems:**
- **Bioaccumulative potential** No further relevant information available.
- **Mobility in soil** No further relevant information available.
- **Ecotoxicological effects:**
- **Remark:** Toxic for fish
- **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.
 Also poisonous for fish and plankton in water bodies.
 Toxic for aquatic organisms
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **Other adverse effects** No further relevant information available.

13 Disposal considerations

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

14 Transport information

- | | |
|-------------------------------------|---|
| · UN-Number | |
| · DOT, TDG, IMDG, IATA | UN1133 |
| · UN proper shipping name | |
| · DOT | Adhesives |
| · TDG | 1133 ADHESIVES, ENVIRONMENTALLY HAZARDOUS |
| · IMDG, IATA | ADHESIVES |
| · Transport hazard class(es) | |
| · DOT | |
| |  |
| · Class | 3 Flammable liquids |

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Trade name: M-BOND 610 ADHESIVE

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- **Label** 3
- **TDG (Transport dangerous goods):**



- **Class** 3 Flammable liquids
- **Label** 3

- **IMDG, IATA**



- **Class** 3 Flammable liquids
- **Label** 3

- **Packing group**
- **DOT, TDG, IMDG, IATA** II

- **Environmental hazards:**
- **Special marking (TDG):** Symbol (fish and tree)

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

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

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

- **UN "Model Regulation":** UN 1133 ADHESIVES, 3, II, ENVIRONMENTALLY HAZARDOUS

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Trade name: M-BOND 610 ADHESIVE

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15 Regulatory information

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

· **Sara**

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

None of the ingredients is listed.

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

78-93-3 METHYL ETHYL KETONE

· **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%)**

109-99-9 tetrahydrofuran

78-93-3 METHYL ETHYL KETONE

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

· **Hazard pictograms**



GHS02

GHS07

GHS08

· **Signal word** *Danger*

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

tetrahydrofuran

· **Hazard statements**

Highly flammable liquid and vapour.

Harmful if swallowed.

Causes skin irritation.

Causes serious eye irritation.

May cause an allergic skin reaction.

Suspected of causing cancer.

May cause respiratory irritation.

· **Precautionary statements**

Obtain special instructions before use.

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

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

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.

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

Use only outdoors or in a well-ventilated area.

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

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Reviewed on 12/06/2018

Trade name: M-BOND 610 ADHESIVE

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

If swallowed: Call a poison center/doctor if you feel unwell.

Rinse mouth.

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.

IF exposed or concerned: Get medical advice/attention.

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 the latest revision of the safety data sheet** 12/06/2018 / -

· **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)

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 06.12.2018

Revision: 06.12.2018

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

- **1.1 Product identifier**
- **Trade name:** M-BOND 610 ADHESIVE
- **Article number:** 50410-30A
- **1.2 Relevant identified uses of the substance or mixture and uses advised against**
No further relevant information available.
- **Application of the substance / the mixture** Laboratory chemicals
- **1.3 Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
Electron Microscopy Sciences
1560 Industry Road
USA-Hatfield, PA 19440
Tel: 215-412-8400 Fax: 215-412-8450
email: sgkcck@aol.com
www.emsdiasum.com
- **Further information obtainable from:** Product safety department
- **1.4 Emergency telephone number:**
ChemTrec 1-800-424-9300 Contract CCN7661
1-703-527-3887

SECTION 2: Hazards identification

- **2.1 Classification of the substance or mixture**
- **Classification according to Regulation (EC) No 1272/2008**



GHS02 flame

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



GHS08 health hazard

Carc. 2 H351 Suspected of causing cancer.



GHS09 environment

Aquatic Chronic 2 H411 Toxic to aquatic life with long lasting effects.



GHS07

Acute Tox. 4 H302 Harmful if swallowed.
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.

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Trade name: M-BOND 610 ADHESIVE

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· Hazard pictograms



GHS02 GHS07 GHS08 GHS09

· Signal word *Danger*

· Hazard-determining components of labelling:

tetrahydrofuran

· Hazard statements

H225 Highly flammable liquid and vapour.

H302 Harmful if swallowed.

H315 Causes skin irritation.

H319 Causes serious eye irritation.

H317 May cause an allergic skin reaction.

H351 Suspected of causing cancer.

H335 May cause respiratory irritation.

H411 Toxic to aquatic life with long lasting effects.

· 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.

· Additional information:

EUH019 May form explosive peroxides.

· 2.3 Other hazards

· Results of PBT and vPvB assessment

· PBT: Not applicable.

· vPvB: Not applicable.

SECTION 3: Composition/information on ingredients

· 3.2 Chemical characterisation: Mixtures

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

· Dangerous components:

| | | |
|------------------------------------|---|-----------|
| CAS: 109-99-9 EINECS: 203-726-8 | tetrahydrofuran Flam. Liq. 2, H225; Carc. 2, H351; Eye Irrit. 2, H319; STOT SE 3, H335 | >50-≤100% |
| CAS: 78-93-3 EINECS: 201-159-0 | METHYL ETHYL KETONE Flam. Liq. 2, H225; Eye Irrit. 2, H319; STOT SE 3, H336 | >2.5-≤10% |

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

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SECTION 4: First aid measures

· 4.1 Description of first aid measures

· General information:

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

· After inhalation:

Supply fresh air 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. If symptoms persist, consult a doctor.

· After swallowing: Call for a doctor immediately.

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

· 4.3 Indication of any immediate medical attention and special treatment needed

No further relevant information available.

SECTION 5: Firefighting measures

· 5.1 Extinguishing media

· Suitable extinguishing agents: CO₂, sand, extinguishing powder. Do not use water.

· For safety reasons unsuitable extinguishing agents: Water with full jet

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

· 5.3 Advice for firefighters

· Protective equipment: No special measures required.

SECTION 6: Accidental release measures

· 6.1 Personal precautions, protective equipment and emergency procedures

Wear protective equipment. Keep unprotected persons away.

· 6.2 Environmental precautions:

Inform respective authorities in case of seepage into water course or sewage system.

Do not allow to enter sewers/ surface or ground water.

· 6.3 Methods and material for containment and cleaning up:

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).

Dispose contaminated material as waste according to item 13.

Ensure adequate ventilation.

Do not flush with water or aqueous cleansing agents

· 6.4 Reference to other sections

See Section 7 for information on safe handling.

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

SECTION 7: Handling and storage

· 7.1 Precautions for safe handling

Ensure good ventilation/exhaustion at the workplace.

Open and handle receptacle with care.

Prevent formation of aerosols.

· Information about fire - and explosion protection:

Keep ignition sources away - Do not smoke.

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Protect from heat.

Protect against electrostatic charges.

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

· **Storage:**

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

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

· **Further information about storage conditions:**

Keep container tightly sealed.

Store in cool, dry conditions in well sealed receptacles.

Protect from heat and direct sunlight.

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

SECTION 8: Exposure controls/personal protection

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

· **8.1 Control parameters**

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

109-99-9 tetrahydrofuran

| | |
|-----|---|
| WEL | Short-term value: 300 mg/m ³ , 100 ppm |
| | Long-term value: 150 mg/m ³ , 50 ppm |
| | Sk |

78-93-3 METHYL ETHYL KETONE

| | |
|-----|---|
| WEL | Short-term value: 899 mg/m ³ , 300 ppm |
| | Long-term value: 600 mg/m ³ , 200 ppm |
| | Sk, BMGV |

· **Ingredients with biological limit values:**

78-93-3 METHYL ETHYL KETONE

| | |
|------|---------------------------|
| BMGV | 70 µmol/L |
| | Medium: urine |
| | Sampling time: post shift |
| | Parameter: butan-2-one |

· **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 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.

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(Contd. of page 4)

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

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

· **Material of gloves**

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

· **Penetration time of glove material**

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

· **Eye protection:**



Tightly sealed goggles

SECTION 9: Physical and chemical properties

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

· **General Information**

· **Appearance:**

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

· **pH-value:** Not determined.

· **Change in condition**

| | |
|---|---------------|
| · Melting point/freezing point: | Undetermined. |
| · Initial boiling point and boiling range: | 66 °C |

· **Flash point:** -14 °C

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

· **Ignition temperature:** 320 °C

· **Decomposition temperature:** Not determined.

· **Auto-ignition temperature:** Product is not selfigniting.

· **Explosive properties:** May form explosive peroxides.

· **Explosion limits:**

| | |
|-----------------|-----------|
| · Lower: | 1.5 Vol % |
| · Upper: | 12 Vol % |

· **Vapour pressure at 20 °C:** 200 hPa

| | |
|----------------------------|-----------------------|
| · Density at 20 °C: | 2.4 g/cm ³ |
| · Relative density | Not determined. |
| · Vapour density | Not determined. |
| · Evaporation rate | Not determined. |

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

Not miscible or difficult to mix.

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- | | |
|--|--|
| · Partition coefficient: n-octanol/water: | Not determined. |
| · Viscosity: | |
| Dynamic: | Not determined. |
| Kinematic: | Not determined. |
| · Solvent content: | |
| Organic solvents: | 70.1 % |
| VOC (EC) | 70.09 % |
| · 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**
Harmful if swallowed.

· LD/LC50 values relevant for classification:

109-99-9 tetrahydrofuran

| | | |
|------|------|-------------------|
| Oral | LD50 | 2,500 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**
Suspected of causing cancer.
- **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.

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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.
- **Ecotoxicological effects:**
- **Remark:** Toxic for fish
- **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.
Also poisonous for fish and plankton in water bodies.
Toxic for aquatic organisms
- **12.5 Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **12.6 Other adverse effects** No further relevant information available.

SECTION 13: Disposal considerations

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

SECTION 14: Transport information

- | | |
|---|---|
| · 14.1 UN-Number | |
| · ADR, IMDG, IATA | UN1133 |
| · 14.2 UN proper shipping name | |
| · ADR | 1133 ADHESIVES, ENVIRONMENTALLY HAZARDOUS |
| · IMDG, IATA | ADHESIVES |
| · 14.3 Transport hazard class(es) | |
| · ADR | |
|  | |
| · Class | 3 Flammable liquids. |
| · Label | 3 |

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· **IMDG, IATA**

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

· **14.4 Packing group**
· **ADR, IMDG, IATA** II

· **14.5 Environmental hazards:**
· **Special marking (ADR):** Symbol (fish and tree)

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

· **14.7 Transport in bulk according to Annex II of Marpol and the IBC Code** Not applicable.

· **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 1133 ADHESIVES, 3, II, ENVIRONMENTALLY HAZARDOUS

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**
E2 Hazardous to the Aquatic Environment
P5c FLAMMABLE LIQUIDS
- **Qualifying quantity (tonnes) for the application of lower-tier requirements** 200 t
- **Qualifying quantity (tonnes) for the application of upper-tier requirements** 500 t
- **REGULATION (EC) No 1907/2006 ANNEX XVII** Conditions of restriction: 3

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· **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.

H319 Causes serious eye irritation.

H335 May cause respiratory irritation.

H336 May cause drowsiness or dizziness.

H351 Suspected of causing cancer.

· **Abbreviations and acronyms:**

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

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

GHS: Globally Harmonised System of Classification and Labelling of Chemicals

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

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

VOC: Volatile Organic Compounds (USA, EU)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

Flam. Liq. 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

Carc. 2: Carcinogenicity – Category 2

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

Aquatic Chronic 2: Hazardous to the aquatic environment - long-term aquatic hazard – Category 2

化学品安全技术说明书

根据 GB/T 16483-2008, GB/T 17519-2013

打印日期 2018.12.06

在 2018.12.06 审核

1 化学品及企业标识

- **产品识别者**
- 化学品中文(英文)名称, 化学品俗名或商品名: M-BOND 610 ADHESIVE
- 商品编号: 50410-30A
- 相应纯物质或者混合物的相关下位用途及禁止用途 无相关详细资料。
- 原材料的应用/准备工作进行 实验室化学物
- **安全技术说明书内供应商详细信息**
- **企业名称:**
Electron Microscopy Sciences
1560 Industry Road
USA-Hatfield, PA 19440
Tel: 215-412-8400 Fax: 215-412-8450
email: sgkcck@aol.com
www.emsdiasum.com
- **可获取更多资料的部门:** Product safety department
- **紧急联系电话号码:**
ChemTrec 1-800-424-9300 Contract CCN7661
1-703-527-3887

2 危险性概述

· 紧急情况概述:

无色的, 液体, 高度易燃液体和蒸气。 吞咽有害。 造成皮肤刺激。 造成严重眼刺激。 可能导致皮肤过敏反应。 怀疑会致癌。 可引起呼吸道刺激。 对水生生物有毒并具有长期持续影响。

· GHS危险性类别



火焰

易燃液体 第2类

H225 高度易燃液体和蒸气



健康危害

致癌性 第2类

H351 怀疑会致癌



环境

对水环境的危害(慢性) 第2类

H411 对水生生物有毒并具有长期持续影响



急性毒性(经口) 第4类

H302 吞咽有害

皮肤腐蚀/刺激 第2类

H315 造成皮肤刺激

严重眼损伤/眼刺激 类别2A

H319 造成严重眼刺激

敏化(皮肤) 第1类

H317 可能导致皮肤过敏反应

特定靶器官系统毒性(单次接触) 第3类 H335 可引起呼吸道刺激

· 标签因素

- **GHS卷标元素** 本产品根据化学物质分类及标记全球协调制度(GHS)进行了分类及标记。

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化学品中文(英文)名称, 化学品俗名或商品名 : M-BOND 610 ADHESIVE

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· 图示



GHS02 GHS07 GHS08 GHS09

· 名称 危险

· 标签上辨别危险的成份:

氧杂环戊烷

· 危险字句

高度易燃液体和蒸气

吞咽有害

造成皮肤刺激

造成严重眼刺激

可能导致皮肤过敏反应

怀疑会致癌

可引起呼吸道刺激

对水生生物有毒并具有长期持续影响

· 警戒字句

· 预防措施

远离热源/火花/明火/热表面。禁止吸烟

使用防爆的电气/通风/照明/设备

· 事故响应

如皮肤(或头发)沾染:立即脱掉所有沾染的衣服。用水清洗皮肤/淋浴

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

· 安全储存

存放处须加锁

· 废弃处置

处置内装物/容器按照地方/区域/国家/国际规章

· 其他有害性

· PBT(残留性、生物浓缩性、毒性物质) 及 vPvB(高残留性、高生物浓缩性物质)评价结果

· PBT(残留性、生物浓缩性、毒性物质) 不适用的

· vPvB(高残留性、高生物浓缩性物质): 不适用的

3 成分/组成信息

· 混合物

· 描述: 由以下含有无害添加剂的成分组成的混合物

· 危险的成分:

| | | |
|----------|--|-----------|
| 109-99-9 | 氧杂环戊烷 ⚠ 易燃液体 第2类, H225; ⚠ 致癌性 第2类, H351; ⚠ 严重眼损伤/眼刺激 类别2A, H319; 特定靶器官系统毒性 (单次接触) 第3类, H335 | >50-≤100% |
| 78-93-3 | 甲乙酮 ⚠ 易燃液体 第2类, H225; ⚠ 严重眼损伤/眼刺激 类别2A, H319; 特定靶器官系统毒性 (单次接触) 第3类, H336; 急性毒性(经口) 第5类, H303; 急性毒性(经皮肤) 第5类, H313 | >2.5-≤10% |

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4 急救措施

· 应急措施要领

· **总说明:** 中毒的症状可能会在几个小时以后才出现;因此在发生事故之后起码要有 48 小时的医疗观察.

· 吸入:

供给新鲜空气并且确保会叫医生.

万一病人不清醒时,请让病人侧躺以便移动.

· **皮肤接触:** 马上用水和肥皂进行彻底的冲洗.

· **眼睛接触:** 张开眼睛在流水下冲洗数分钟. 如果症状仍然持续,请咨询医生.

· **食入:** 马上召唤医生.

· 给医生的资料:

· **最重要的急慢性症状及其影响** 无相关详细资料。

· **需要及时的医疗处理及特别处理的症状** 无相关详细资料。

5 消防措施

· 灭火方法

· **灭火的方法和灭火剂:** 使用二氧化碳 (CO₂)、沙粒、灭火粉末. 切勿使用水.

· **为了安全,不适当的灭火剂会:** 使用全喷嘴的水

· **特别危险性** 无相关详细资料。

· 特殊灭火方法

· **消防人员特殊的防护装备:** 没有要求特别的措施.

6 泄漏应急处理

· **保护措施** 带上保护仪器. 让未受到保护的人们远离.

· 环境保护措施:

如果渗入了水源或污水系统,请通知有关当局.

切勿让其进入下水道/水面或地下水.

· 密封及净化方法和材料:

吸收液体粘合原料 (沙粒、硅藻土、酸性粘合剂、通用粘合剂、锯屑).

根据第 13 条条款弃置受污染物.

确保有足够的通风装置.

切勿用水或水溶清洁剂来冲清.

· 参照其他部分

有关安全处理的资料请参阅第 7 节.

有关个人防护装备的资料请参阅第 8 节.

有关弃置的资料请参阅第 13 节.

7 操作处置与储存

· 操作处置

· 储存

确保工作间有良好的通风/排气装置.

小心打开及处理贮藏器.

防止气溶胶的形成.

· 有关火灾及防止爆炸的资料:

远离火源 - 切勿吸烟.

防热.

防静电.

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- **混合危险性等安全储存条件**
- **储存:**
- **储存库和容器须要达到的要求:** 储存在阴凉的位置.
- **有关使用一个普通的储存设施来储存的资料:** 不需要.
- **有关储存条件的更多资料:**
- 将容器密封.
- 储存密封的贮藏器内,并放在阴凉、干爽的位置.
- 免受接触热力和直接接受阳光照射.
- **具体的最终用户** 无相关详细资料.

8 接触控制和个体防护

- **工程控制方法:** 没有进一步数据;见第 7 项.
- **控制变数**

· 在工作场需要监控的限值成分

109-99-9 氧杂环戊烷

| | |
|----------|---|
| OEL (CN) | PC-TWA: 300 mg/m ³ |
| PEL (TW) | PC-TWA: 590 mg/m ³ , 200 ppm |

78-93-3 甲乙酮

| | |
|----------|---|
| OEL (CN) | PC-STEL: 600 mg/m ³ PC-TWA: 300 mg/m ³ |
| PEL (TW) | PC-TWA: 590 mg/m ³ , 200 ppm |

- **额外的资料:** 制作期间有效的清单将作为基础来使用.
- **泄漏控制**
- **个人防护设备:**
- **一般保护和卫生措施:**
- 远离食品、饮料和饲料.
- 立即除去所有的不洁的和被污染的衣服.
- 在休息之前和工作完毕后请清洗双手.
- 避免和眼睛及皮肤接触.
- **呼吸系统防护:**
- 如果曾短暂接触或在低污染的情况下,请使用呼吸过滤装置. 如果曾深入或较长时间接触,请使用独立的呼吸保护装置.
- **手防护:**



保护手套

手套的物料必须是不渗透性的,且能抵抗该产品/物质/添加剂.
基于缺乏测试,对于产品/制剂/化学混合物,并不会提供手套材料的建议
选择手套材料时,请注意材料的渗透时间,渗透率和降解参数

- **手套材料**
- 选择合适的手套不单取决于材料,亦取决于质量特征,以及来自哪一间生产厂家,因为该产品是由很多材料配制而成,手套材料的抵抗力并不可预计,所以,必须在使用之前进行检查
- **渗入手套材料的时间** 请向劳保手套生产厂家获取准确的破裂时间并观察实际的破裂时间

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· 眼睛防护:



密封的护目镜

9 理化特性

· 有关基本物理及化学特性的信息

· 一般说明

· 外观:

形状: 液体
颜色: 无色的

· 气味: 类似醚

· 嗅觉阈限: 未决定.

· pH值: 未决定.

· 条件的更改

· 熔点: 未确定的

· 沸点/初沸点和沸程: 66 °C

· 闪点: -14 °C

· 可燃性(固体、气体): 不适用的

· 点火温度: 320 °C

· 分解温度: 未决定.

· 自燃温度: 该产品是不自燃的

· 爆炸的危险性: 可能形成爆炸性的过氧化物.

· 爆炸极限:

· 较低: 1.5 Vol %

· 较高: 12 Vol %

· 蒸气压 在 20 °C: 200 hPa

· 密度 在 20 °C: 2.4 g/cm³

· 相对密度: 未决定.

· 蒸气密度: 未决定.

· 蒸发速率: 未决定.

· 溶解性

· 水: 不能拌和的或难以拌和

· n-辛醇/水分配系数: 未决定.

· 黏性:

· 动态: 未决定.

· 运动学的: 未决定.

· 溶剂成份:

· 有机溶剂: 70.1 %

· 固体成份: 0.0 %

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· 其他信息 无相关详细资料。

10 稳定性和反应性

- 反应性 无相关详细资料。
- 稳定性
- 热分解/要避免的情况: 如果遵照规格使用则不会分解。
- 有害反应可能性 未有已知的危险反应。
- 应避免的条件 无相关详细资料。
- 不相容的物质: 无相关详细资料。
- 危险的分解产物: 未知有危险的分解产品。

11 毒理学信息

· 对毒性学影响的信息

· 急性毒性:

· 与分类相关的 LD/ LC50 值:

109-99-9 氧杂环戊烷

| | | |
|----|------|-------------------|
| 口腔 | LD50 | 2,500 mg/kg (rat) |
|----|------|-------------------|

· 主要的刺激性影响:

· 皮肤: 刺激皮肤和粘膜。

· 在眼睛上面: 刺激的影响。

· 致敏作用: 通过皮肤接触可能造成敏化作用。

· 更多毒物的资料:

根据有关配制的一般欧盟分类指南的计算方法(刊印在最新版本),该产品显示以下的危险:

有害的

刺激性的

· 对以下组别可能产生影响的数据:

· CMR作用 (致癌、导致基因突变、对生殖系统有害)

致癌性 第2类

12 生态学信息

· 生态毒性

· 水生毒性: 无相关详细资料。

· 持久性和降解性 无相关详细资料。

· 环境系统习性:

· 潜在的生物累积性 无相关详细资料。

· 土壤内移动性 无相关详细资料。

· 生态毒性的影响:

· 备注: 对鱼类有毒

· 额外的生态学资料:

· 总括注解:

水危害级别 1(德国规例) (通过名单进行自我评估): 对水是稍微危害的

不要让未稀释或大量的产品接触地下水、水道或者污水系统。

对水体中的鱼和浮游生物也有毒害。

对水中的有机物有毒。

· PBT(残留性、生物浓缩性、毒性物质) 及 vPvB(高残留性、高生物浓缩性物质)评价结果

· PBT(残留性、生物浓缩性、毒性物质) 不适用的

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- vPvB(高残留性、高生物浓缩性物质): 不适用的
- 其他副作用 无相关详细资料。

13 废弃处置

- 废弃处置方法
- 建议: 不能将该产品和家居垃圾一起丢弃. 不要让该产品接触污水系统.
- 受污染的容器和包装:
- 建议: 必须根据官方的规章来丢弃.

14 运输信息

- | | |
|---|---|
| · 联合国危险货物编号(UN号) | UN1133 |
| · ADR, IMDG, IATA | |
| · UN适当装船名 | 1133 黏合剂, ENVIRONMENTALLY HAZARDOUS ADHESIVES |
| · ADR | |
| · IMDG, IATA | |
| · 运输危险等级 | |
| · ADR | |
|  | |
|  | |
| · 级别 | 3 易燃液体 |
| · 标签 | 3 |
| · IMDG, IATA | |
|  | |
| · Class | 3 易燃液体 |
| · Label | 3 |
| · 包装组别 | II |
| · ADR, IMDG, IATA | |
| · 危害环境: | |
| · 特别标记 (ADR): | 象征符号 (鱼和树) |
| · 用户特别预防措施 | 警告: 易燃液体 |
| · 危险编码: | 33 |
| · EMS 号码: | F-E,S-D |
| · Stowage Category | B |
| · MARPOL73/78(针对船舶引起的海洋污染预防协议) 附件书2及根据IBC Code(国际装船货物编码)的大量运送 | 不适用的 |

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· 运输/额外的资料:

· 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 "标准规定":

UN 1133 黏合剂, 3, II, ENVIRONMENTALLY HAZARDOUS

15 法规信息

· 对相应纯物质或者混合物的安全、保健及环境法规/法律

· 危险化学品安全管理条例

· 危险化学品目录

109-99-9 氧杂环戊烷

78-93-3 甲乙酮

· 新化学物质环境管理办法

· 中国现有化学物质名录

列出所有成分

· GHS卷标元素 本产品根据化学物质分类及标记全球协调制度(GHS)进行了分类及标记。

· 图示



GHS02 GHS07 GHS08 GHS09

· 名称 危险

· 标签上辨别危险的成份:

氧杂环戊烷

· 危险字句

高度易燃液体和蒸气

吞咽有害

造成皮肤刺激

造成严重眼刺激

可能导致皮肤过敏反应

怀疑会致癌

可引起呼吸道刺激

对水生生物有毒并具有长期持续影响

· 警戒字句

· 预防措施

远离热源/火花/明火/热表面。禁止吸烟

使用防爆的电气/通风/照明/设备

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· 事故响应

如皮肤(或头发)沾染:立即脱掉所有沾染的衣服。用水清洗皮肤/淋浴
如进入眼睛:用水小心冲洗几分钟。如戴隐形眼镜并可方便地取出,取出隐形眼镜。继续冲洗

· 安全储存

存放处须加锁

· 废弃处置

处置内装物/容器按照地方/区域/国家/国际规章

· 化学物质安全性评价: 尚未进行化学物质安全性评价

16 其他信息

该资料是基于我们目前的知识。然而,这并不构成对任何特定产品特性的担保并且不建立一个法律上有效的合同关系。

· 缩写:

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

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

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

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: 持久性生物累积性有毒物质

vPvB: very Persistent and very Bioaccumulative

易燃液体 第2类: Flammable liquids – Category 2

急性毒性(径口) 第4类: Acute toxicity – Category 4

急性毒性(径口) 第5类: Acute toxicity – Category 5

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

严重眼损伤/眼刺激 类别2A: Serious eye damage/eye irritation – Category 2A

敏化(皮肤) 第1类: Skin sensitisation – Category 1

致癌性 第2类: Carcinogenicity – Category 2

特定靶器官系统毒性(单次接触) 第3类: Specific target organ toxicity (single exposure) – Category 3

对水环境的危害(慢性) 第2类: Hazardous to the aquatic environment - long-term aquatic hazard – Category 2

CN

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ODDÍL 1: Identifikace látky/směsi a společnosti/podniku

- **1.1 Identifikátor výrobku**
- **Obchodní označení: M-BOND 610 ADHESIVE**
- **Číslo výrobku: 50410-30A**
- **1.2 Příslušná určená použití látky nebo směsi a nedoporučená použití**
Další relevantní informace nejsou k dispozici.
- **Použití látky / přípravku** Laboratorní chemikálie
- **1.3 Podrobné údaje o dodavateli bezpečnostního listu**
- **Identifikace výrobce/dovozce:**
Electron Microscopy Sciences
1560 Industry Road
USA-Hatfield, PA 19440
Tel: 215-412-8400 Fax: 215-412-8450
email: sgkcck@aol.com
www.emsdiasum.com
- **Obor poskytující informace:** Product safety department
- **1.4 Telefonní číslo pro naléhavé situace:**
ChemTrec 1-800-424-9300 Contract CCN7661
1-703-527-3887

ODDÍL 2: Identifikace nebezpečnosti

- **2.1 Klasifikace látky nebo směsi**
- **Klasifikace v souladu s nařízením (ES) č. 1272/2008**



GHS02 plamen

Flam. Liq. 2 H225 Vysoce hořlavá kapalina a páry.



GHS08 nebezpečnost pro zdraví

Carc. 2 H351 Podezření na vyvolání rakoviny.



GHS09 životní prostředí

Aquatic Chronic 2 H411 Toxický pro vodní organismy, s dlouhodobými účinky.



GHS07

Acute Tox. 4 H302 Zdraví škodlivý při požití.
 Skin Irrit. 2 H315 Dráždí kůži.
 Eye Irrit. 2 H319 Způsobuje vážné podráždění očí.
 Skin Sens. 1 H317 Může vyvolat alergickou kožní reakci.
 STOT SE 3 H335 Může způsobit podráždění dýchacích cest.

- **2.2 Prvky označení**
- **Označování v souladu s nařízením (ES) č. 1272/2008** Produkt je klasifikován a označen podle nařízení CLP.

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(pokračování strany 1)

· Výstražné symboly nebezpečnosti



GHS02 GHS07 GHS08 GHS09

· Signální slovo Nebezpečí

· Nebezpečné komponenty k etiketování:

tetrahydrofuran

· Standardní věty o nebezpečnosti

H225 Vysoce hořlavá kapalina a páry.

H302 Zdraví škodlivý při požití.

H315 Dráždí kůži.

H319 Způsobuje vážné podráždění očí.

H317 Může vyvolat alergickou kožní reakci.

H351 Podezření na vyvolání rakoviny.

H335 Může způsobit podráždění dýchacích cest.

H411 Toxický pro vodní organismy, s dlouhodobými účinky.

· Pokyny pro bezpečné zacházení

P210 Chraňte před teplem, horkými povrchy, jiskrami, otevřeným ohněm a jinými zdroji zapálení. Zákaz kouření.

P241 Používejte elektrické/ventilační/osvětlovací/zařízení do výbušného prostředí.

P303+P361+P353 PŘI STYKU S KŮŽÍ (nebo s vlasy): Veškeré kontaminované části oděvu okamžitě svlékněte. Opláchněte kůži vodou/osprchujte.

P305+P351+P338 PŘI ZASAŽENÍ OČÍ: Několik minut opatrně vyplachujte vodou. Vyjměte kontaktní čočky, jsou-li nasazeny a pokud je lze vyjmout snadno. Pokračujte ve vyplachování.

P405 Skladujte uzamčené.

P501 Obsah/nádobu likvidujte v souladu s místními/regionálními/národními/mezinárodními předpisy.

· Další údaje:

EUH019 Může vytvářet výbušné peroxidy.

· 2.3 Další nebezpečnost

· Výsledky posouzení PBT a vPvB

· **PBT:** Nedá se použít.

· **vPvB:** Nedá se použít.

ODDÍL 3: Složení/informace o složkách

· 3.2 Chemická charakteristika: Směsi

· **Popis:** Směs obsahuje následné látky bez nebezpečných příměsí.

· Výrobek obsahuje tyto nebezpečné látky:

| | | |
|------------------------------------|---|-----------|
| CAS: 109-99-9 EINECS: 203-726-8 | tetrahydrofuran Flam. Liq. 2, H225; Carc. 2, H351; Eye Irrit. 2, H319; STOT SE 3, H335 | >50-≤100% |
| CAS: 78-93-3 EINECS: 201-159-0 | butanon Flam. Liq. 2, H225; Eye Irrit. 2, H319; STOT SE 3, H336 | >2,5-≤10% |

· **Dodatečná upozornění:** Znění uvedených údajů o nebezpečnosti látky je uvedeno v kapitole 16.

CZ

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ODDÍL 4: Pokyny pro první pomoc

- **4.1 Popis první pomoci**
- **Všeobecné pokyny:**
Příznaky otravy se mohou projevit až po mnoha hodinách, proto je nutný lékařský dohled nejméně 48 hodin po nehodě.
- **Při nadýchání:**
Bohatý přívod čerstvého vzduchu a pro jistotu vyhledat lékaře.
Při bezvědomí uložit a přepravit ve stabilní poloze na boku.
- **Při styku s kůží:** Ihned omýt vodou a mýdlem a dobře opláchnout.
- **Při zasažení očí:**
Oči s otevřenými víčky vyplachovat po více minut proudem tekoucí vody. Při přetrvávajících potížích se poradit s lékařem.
- **Při požití:** Ihned vyhledat lékaře.
- **4.2 Nejdůležitější akutní a opožděné symptomy a účinky** Další relevantní informace nejsou k dispozici.
- **4.3 Pokyn týkající se okamžité lékařské pomoci a zvláštního ošetření**
Další relevantní informace nejsou k dispozici.

ODDÍL 5: Opatření pro hašení požáru

- **5.1 Hasiva**
- **Vhodná hasiva:** CO₂, písek, hasící prášek. Nepoužít vodu.
- **Nevhodná hasiva:** Plný proud vody
- **5.2 Zvláštní nebezpečnost vyplývající z látky nebo směsi** Další relevantní informace nejsou k dispozici.
- **5.3 Pokyny pro hasiče**
- **Zvláštní ochranné prostředky pro hasiče:** Nejsou nutná žádná zvláštní opatření.

ODDÍL 6: Opatření v případě náhodného úniku

- **6.1 Opatření na ochranu osob, ochranné prostředky a nouzové postupy**
Nosit ochrannou výstroj. Nechráněné osoby se nesmí přibližovat.
- **6.2 Opatření na ochranu životního prostředí:**
Při vniknutí do kanalizace nebo vodního toku informovat příslušné orgány.
Nenechat proniknout do kanalizace/povrchových vod/podzemních vod.
- **6.3 Metody a materiál pro omezení úniku a pro čištění:**
Sebrat s materiály, vážícími kapaliny (písek, šterkový písek, pojidla kyselin, universální pojidla, piliny).
Kontaminovaný materiál odstranit jako odpad podle bodu 13.
Zajistit dostatečné větrání.
Nesplachovat vodou nebo čistícími prostředky, obsahujícími vodu.
- **6.4 Odkaz na jiné oddíly**
Informace o bezpečnému zacházení viz kapitola 7.
Informace o osobní ochranné výstroji viz kapitola 8.
Informace k odstranění viz kapitola 13.

ODDÍL 7: Zacházení a skladování

- **7.1 Opatření pro bezpečné zacházení**
Na pracovišti zabezpečit dobré větrání a odsávání.
Nádrž opatrně otevřít a zacházet s ní opatrně.
Zamezit vytváření aerosolů.

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(pokračování strany 3)

- **Upozornění k ochraně před ohněm a explozí:**
Nepřibližovat se ze zápalnými zdroji - nekouřit.
Chránit před horkem.
Zajistit proti elektrostatickému náboji.
- **7.2 Podmínky pro bezpečné skladování látek a směsí včetně neslučitelných látek a směsí**
- **Pokyny pro skladování:**
- **Požadavky na skladovací prostory a nádoby:** Skladovat na chladném místě.
- **Upozornění k hromadnému skladování:** Není nutné.
- **Další údaje k podmínkám skladování:**
Nádrž držet neprodyšně uzavřenou.
Skladovat v dobře uzavřených nádobách v chladu a suchu.
Chránit před horkem a přímým slunečním světlem.
- **7.3 Specifické konečné / specifická konečná použití** Další relevantní informace nejsou k dispozici.

ODDÍL 8: Omezování expozice / osobní ochranné prostředky

- **Technická opatření:** Žádné další údaje, viz bod 7.

· 8.1 Kontrolní parametry

· Kontrolní parametry:

109-99-9 tetrahydrofuran

| | |
|-----|--|
| NPK | Krátkodobá hodnota: 300 mg/m ³ Dlouhodobá hodnota: 150 mg/m ³ D, I |
|-----|--|

78-93-3 butanon

| | |
|-----|---|
| NPK | Krátkodobá hodnota: 900 mg/m ³ Dlouhodobá hodnota: 600 mg/m ³ I |
|-----|---|

- **Další upozornění:** Jako podklad sloužily při zhotovení platné listiny.

· 8.2 Omezování expozice

· Osobní ochranné prostředky:

· Všeobecná ochranná a hygienická opatření:

Zdržovat od potravin, nápojů a krmiv.
Zašpiněné, nasáknuté šaty ihned vysvléci.
Před přestávkami a po práci umýt ruce.
Zamezit styku s pokožkou a zrakem.

· Ochrana dýchacích orgánů:

Při krátkodobém nebo nízkém zatížení použít dýchací přístroj s filtrem, při intenzivním nebo delším zatížení se musí použít dýchací přístroj nezávislý na okolním vzduchu.

· Ochrana rukou:



Ochranné rukavice

Materiál rukavic musí být nepropustný a odolný proti produktu / látce / směsi.

Vzhledem k tomu, že chybí testy, není možné doporučit materiál rukavic pro produkt / přípravek / chemickou směs. Výběr materiálu rukavic proveďte podle času průniku, permeability a degradace.

· Materiál rukavic

Správný výběr rukavic nezávisí jen na materiálu, ale také na dalších kritériích, která se liší podle výrobce. Protože je výrobek směs více látek, nelze materiál rukavic předem vypočítat a je nutno udělat před použitím zkoušku.

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· **Doba průniku materiálem rukavic**

Je nutno u výrobce rukavic zjistit a dodržovat přesné časy průniku materiálem ochranných rukavic.

· **Ochrana očí:**



Uzavřené ochranné brýle

ODDÍL 9: Fyzikální a chemické vlastnosti

· **9.1 Informace o základních fyzikálních a chemických vlastnostech**

· **Všeobecné údaje**

· **Vzhled:**

| | |
|--------------------------|--------------|
| Skupenství: | Tekutina |
| Barva: | Bezbarvá |
| Zápach: | Etherovitý |
| Prahová hodnota zápachu: | Není určeno. |

· **Hodnota pH:** Není určeno.

· **Změna stavu**

| | |
|---|--------------|
| Bod tání/bod tuhnutí: | Není určeno. |
| Počáteční bod varu a rozmezí bodu varu: | 66 °C |

· **Bod vzplanutí:** -14 °C

· **Hořlavost (pevné látky, plyny):** Nedá se použít.

· **Zápalná teplota:** 320 °C

· **Teplota rozkladu:** Není určeno.

· **Teplota samovznícení:** Produkt není samozápalný.

· **Výbušné vlastnosti:** Může vytvářet výbušné peroxidy.

· **Meze výbušnosti:**

| | |
|------------|-----------|
| Dolní mez: | 1,5 Vol % |
| Horní mez: | 12 Vol % |

· **Tlak páry při 20 °C:** 200 hPa

· **Hustota při 20 °C:** 2,4 g/cm³

· **Relativní hustota:** Není určeno.

· **Hustota páry:** Není určeno.

· **Rychlost odpařování:** Není určeno.

· **Rozpuštěnost ve / směřitelnost s vodě:**

Vůbec nemísitelná nebo jen málo mísitelná.

· **Rozdělovací koeficient: n-oktanol/voda:** Není určeno.

· **Viskozita:**

| | |
|--------------|--------------|
| Dynamicky: | Není určeno. |
| Kinematicky: | Není určeno. |

· **Obsah ředidel:**

| | |
|--------------------|---------|
| Organická ředidla: | 70,1 % |
| VOC (EC) | 70,09 % |

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(pokračování strany 5)

- | | |
|---------------------------------|--|
| Obsah netěkavých složek: | 0,0 % |
| 9.2 Další informace | Další relevantní informace nejsou k dispozici. |

ODDÍL 10: Stálost a reaktivita

- **10.1 Reaktivita** Další relevantní informace nejsou k dispozici.
- **10.2 Chemická stabilita**
- **Termický rozklad / Podmínky, kterých je nutno se vyvarovat:**
Nedochází k rozkladu při doporučeném způsobu použití.
- **10.3 Možnost nebezpečných reakcí** Žádné nebezpečné reakce nejsou známy.
- **10.4 Podmínky, kterým je třeba zabránit** Další relevantní informace nejsou k dispozici.
- **10.5 Neslučitelné materiály:** Další relevantní informace nejsou k dispozici.
- **10.6 Nebezpečné produkty rozkladu:** Nejsou známy žádné nebezpečné produkty při rozkladu.

ODDÍL 11: Toxikologické informace

- **11.1 Informace o toxikologických účincích**
 - **Akutní toxicita**
Zdraví škodlivý při požití.
- | | | |
|--|------|-------------------|
| Zařazení relevantní hodnoty LD/LC 50: | | |
| 109-99-9 tetrahydrofuran | | |
| Orálně | LD50 | 2.500 mg/kg (rat) |
- **Primární dráždivé účinky:**
 - **Žíravost/dráždivost pro kůži**
Dráždí kůži.
 - **Vážné poškození očí / podráždění očí**
Způsobuje vážné podráždění očí.
 - **Senzibilizace dýchacích cest / senzibilizace kůže**
Může vyvolat alergickou kožní reakci.
 - **Účinky CMR (karcinogenita, mutagenita a toxicita pro reprodukci)**
 - **Mutagenita v zárodečných buňkách** Na základě dostupných údajů nejsou kritéria pro klasifikaci splněna.
 - **Karcinogenita**
Podezření na vyvolání rakoviny.
 - **Toxicita pro reprodukci** Na základě dostupných údajů nejsou kritéria pro klasifikaci splněna.
 - **Toxicita pro specifické cílové orgány – jednorázová expozice**
Může způsobit podráždění dýchacích cest.
 - **Toxicita pro specifické cílové orgány – opakovaná expozice**
Na základě dostupných údajů nejsou kritéria pro klasifikaci splněna.
 - **Nebezpečnost při vdechnutí** Na základě dostupných údajů nejsou kritéria pro klasifikaci splněna.

ODDÍL 12: Ekologické informace

- **12.1 Toxicita**
- **Aquatická toxicita:** Další relevantní informace nejsou k dispozici.
- **12.2 Perzistence a rozložitelnost** Další relevantní informace nejsou k dispozici.
- **12.3 Bioakumulační potenciál** Další relevantní informace nejsou k dispozici.
- **12.4 Mobilita v půdě** Další relevantní informace nejsou k dispozici.
- **Ekotoxické účinky:**
- **Poznámka:** Jedovatý pro ryby.

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- **Další ekologické údaje:**
- **Všeobecná upozornění:**
Třída ohrožení vody 1 (Samozářazení): slabé ohrožení vody
Nesmí se dostat nezředěný nebo ve větším množství do spodní vody, povodí nebo kanalizace.
V povodích je také jedovatá pro ryby a plankton.
jedovatá pro vodní organismy
- **12.5 Výsledky posouzení PBT a vPvB**
- **PBT:** Nedá se použít.
- **vPvB:** Nedá se použít.
- **12.6 Jiné nepříznivé účinky** Další relevantní informace nejsou k dispozici.

ODDÍL 13: Pokyny pro odstraňování

- **13.1 Metody nakládání s odpady**
- **Doporučení:** Nesmí se odstraňovat společně s odpady z domácnosti. Nepřipustit únik do kanalizace.
- **Kontaminované obaly:**
- **Doporučení:** Odstranění podle příslušných předpisů.

ODDÍL 14: Informace pro přepravu

- | | |
|---|--|
| <ul style="list-style-type: none"> · 14.1 UN číslo · ADR, IMDG, IATA | <p style="text-align: right;">UN1133</p> |
| <ul style="list-style-type: none"> · 14.2 Oficiální (OSN) pojmenování pro přepravu · ADR · IMDG, IATA | <p style="text-align: right;">1133 LEPIDLA, OHROŽUJÍCÍ ŽIVOTNÍ PROSTŘEDÍ ADHESIVES</p> |
| <ul style="list-style-type: none"> · 14.3 Třída/třídy nebezpečnosti pro přepravu · ADR | <p style="text-align: right;">3 Hořlavé kapaliny</p> |
| <div style="display: flex; align-items: center; gap: 10px;">   </div> | <p style="text-align: right;">3</p> |
| <ul style="list-style-type: none"> · třída · Etiketa | <p style="text-align: right;">3</p> |
| <ul style="list-style-type: none"> · IMDG, IATA | <p style="text-align: right;">3 Hořlavé kapaliny</p> |
| <div style="display: flex; align-items: center; gap: 10px;">  </div> | <p style="text-align: right;">3</p> |
| <ul style="list-style-type: none"> · Class · Label | <p style="text-align: right;">3</p> |
| <ul style="list-style-type: none"> · 14.4 Obalová skupina · ADR, IMDG, IATA | <p style="text-align: right;">II</p> |
| <ul style="list-style-type: none"> · 14.5 Nebezpečnost pro životní prostředí: · Zvláštní označení (ADR): | <p style="text-align: right;">Symbol (ryba a strom)</p> |
| <ul style="list-style-type: none"> · 14.6 Zvláštní bezpečnostní opatření pro uživatele · Kemlerovo číslo: | <p style="text-align: right;">Varování: Hořlavé kapaliny 33</p> |

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| | |
|--|---|
| · EMS-skupina: | F-E,S-D |
| · Stowage Category | B |
| · 14.7 Hromadná přeprava podle přílohy II úmluvy MARPOL a předpisu IBC | Nedá se použít. |
| · Přeprava/další údaje: | |
| · ADR | |
| · Omezené množství (LQ) | 5L |
| · Vyňatá množství (EQ) | Kód: E2 Nejvyšší čisté množství na vnitřní obal: 30 ml Nejvyšší čisté množství na vnější obal: 500 ml |
| · Přepavní kategorie | 2 |
| · Kód omezení pro tunely: | 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 1133 LEPIDLA, 3, II, OHROŽUJÍCÍ ŽIVOTNÍ PROSTŘEDÍ |

ODDÍL 15: Informace o předpisech

- 15.1 Předpisy týkající se bezpečnosti, zdraví a životního prostředí/specifické právní předpisy týkající se látky nebo směsi
- Rady 2012/18/EU
- Nebezpečné látky jmenovitě uvedené - **PŘÍLOHA I** Žádná z obsažených látek není na seznamu.
- Kategorie Seveso
E2 Nebezpečnost pro vodní prostředí
P5c HOŘLAVÉ KAPALINY
- Kvalifikační množství (v tunách) při uplatnění požadavků pro podlimitní množství 200 t
- Kvalifikační množství (v tunách) při uplatnění požadavků pro nadlimitní množství 500 t
- Rady (ES) č. 1907/2006 **PŘÍLOHA XVII** Omezující podmínky: 3
- 15.2 Posouzení chemické bezpečnosti: Posouzení chemické bezpečnosti nebylo provedeno.

ODDÍL 16: Další informace

Údaje se opírají o dnešní stav našich vědomostí, nepředstavují však záruku vlastností produktu a nevznikají tak žádné smluvní právní vztahy.

- **Relevantní věty**
H225 Vysoce hořlavá kapalina a páry.
H319 Způsobuje vážné podráždění očí.
H335 Může způsobit podráždění dýchacích cest.
H336 Může způsobit ospalost nebo závrať.
H351 Podezření na vyvolání rakoviny.
- **Zkratky a akronymy:**
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

(pokračování na straně 9)

Bezpečnostní list
podle 1907/2006/ES, Článek 31

Datum vydání: 06.12.2018

Revize: 06.12.2018

Obchodní označení: M-BOND 610 ADHESIVE

(pokračování strany 8)

*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: Hořlavé kapaliny – Kategorie 2**Acute Tox. 4: Akutní toxicita – Kategorie 4**Skin Irrit. 2: Žíravost/dráždivost pro kůži – Kategorie 2**Eye Irrit. 2: Vážné poškození očí / podráždění očí – Kategorie 2**Skin Sens. 1: Senzibilizace kůže – Kategorie 1**Carc. 2: Karcinogenita – Kategorie 2**STOT SE 3: Toxicita pro specifické cílové orgány (jednorázová expozice) – Kategorie 3**Aquatic Chronic 2: Nebezpečnost pro vodní prostředí - dlouhodobá nebezpečnost pro vodní prostředí – Kategorie 2*

CZ

Veiligheidsinformatieblad volgens 1907/2006/EG, Artikel 31

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

· 1.1 Productidentificatie

· Handelsnaam: **M-BOND 610 ADHESIVE**

· Artikelnummer: 50410-30A

· 1.2 Relevant geïdentificeerd gebruik van de stof of het mengsel en ontraden gebruik

Geen verdere relevante informatie verkrijgbaar.

· Toepassing van de stof / van de bereiding *Laboratoriumchemicaliën*

· 1.3 Details betreffende de verstrekker van het veiligheidsinformatieblad

· Fabrikant/leverancier:

Electron Microscopy Sciences

1560 Industry Road

USA-Hatfield, PA 19440

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

email: sgkcck@aol.com

www.emsdiasum.com

Aurion

Binnenhaven 5

6709 PD Wageningen

The Netherlands

Tel: 31 317 415094

Fax: 31 317 415955

email: info@aurion.nl

· **Inlichtinggevendende sector:** *Product safety department*

· 1.4 Telefoonnummer voor noodgevallen:

ChemTrec 1-800-424-9300 Contract CCN7661

1-703-527-3887

RUBRIEK 2: Identificatie van de gevaren

· 2.1 Indeling van de stof of het mengsel

· Indeling overeenkomstig Verordening (EG) nr. 1272/2008



GHS02 vlam

Flam. Liq. 2

H225 Licht ontvlambare vloeistof en damp.



GHS08 gezondheidsgevaar

Carc. 2

H351 Verdacht van het veroorzaken van kanker.



GHS09 milieu

Aquatic Chronic 2 H411 Giftig voor in het water levende organismen, met langdurige gevolgen.



GHS07

Acute Tox. 4

H302 Schadelijk bij inslikken.

Skin Irrit. 2

H315 Veroorzaakt huidirritatie.

(Vervolg op blz. 2)

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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.

· Gevarenpictogrammen



GHS02 GHS07 GHS08 GHS09

· Signaalwoord Gevaar

· Gevaaraanduidende componenten voor de etikettering:

tetrahydrofuraan

· Gevarenaanduidingen

H225 Licht ontvlambare vloeistof en damp.

H302 Schadelijk bij inslikken.

H315 Veroorzaakt huidirritatie.

H319 Veroorzaakt ernstige oogirritatie.

H317 Kan een allergische huidreactie veroorzaken.

H351 Verdacht van het veroorzaken van kanker.

H335 Kan irritatie van de luchtwegen veroorzaken.

H411 Giftig voor in het water levende organismen, met langdurige gevolgen.

· Veiligheidsaanbevelingen

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

P241 Explosie veilige 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.

· Aanvullende gegevens:

EUH019 Kan ontplofbare peroxiden vormen.

· 2.3 Andere gevaren

· Resultaten van PBT- en zPzB-beoordeling

· **PBT:** Niet bruikbaar.

· **zPzB:** Niet bruikbaar.

RUBRIEK 3: Samenstelling en informatie over de bestanddelen

· 3.2 Chemische karakterisering: Mengsels

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

· Gevaarlijke inhoudstoffen:

| | | |
|-------------------|--|-----------|
| CAS: 109-99-9 | tetrahydrofuraan | >50-≤100% |
| EINECS: 203-726-8 | Flam. Liq. 2, H225; Carc. 2, H351; Eye Irrit. 2, H319; STOT SE 3, H335 | |

(Vervolg op blz. 3)

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CAS: 78-93-3

butanon

>2,5-≤10%

EINECS: 201-159-0

· **Aanvullende gegevens:**

De woordelijke inhoud van de opgegeven aanwijzingen inzake de mogelijke gevaren is te vinden in hoofdstuk 16.

RUBRIEK 4: Eerstehulpmaatregelen

· **4.1 Beschrijving van de eerstehulpmaatregelen**

· **Algemene informatie:**

Het is mogelijk dat vergiftigingssymptomen pas na vele uren optreden. Om deze reden is medische controle gedurende minstens 48 uur na een ongeval noodzakelijk.

· **Na het inademen:**

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:**

De ogen gedurende verscheidene minuten onder stromend water afspoelen terwijl de oogspleet geopend blijft. Bij aanhoudende klachten een dokter raadplegen.

· **Na inslikken:** Onmiddellijk arts raadplegen.

· **4.2 Belangrijkste acute en uitgestelde symptomen en effecten** Geen verdere relevante informatie verkrijgbaar.

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

Geen verdere relevante informatie verkrijgbaar.

RUBRIEK 5: Brandbestrijdingsmaatregelen

· **5.1 Blusmiddelen**

· **Geschikte blusmiddelen:** CO₂, zand, bluspoeder. Geen water gebruiken.

· **Blusmiddelen die uit veiligheidsoogpunt niet geschikt zijn:** Krachtige waterstraal

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

Geen verdere relevante informatie verkrijgbaar.

· **5.3 Advies voor brandweertieners**

· **Speciale beschermende kleding:** Geen bijzondere maatregelen nodig.

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

· **6.1 Persoonlijke voorzorgsmaatregelen, beschermde uitrusting en noodprocedures**

Beschermende kleding aantrekken. Niet beschermde personen op afstand houden.

· **6.2 Milieuvorzorgsmaatregelen:**

Bij indringen in afvalwater of riolering moet de bevoegde instantie gewaarschuwd worden.

Niet in de riolering/het oppervlaktewater/het grondwater laten terechtkomen.

· **6.3 Insluitings- en reinigingsmethoden en -materiaal:**

Met vloeistofbindend materiaal (zand, bergmeel, zuurbinder, universele binder, zaagmeel) opnemen.

Besmet materiaal zoals afval volgens punt 13 verwijderen.

Voor voldoende ventilatie zorgen.

Niet met water of waterachtige reinigingsmiddelen wegspoelen.

· **6.4 Verwijzing naar andere rubrieken**

Informatie inzake veilig gebruik - zie hoofdstuk 7.

Informatie inzake persoonlijke beschermingsuitrusting - zie hoofdstuk 8.

Informatie inzake berging - zie hoofdstuk 13.

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.
 Tanks voorzichtig openen en behandelen.
 Aërosolvorming vermijden.
- **Informatie m.b.t. brand- en ontploffingsgevaar:**
 Onststekingsbronnen op afstand houden - niet roken.
 Beschermen tegen hitte.
 Maatregelen treffen tegen ontlading van statische elektriciteit.
- **7.2 Voorwaarden voor een veilige opslag, met inbegrip van incompatibele producten**
- **Opslag:**
- **Eisen ten opzichte van opslagruimte en tanks:** Op een koele plaats bewaren.
- **Informatie m.b.t. gezamenlijke opslag:** Niet noodzakelijk.
- **Verdere inlichtingen over eisen m.b.t. de opslag:**
 Tanks ondoordringbaar gesloten houden.
 Koel en droog bewaren in goed gesloten vaten.
 Tegen hitte en directe zonnestralen beschermen.
- **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:**

109-99-9 tetrahydrofuraan

| | |
|-----|---|
| WGW | Korte termijn waarde: 600 mg/m ³ , 200 ppm |
| | Lange termijn waarde: 300 mg/m ³ , 100 ppm |

78-93-3 butanon

| | |
|-----|---|
| WGW | Korte termijn waarde: 900 mg/m ³ , 300 ppm |
| | Lange termijn waarde: 590 mg/m ³ , 200 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 ogen en de huid vermijden.
- **Ademhalingsbescherming:**
 Bij korte of geringe belasting ademfiltertoestel; bij intensieve resp. langdurige expositie een van de omringende lucht onafhankelijk ademhalingsstoestel gebruiken.
- **Handbescherming:**



Veiligheidshandschoenen

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

(Vervolg op blz. 5)

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Op grond van falende testen kan geen aanbeveling voor handschoenmateriaal voor het product / de bereiding / het chemicaliën-mengsel 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: | Etherachtig |
| Geurdrempelwaarde: | Niet bepaald. |

- **pH-waarde:** Niet bepaald.

- **Toestandsverandering**

| | |
|--------------------------------------|---------------|
| Smelt-/vriespunt: | Niet bepaald. |
| Beginkookpunt en kooktraject: | 66 °C |

- **Vlampunt:** -14 °C

- **Ontvlambaarheid (vast, gas):** Niet bruikbaar.

- **Ontstekingstemperatuur:** 320 °C

- **Ontledingstemperatuur:** Niet bepaald.

- **Zelfontbrandingstemperatuur:** Het produkt ontbrandt niet uit zichzelf.

- **Ontploffingseigenschappen:** Kan ontplofbare peroxiden vormen.

- **Ontploffingsgrenzen:**

| | |
|------------------|-----------|
| Onderste: | 1,5 Vol % |
| Bovenste: | 12 Vol % |

- **Dampspanning bij 20 °C:** 200 hPa

- **Dichtheid bij 20 °C:** 2,4 g/cm³

- **Relatieve dichtheid** Niet bepaald.

- **Dampdichtheid** Niet bepaald.

- **Verdampingssnelheid** Niet bepaald.

- **Oplosbaarheid in/mengbaarheid met**

| | |
|---------------|-----------------------------|
| Water: | Niet resp. gering mengbaar. |
|---------------|-----------------------------|

(Vervolg op blz. 6)

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- **Verdelingscoëfficiënt: n-octanol/water:** Niet bepaald.
- **Viscositeit**
 - Dynamisch:** Niet bepaald.
 - Kinematisch:** Niet bepaald.
- **Oplosmiddelgehalte:**
 - Organisch oplosmiddel:** 70,1 %
 - VOC (EG)** 70,09 %
- **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**
Schadelijk bij inslikken.
 - **Indelingsrelevantie LD/LC50-waarden:**
- | | | |
|----------------------------------|------|-------------------|
| 109-99-9 tetrahydrofuraan | | |
| Oraal | LD50 | 2.500 mg/kg (rat) |
- **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**
Verdacht van het veroorzaken van kanker.
 - **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.

(Vervolg op blz. 7)

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

RUBRIEK 13: Instructies voor verwijdering

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

RUBRIEK 14: Informatie met betrekking tot het vervoer

- **14.1 VN-nummer**
- **ADR, IMDG, IATA** UN1133
- **14.2 Juiste ladingnaam overeenkomstig de modelreglementen van de VN**
- **ADR** 1133 LIJMEN, MILIEUGEVAARLIJK
- **IMDG, IATA** ADHESIVES
- **14.3 Transportgevarenklasse(n)**
- **ADR**
- 
- **klasse** 3 Brandbare vloeistoffen

(Vervolg op blz. 8)

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(Vervolg van blz. 7)

| | |
|--|---|
| · Etiket | 3 |
| · IMDG, IATA | |
|  | |
| · Class | 3 Brandbare vloeistoffen |
| · Label | 3 |
| · 14.4 Verpakkingsgroep: · ADR, IMDG, IATA | II |
| · 14.5 Milieugevaren: · Bijzondere kenmerking (ADR): | Symbol (vis en boom) |
| · 14.6 Bijzondere voorzorgen voor de gebruiker · Kemler-getal: · EMS-nummer: · Stowage Category | Waarschuwing: Brandbare vloeistoffen 33 F-E,S-D B |
| · 14.7 Vervoer in bulk overeenkomstig bijlage II bij Marpol en de IBC-code | Niet bruikbaar. |
| · Transport/verdere gegevens: | |
| · ADR · Beperkte hoeveelheden (LQ) · Uitgezonderde hoeveelheden (EQ) | 5L Code: E2 Grootste netto hoeveelheid per binnenverpakking: 30 ml Grootste netto hoeveelheid per buitenverpakking: 500 ml |
| · Vervoerscategorie · Tunnelbeperkingscode | 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 |
| · VN "Model Regulation": | UN 1133 LIJMEN, 3, II, MILIEUGEVAARLIJK |

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.

(Vervolg op blz. 9)

Veiligheidsinformatieblad

volgens 1907/2006/EG, Artikel 31

datum van de druk: 06.12.2018

Herziening van: 06.12.2018

Handelsnaam: M-BOND 610 ADHESIVE

(Vervolg van blz. 8)

· 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
E2 Gevaar voor het aquatisch milieu
P5c ONTVLAMBARE VLOEISTOFFEN
· Drempelwaarde (ton) voor toepassing van voorschriften voor lagedrempelinrichtingen 200 t
· Drempelwaarde (ton) voor toepassing van voorschriften voor hogedrempelinrichtingen 500 t
· Verordening (EG) nr. 1907/2006 BIJLAGE XVII Beperkingsvoorwaarden: 3

· Nationale voorschriften:
· Gevaarklasse v. water:
Waterbezwaarlijkheid (NL): A(4) Weinig schadelijk voor in water levende organismen kan in het aquatische milieu op lange termijn schadelijke effecten veroorzaken
· 15.2 Chemischeveiligheidsbeoordeling: Een chemische veiligheidsbeoordeling is niet uitgevoerd.

RUBRIEK 16: Overige informatie

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

· Relevante zinnen
H225 Licht ontvlambare vloeistof en damp.
H319 Veroorzaakt ernstige oogirritatie.
H335 Kan irritatie van de luchtwegen veroorzaken.
H336 Kan slaperigheid of duizeligheid veroorzaken.
H351 Verdacht van het veroorzaken van kanker.
· Afkortingen en acroniemen:
ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
IMDG: International Maritime Code for Dangerous Goods
IATA: International Air Transport Association
GHS: Globally Harmonised System of Classification and Labelling of Chemicals
EINECS: European Inventory of Existing Commercial Chemical Substances
ELINCS: European List of Notified Chemical Substances
CAS: Chemical Abstracts Service (division of the American Chemical Society)
VOC: Volatile Organic Compounds (USA, EU)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
PBT: Persistent, Bioaccumulative and Toxic
vPvB: very Persistent and very Bioaccumulative
Flam. Liq. 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
Carc. 2: Kankerverwekkendheid – Categorie 2
STOT SE 3: Specifieke doelorgaan toxiciteit bij eenmalige blootstelling – Categorie 3
Aquatic Chronic 2: Gevaar voor het aquatisch milieu - aquatisch gevaar op lange termijn – Categorie 2

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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:** M-BOND 610 ADHESIVE
- **Code du produit:** 50410-30A
- **1.2 Utilisations identifiées pertinentes de la substance ou du mélange et utilisations déconseillées**
Pas d'autres informations importantes disponibles.
- **Emploi de la substance / de la préparation** Produits chimiques pour laboratoires
- **1.3 Renseignements concernant le fournisseur de la fiche de données de sécurité**
- **Producteur/fournisseur:**
Electron Microscopy Sciences
1560 Industry Road
USA-Hatfield, PA 19440
Tel: 215-412-8400 Fax: 215-412-8450
email: sgkcck@aol.com
www.emsdiasum.com
- **Service chargé des renseignements:** Product safety department
- **1.4 Numéro d'appel d'urgence:**
ChemTrec 1-800-424-9300 Contract CCN7661
1-703-527-3887

RUBRIQUE 2: Identification des dangers

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



GHS02 flamme

Flam. Liq. 2 H225 Liquide et vapeurs très inflammables.



GHS08 danger pour la santé

Carc. 2 H351 Susceptible de provoquer le cancer.



GHS09 environnement

Aquatic Chronic 2 H411 Toxique pour les organismes aquatiques, entraîne des effets néfastes à long terme.



GHS07

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

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· **Pictogrammes de danger**

GHS02 GHS07 GHS08 GHS09

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

tétrahydrofurane

· **Mentions de danger**

H225 Liquide et vapeurs très inflammables.

H302 Nocif en cas d'ingestion.

H315 Provoque une irritation cutanée.

H319 Provoque une sévère irritation des yeux.

H317 Peut provoquer une allergie cutanée.

H351 Susceptible de provoquer le cancer.

H335 Peut irriter les voies respiratoires.

H411 Toxique pour les organismes aquatiques, entraîne des effets néfastes à long terme.

· **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.

· **Indications complémentaires:**

EUH019 Peut former des peroxydes explosifs.

· **2.3 Autres dangers**· **Résultats des évaluations PBT et vPvB**· **PBT:** Non applicable.· **vPvB:** Non applicable.

RUBRIQUE 3: Composition/informations sur les composants

· **3.2 Caractérisation chimique: Mélanges**· **Description:** Mélange des substances mentionnées à la suite avec des additifs non dangereux.· **Composants dangereux:**

| | | |
|------------------------------------|--|-----------|
| CAS: 109-99-9 EINECS: 203-726-8 | tétrahydrofurane Flam. Liq. 2, H225; Carc. 2, H351; Eye Irrit. 2, H319; STOT SE 3, H335 | >50-≤100% |
| CAS: 78-93-3 EINECS: 201-159-0 | butanone Flam. Liq. 2, H225; Eye Irrit. 2, H319; STOT SE 3, H336 | >2,5-≤10% |

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

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RUBRIQUE 4: Premiers secours

- **4.1 Description des premiers secours**
- **Remarques générales:**
Les symptômes d'intoxication peuvent apparaître après de nombreuses heures seulement; une surveillance médicale est donc nécessaire au moins 48 heures après un accident.
- **Après inhalation:**
Donner de l'air frais en abondance et consulter un médecin pour plus de sécurité.
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. Si les troubles persistent, consulter un médecin.
- **Après ingestion:** Consulter immédiatement un médecin.
- **4.2 Principaux symptômes et effets, aigus et différés** Pas d'autres informations importantes disponibles.
- **4.3 Indication des éventuels soins médicaux immédiats et traitements particuliers nécessaires**
Pas d'autres informations importantes disponibles.

RUBRIQUE 5: Mesures de lutte contre l'incendie

- **5.1 Moyens d'extinction**
- **Moyens d'extinction:** CO2, sable, poudre d'extinction. Ne pas utiliser d'eau.
- **Produits extincteurs déconseillés pour des raisons de sécurité:** Jet d'eau à grand débit
- **5.2 Dangers particuliers résultant de la substance ou du mélange**
Pas d'autres informations importantes disponibles.
- **5.3 Conseils aux pompiers**
- **Équipement spécial de sécurité:** Aucune mesure particulière n'est requise.

RUBRIQUE 6: Mesures à prendre en cas de dispersion accidentelle

- **6.1 Précautions individuelles, équipement de protection et procédures d'urgence**
Porter un équipement de sécurité. Eloigner les personnes non protégées.
- **6.2 Précautions pour la protection de l'environnement:**
En cas de pénétration dans les eaux ou les égouts, avvertir les autorités compétentes.
Ne pas rejeter dans les canalisations, dans les eaux de surface et dans les nappes d'eau souterraines.
- **6.3 Méthodes et matériel de confinement et de nettoyage:**
Recueillir les liquides à l'aide d'un produit absorbant (sable, kieselguhr, neutralisant d'acide, liant universel, sciure).
Evacuer les matériaux contaminés en tant que déchets conformément au point 13.
Assurer une aération suffisante.
Ne pas rincer à l'eau ou aux produits nettoyants aqueux.
- **6.4 Référence à d'autres rubriques**
Afin d'obtenir des informations pour une manipulation sûre, consulter le chapitre 7.
Afin d'obtenir des informations sur les équipements de protection personnels, consulter le chapitre 8.
Afin d'obtenir des informations sur l'élimination, consulter le chapitre 13.

RUBRIQUE 7: Manipulation et stockage

- **7.1 Précautions à prendre pour une manipulation sans danger**
Veiller à une bonne ventilation/aspiration du poste de travail.
Ouvrir et manipuler les récipients avec précaution.

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- Eviter la formation d'aérosols.
- **Préventions des incendies et des explosions:**
 - Tenir à l'abri des sources d'inflammation - ne pas fumer.
 - Tenir à l'abri de la chaleur.
 - Prendre des mesures contre les charges électrostatiques.
- **7.2 Conditions d'un stockage sûr, y compris d'éventuelles incompatibilités**
- **Stockage:**
 - **Exigences concernant les lieux et conteneurs de stockage:** Stocker dans un endroit frais.
 - **Indications concernant le stockage commun:** Pas nécessaire.
 - **Autres indications sur les conditions de stockage:**
 - Tenir les emballages hermétiquement fermés.
 - Stocker au frais et au sec dans des fûts bien fermés.
 - Protéger de la forte chaleur et du rayonnement direct du soleil.
- **7.3 Utilisation(s) finale(s) particulière(s)** Pas d'autres informations importantes disponibles.

RUBRIQUE 8: Contrôles de l'exposition/protection individuelle

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

· 8.1 Paramètres de contrôle

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

109-99-9 tétrahydrofurane

| | |
|-----|---|
| VME | Valeur momentanée: 300 mg/m ³ , 100 ppm Valeur à long terme: 150 mg/m ³ , 50 ppm C2, risque de pénétration percutanée |
|-----|---|

78-93-3 butanone

| | |
|-----|--|
| VME | Valeur momentanée: 900 mg/m ³ , 300 ppm Valeur à long terme: 600 mg/m ³ , 200 ppm risque de pénétration percutanée |
|-----|--|

- **Remarques supplémentaires:**
 - Le présent document s'appuie sur les listes en vigueur au moment de son élaboration.
- **8.2 Contrôles de l'exposition**
- **Equipement de protection individuel:**
- **Mesures générales de protection et d'hygiène:**
 - Tenir à l'écart des produits alimentaires, des boissons et de la nourriture pour animaux.
 - Retirer immédiatement les vêtements souillés ou humectés.
 - Se laver les mains avant les pauses et en fin de travail.
 - Eviter tout contact avec les yeux et avec la peau.
- **Protection respiratoire:**
 - En cas d'exposition faible ou de courte durée, utiliser un filtre respiratoire; en cas d'exposition intense ou durable, utiliser un appareil de respiration indépendant de l'air ambiant.
- **Protection des mains:**



Gants de protection

Le matériau des gants doit être imperméable et résistant au produit / à la substance / à la préparation.
À cause du manque de tests, aucune recommandation pour un matériau de gants pour le produit / la préparation / le mélange de produits chimiques ne peut être donnée.
Choix du matériau des gants en fonction des temps de pénétration, du taux de perméabilité et de la dégradation.

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· **Matériau des gants**

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

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

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

· **Protection des yeux:**



Lunettes de protection hermétiques

RUBRIQUE 9: Propriétés physiques et chimiques

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

· **Indications générales**

· **Aspect:**

| | |
|--------------------------|----------------|
| · Forme: | Liquide |
| · Couleur: | Incolore |
| · Odeur: | Genre éther |
| · 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: | 66 °C |

· **Point d'éclair** -14 °C

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

· **Température d'inflammation:** 320 °C

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

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

· **Propriétés explosives:** Peut former des peroxydes explosifs.

· **Limites d'explosion:**

| | |
|----------------------|-----------|
| · Inférieure: | 1,5 Vol % |
| · Supérieure: | 12 Vol % |

· **Pression de vapeur à 20 °C:** 200 hPa

| | |
|------------------------------|-----------------------|
| · Densité à 20 °C: | 2,4 g/cm ³ |
| · Densité relative | Non déterminé. |
| · Densité de vapeur: | Non déterminé. |
| · Taux d'évaporation: | Non déterminé. |

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

Pas ou peu miscible

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

· **Viscosité:**

· **Dynamique:** Non déterminé.

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| | |
|--------------------------------------|--|
| Cinématique: | Non déterminé. |
| · Teneur en solvants: | |
| Solvants organiques: | 70,1 % |
| VOC (CE) | 70,09 % |
| 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

Nocif en cas d'ingestion.

· Valeurs LD/LC50 déterminantes pour la classification:

109-99-9 tétrahydrofurane

| | | |
|------|------|-------------------|
| Oral | LD50 | 2.500 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

Susceptible de provoquer le cancer.

· Toxicité pour la reproduction

Compte tenu des données disponibles, les critères de classification ne sont pas remplis.

· Toxicité spécifique pour certains organes cibles - exposition unique

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.

· Danger par aspiration

Compte tenu des données disponibles, les critères de classification ne sont pas remplis.

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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.
- **Effets écotoxiques:**
- **Remarque:** Toxique chez les poissons.
- **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.
Dans les eaux, également toxique pour les poissons et le plancton.
Toxique pour les organismes aquatiques.
- **12.5 Résultats des évaluations PBT et VPVB**
- **PBT:** Non applicable.
- **vPvB:** Non applicable.
- **12.6 Autres effets néfastes** Pas d'autres informations importantes disponibles.

RUBRIQUE 13: Considérations relatives à l'élimination

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

RUBRIQUE 14: Informations relatives au transport

- | | |
|---|---|
| <ul style="list-style-type: none"> · 14.1 Numéro ONU · ADR, IMDG, IATA | <p style="text-align: center;">UN1133</p> |
| <ul style="list-style-type: none"> · 14.2 Désignation officielle de transport de l'ONU · ADR · IMDG, IATA | <p style="text-align: center;">1133 ADHÉSIFS, DANGEREUX POUR L'ENVIRONNEMENT ADHESIVES</p> |
| <ul style="list-style-type: none"> · 14.3 Classe(s) de danger pour le transport · ADR | <div style="display: flex; align-items: center; justify-content: center;">   </div> <p style="text-align: center;">3 Liquides inflammables.</p> |
| <ul style="list-style-type: none"> · Classe | <p style="text-align: center;">3 Liquides inflammables.</p> |

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| | |
|--|---|
| · Étiquette | 3 |
| · IMDG, IATA | |
|  | |
| · Class | 3 Liquides inflammables. |
| · Label | 3 |
| · 14.4 Groupe d'emballage | |
| · ADR, IMDG, IATA | II |
| · 14.5 Dangers pour l'environnement: | |
| · Marquage spécial (ADR): | Signe conventionnel (poisson et arbre) |
| · 14.6 Précautions particulières à prendre par l'utilisateur | Attention: Liquides inflammables. |
| · Indice Kemler: | 33 |
| · No EMS: | F-E,S-D |
| · Stowage Category | 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) | 5L |
| · Quantités exceptées (EQ) | Code: E2 Quantité maximale nette par emballage intérieur: 30 ml Quantité maximale nette par emballage extérieur: 500 ml |
| · Catégorie de transport | 2 |
| · Code de restriction en tunnels | D/E |
| · IMDG | |
| · Limited quantities (LQ) | 1L |
| · Excepted quantities (EQ) | Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml |
| · "Règlement type" de l'ONU: | UN 1133 ADHÉSIFS, 3, II, DANGEREUX POUR L'ENVIRONNEMENT |

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**
E2 Danger pour l'environnement aquatique
P5c LIQUIDES INFLAMMABLES
- **Quantité seuil (tonnes) pour l'application des exigences relatives au seuil bas 200 t**
- **Quantité seuil (tonnes) pour l'application des exigences relatives au seuil haut 500 t**

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- **RÈGLEMENT (CE) N° 1907/2006 ANNEXE XVII** Conditions de limitation: 3
- **15.2 Évaluation de la sécurité chimique:** Une évaluation de la sécurité chimique n'a pas été réalisée.

RUBRIQUE 16: Autres informations

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

· **Phrases importantes**

- H225 Liquide et vapeurs très inflammables.
- H319 Provoque une sévère irritation des yeux.
- H335 Peut irriter les voies respiratoires.
- H336 Peut provoquer somnolence ou vertiges.
- H351 Susceptible de provoquer le cancer.

· **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
- Carc. 2: Cancérogénicité – Catégorie 2
- STOT SE 3: Toxicité spécifique pour certains organes cibles (exposition unique) – Catégorie 3
- Aquatic Chronic 2: Dangers pour le milieu aquatique- toxicité à long terme pour le milieu aquatique – Catégorie 2

FR

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

- **1.1 Produktidentifikator**
- **Handelsname:** M-BOND 610 ADHESIVE
- **Artikelnummer:** 50410-30A
- **1.2 Relevante identifizierte Verwendungen des Stoffs oder Gemischs und Verwendungen, von denen abgeraten wird**
Keine weiteren relevanten Informationen verfügbar.
- **Verwendung des Stoffes / des Gemisches** Laborchemikalien
- **1.3 Einzelheiten zum Lieferanten, der das Sicherheitsdatenblatt bereitstellt**
- **Hersteller/Lieferant:**
Electron Microscopy Sciences
1560 Industry Road
USA-Hatfield, PA 19440
Tel: 215-412-8400 Fax: 215-412-8450
email: sgkcck@aol.com
www.emsdiasum.com

Science Services GmbH
Unterhachinger Str. 75
81737 München Germany

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

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

ABSCHNITT 2: Mögliche Gefahren

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



GHS02 Flamme

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



GHS08 Gesundheitsgefahr

Carc. 2 H351 Kann vermutlich Krebs erzeugen.



GHS09 Umwelt

Aquatic Chronic 2 H411 Giftig für Wasserorganismen, mit langfristiger Wirkung.

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GHS07

| | | |
|---------------|------|--|
| Acute Tox. 4 | H302 | Gesundheitsschädlich bei Verschlucken. |
| 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. |

· 2.2 Kennzeichnungselemente

· Kennzeichnung gemäß Verordnung (EG) Nr. 1272/2008

Das Produkt ist gemäß CLP-Verordnung eingestuft und gekennzeichnet.

· Gefahrenpiktogramme



GHS02

GHS07

GHS08

GHS09

· Signalwort Gefahr

· Gefahrbestimmende Komponenten zur Etikettierung:

Tetrahydrofuran

· Gefahrenhinweise

H225 Flüssigkeit und Dampf leicht entzündbar.

H302 Gesundheitsschädlich bei Verschlucken.

H315 Verursacht Hautreizungen.

H319 Verursacht schwere Augenreizung.

H317 Kann allergische Hautreaktionen verursachen.

H351 Kann vermutlich Krebs erzeugen.

H335 Kann die Atemwege reizen.

H411 Giftig für Wasserorganismen, mit langfristiger Wirkung.

· 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.

· Zusätzliche Angaben:

EUH019 Kann explosionsfähige Peroxide bilden.

· 2.3 Sonstige Gefahren

· Ergebnisse der PBT- und vPvB-Beurteilung

· PBT: Nicht anwendbar.

· vPvB: Nicht anwendbar.

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ABSCHNITT 3: Zusammensetzung/Angaben zu Bestandteilen

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

- **Gefährliche Inhaltsstoffe:**

| | | |
|------------------------------------|---|-----------|
| CAS: 109-99-9 EINECS: 203-726-8 | Tetrahydrofuran Flam. Liq. 2, H225; Carc. 2, H351; Eye Irrit. 2, H319; STOT SE 3, H335 | >50-≤100% |
| CAS: 78-93-3 EINECS: 201-159-0 | Butanon Flam. Liq. 2, H225; Eye Irrit. 2, H319; STOT SE 3, H336 | >2,5-≤10% |

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

ABSCHNITT 4: Erste-Hilfe-Maßnahmen

- **4.1 Beschreibung der Erste-Hilfe-Maßnahmen**
- **Allgemeine Hinweise:**
Vergiftungssymptome können erst nach vielen Stunden auftreten, deshalb ärztliche Überwachung mindestens 48 Stunden nach einem Unfall.
- **Nach Einatmen:**
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 mehrere Minuten bei geöffnetem Lidspalt unter fließendem Wasser spülen. Bei anhaltenden Beschwerden Arzt konsultieren.
- **Nach Verschlucken:** Sofort Arzt aufsuchen.
- **4.2 Wichtigste akute und verzögert auftretende Symptome und Wirkungen**
Keine weiteren relevanten Informationen verfügbar.
- **4.3 Hinweise auf ärztliche Soforthilfe oder Spezialbehandlung**
Keine weiteren relevanten Informationen verfügbar.

ABSCHNITT 5: Maßnahmen zur Brandbekämpfung

- **5.1 Löschmittel**
- **Geeignete Löschmittel:** CO₂, Sand, Löschpulver. Kein Wasser verwenden.
- **Aus Sicherheitsgründen ungeeignete Löschmittel:** Wasser im Vollstrahl
- **5.2 Besondere vom Stoff oder Gemisch ausgehende Gefahren**
Keine weiteren relevanten Informationen verfügbar.
- **5.3 Hinweise für die Brandbekämpfung**
- **Besondere Schutzausrüstung:** Keine besonderen Maßnahmen erforderlich.

ABSCHNITT 6: Maßnahmen bei unbeabsichtigter Freisetzung

- **6.1 Personenbezogene Vorsichtsmaßnahmen, Schutzausrüstungen und in Notfällen anzuwendende Verfahren**
Schutzausrüstung tragen. Ungeschützte Personen fernhalten.
- **6.2 Umweltschutzmaßnahmen:**
Bei Eindringen in Gewässer oder Kanalisation zuständige Behörden benachrichtigen.
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.

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- Kontaminiertes Material als Abfall nach Abschnitt 13 entsorgen.
Für ausreichende Lüftung sorgen.
Nicht mit Wasser oder wässrigen Reinigungsmitteln wegspülen.
- **6.4 Verweis auf andere Abschnitte**
 - Informationen zur sicheren Handhabung siehe Abschnitt 7.
 - Informationen zur persönlichen Schutzausrüstung siehe Abschnitt 8.
 - Informationen zur Entsorgung siehe Abschnitt 13.

ABSCHNITT 7: Handhabung und Lagerung

- **7.1 Schutzmaßnahmen zur sicheren Handhabung**
Für gute Belüftung/Absaugung am Arbeitsplatz sorgen.
Behälter mit Vorsicht öffnen und handhaben.
Aerosolbildung vermeiden.
- **Hinweise zum Brand- und Explosionsschutz:**
Zündquellen fernhalten - nicht rauchen.
Vor Hitze schützen.
Maßnahmen gegen elektrostatische Aufladung treffen.
- **7.2 Bedingungen zur sicheren Lagerung unter Berücksichtigung von Unverträglichkeiten**
- **Lagerung:**
- **Anforderung an Lagerräume und Behälter:** An einem kühlen Ort lagern.
- **Zusammenlagerungshinweise:** Nicht erforderlich.
- **Weitere Angaben zu den Lagerbedingungen:**
Behälter dicht geschlossen halten.
In gut verschlossenen Gebinden kühl und trocken lagern.
Vor Hitze und direkter Sonnenbestrahlung schützen.
- **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:**

109-99-9 Tetrahydrofuran

| | |
|-----|--|
| AGW | Langzeitwert: 150 mg/m ³ , 50 ml/m ³ 2(I);DFG, EU, H, Y |
|-----|--|

78-93-3 Butanon

| | |
|-----|---|
| AGW | Langzeitwert: 600 mg/m ³ , 200 ml/m ³ 1(I);DFG, EU, H, Y |
|-----|---|

- **Bestandteile mit biologischen Grenzwerten:**

109-99-9 Tetrahydrofuran

| | |
|-----|---|
| BGW | 2 mg/l Untersuchungsmaterial: Urin Probennahmezeitpunkt: Expositionsende bzw. Schichtende Parameter: Tetrahydrofuran |
|-----|---|

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78-93-3 Butanon

BGW 2 mg/l

Untersuchungsmaterial: Urin

Probennahmezeitpunkt: Expositionsende bzw. Schichtende

Parameter: 2-Butanon

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



Schutzhandschuhe

Das Handschuhmaterial muss undurchlässig und beständig gegen das Produkt / den Stoff / die Zubereitung sein. Aufgrund fehlender Tests kann keine Empfehlung zum Handschuhmaterial für das Produkt / die Zubereitung / das Chemikaliengemisch abgegeben werden.

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

- **Handschuhmaterial**
 Die Auswahl eines geeigneten Handschuhs ist nicht nur vom Material, sondern auch von weiteren Qualitätsmerkmalen abhängig und von Hersteller zu Hersteller unterschiedlich. Da das Produkt eine Zubereitung aus mehreren Stoffen darstellt, ist die Beständigkeit von Handschuhmaterialien nicht vorausberechenbar und muß deshalb vor dem Einsatz überprüft werden.
- **Durchdringungszeit des Handschuhmaterials**
 Die genaue Durchbruchzeit ist beim Schutzhandschuhhersteller zu erfahren und einzuhalten.
- **Augenschutz:**



Dichtschließende Schutzbrille

ABSCHNITT 9: Physikalische und chemische Eigenschaften

- **9.1 Angaben zu den grundlegenden physikalischen und chemischen Eigenschaften**
- **Allgemeine Angaben**
- **Aussehen:**

| | |
|-------------------------|-----------------|
| Form: | Flüssigkeit |
| Farbe: | Farblos |
| Geruch: | Etherartig |
| Geruchsschwelle: | Nicht bestimmt. |
- **pH-Wert:** Nicht bestimmt.

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| | |
|--|--|
| · Zustandsänderung | |
| Schmelzpunkt/Gefrierpunkt: | Nicht bestimmt. |
| Siedebeginn und Siedebereich: | 66 °C |
| · Flammpunkt: | -14 °C |
| · Entzündbarkeit (fest, gasförmig): | Nicht anwendbar. |
| · Zündtemperatur: | 320 °C |
| · Zersetzungstemperatur: | Nicht bestimmt. |
| · Selbstentzündungstemperatur: | Das Produkt ist nicht selbstentzündlich. |
| · Explosive Eigenschaften: | Kann explosionsfähige Peroxide bilden. |
| · Explosionsgrenzen: | |
| Untere: | 1,5 Vol % |
| Obere: | 12 Vol % |
| · Dampfdruck bei 20 °C: | 200 hPa |
| · Dichte bei 20 °C: | 2,4 g/cm ³ |
| · Relative Dichte | Nicht bestimmt. |
| · Dampfdichte | Nicht bestimmt. |
| · Verdampfungsgeschwindigkeit | Nicht bestimmt. |
| · Löslichkeit in / Mischbarkeit mit Wasser: | Nicht bzw. wenig mischbar. |
| · Verteilungskoeffizient: n-Octanol/Wasser: | Nicht bestimmt. |
| · Viskosität: | |
| Dynamisch: | Nicht bestimmt. |
| Kinematisch: | Nicht bestimmt. |
| · Lösemittelgehalt: | |
| Organische Lösemittel: | 70,1 % |
| VOC (EU) | 70,09 % |
| · 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

Gesundheitsschädlich bei Verschlucken.

· Einstufungsrelevante LD/LC50-Werte:

109-99-9 Tetrahydrofuran

| | | |
|------|------|-------------------|
| Oral | LD50 | 2.500 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

Kann vermutlich Krebs erzeugen.

· 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.

· Ökotoxische Wirkungen:

· **Bemerkung:** Giftig für Fische.

· 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.

In Gewässern auch giftig für Fische und Plankton.

giftig für Wasserorganismen

· 12.5 Ergebnisse der PBT- und vPvB-Beurteilung

· **PBT:** Nicht anwendbar.

· **vPvB:** Nicht anwendbar.

· **12.6 Andere schädliche Wirkungen** Keine weiteren relevanten Informationen verfügbar.

ABSCHNITT 13: Hinweise zur Entsorgung

· 13.1 Verfahren der Abfallbehandlung

· **Empfehlung:** Darf nicht zusammen mit Hausmüll entsorgt werden. Nicht in die Kanalisation gelangen lassen.

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

ABSCHNITT 14: Angaben zum Transport

· 14.1 UN-Nummer

· ADR, IMDG, IATA UN1133

· 14.2 Ordnungsgemäße UN-Versandbezeichnung

· ADR 1133 KLEBSTOFFE, UMWELTGEFÄHRDEND
 · IMDG, IATA ADHESIVES

· 14.3 Transportgefahrenklassen

· ADR



· Klasse 3 Entzündbare flüssige Stoffe
 · Gefahrzettel 3

· IMDG, IATA



· Class 3 Entzündbare flüssige Stoffe
 · Label 3

· 14.4 Verpackungsgruppe

· ADR, IMDG, IATA II

· 14.5 Umweltgefahren:

· Besondere Kennzeichnung (ADR): Symbol (Fisch und Baum)

· 14.6 Besondere Vorsichtsmaßnahmen für den Verwender

Achtung: Entzündbare flüssige Stoffe
 · Kehler-Zahl: 33
 · EMS-Nummer: F-E,S-D
 · Stowage Category: B

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

· Transport/weitere Angaben:

· ADR

· Begrenzte Menge (LQ) 5L
 · Freigestellte Mengen (EQ) Code: E2
 Höchste Nettomenge je Innenverpackung: 30 ml
 Höchste Nettomenge je Außenverpackung: 500 ml

· Beförderungskategorie 2

· Tunnelbeschränkungscode D/E

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- | | |
|--|---|
| <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 1133 KLEBSTOFFE, 3, II, UMWELTGEFÄHRDEND |

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**
E2 Gewässergefährdend
P5c ENTZÜNDBARE FLÜSSIGKEITEN
 - **Mengenschwelle (in Tonnen) für die Anwendung in Betrieben der unteren Klasse 200 t**
 - **Mengenschwelle (in Tonnen) für die Anwendung in Betrieben der oberen Klasse 500 t**
 - **VERORDNUNG (EG) Nr. 1907/2006 ANHANG XVII Beschränkungsbedingungen: 3**
 - **Nationale Vorschriften:**
 - **Technische Anleitung Luft:**
- | Klasse | Anteil in % |
|--------|-------------|
| NK | 70,1 |
- **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.
H319 Verursacht schwere Augenreizung.
H335 Kann die Atemwege reizen.
H336 Kann Schläfrigkeit und Benommenheit verursachen.
H351 Kann vermutlich Krebs erzeugen.
- **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

(Fortsetzung auf Seite 10)

Sicherheitsdatenblatt
gemäß 1907/2006/EG, Artikel 31

Druckdatum: 06.12.2018

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Handelsname: M-BOND 610 ADHESIVE

(Fortsetzung von Seite 9)

*Flam. Liq. 2: Entzündbare Flüssigkeiten – Kategorie 2**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**Carc. 2: Karzinogenität – Kategorie 2**STOT SE 3: Spezifische Zielorgan-Toxizität (einmalige Exposition) – Kategorie 3**Aquatic Chronic 2: Gewässergefährdend - langfristig gewässergefährdend – Kategorie 2*

DE

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

Stampato il: 06.12.2018

Revisione: 06.12.2018

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

- **1.1 Identificatore del prodotto**
- **Denominazione commerciale:** M-BOND 610 ADHESIVE
- **Articolo numero:** 50410-30A
- **1.2 Usi identificati pertinenti della sostanza o della miscela e usi sconsigliati**
Non sono disponibili altre informazioni.
- **Utilizzazione della Sostanza / del Preparato** Prodotti chimici per laboratorio
- **1.3 Informazioni sul fornitore della scheda di dati di sicurezza**
- **Produttore/fornitore:**
Electron Microscopy Sciences
1560 Industry Road
USA-Hatfield, PA 19440
Tel: 215-412-8400 Fax: 215-412-8450
email: sgkcck@aol.com
www.emsdiasum.com
- **Società Italiana Chimici**
Via Rio Nell Ellba 140
00138 Rome, Italy
Tel: 39 06 8800211
Fax: 39 30 06 8815313
Web: www.sichim.com
- **Informazioni fornite da:** Product safety department
- **1.4 Numero telefonico di emergenza:**
ChemTrec 1-800-424-9300 Contract CCN7661
1-703-527-3887

SEZIONE 2: Identificazione dei pericoli

- **2.1 Classificazione della sostanza o della miscela**
- **Classificazione secondo il regolamento (CE) n. 1272/2008**



GHS02 fiamma

Flam. Liq. 2 H225 Liquido e vapori facilmente infiammabili.



GHS08 pericolo per la salute

Carc. 2 H351 Sospettato di provocare il cancro.



GHS09 ambiente

Aquatic Chronic 2 H411 Tossico per gli organismi acquatici con effetti di lunga durata.



GHS07

Acute Tox. 4 H302 Nocivo se ingerito.
Skin Irrit. 2 H315 Provoca irritazione cutanea.
Eye Irrit. 2 H319 Provoca grave irritazione oculare.

(continua a pagina 2)

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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.

· **Pittogrammi di pericolo**



GHS02 GHS07 GHS08 GHS09

· **Avvertenza Pericolo**

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

· **Indicazioni di pericolo**

H225 Liquido e vapori facilmente infiammabili.

H302 Nocivo se ingerito.

H315 Provoca irritazione cutanea.

H319 Provoca grave irritazione oculare.

H317 Può provocare una reazione allergica cutanea.

H351 Sospettato di provocare il cancro.

H335 Può irritare le vie respiratorie.

H411 Tossico per gli organismi acquatici con effetti di lunga durata.

· **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.

· **Ulteriori dati:**

EUH019 Può formare perossidi esplosivi.

· **2.3 Altri pericoli**

· **Risultati della valutazione PBT e vPvB**

· **PBT:** Non applicabile.

· **vPvB:** Non applicabile.

SEZIONE 3: Composizione/informazioni sugli ingredienti

· **3.2 Caratteristiche chimiche: Miscela**

· **Descrizione:** Miscela delle seguenti sostanze con additivi non pericolosi.

· **Sostanze pericolose:**

| | | |
|-------------------|--|-----------|
| CAS: 109-99-9 | tetraidrofurano | >50-≤100% |
| EINECS: 203-726-8 | Flam. Liq. 2, H225; Carc. 2, H351; Eye Irrit. 2, H319; STOT SE 3, H335 | |

(continua a pagina 3)

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

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Denominazione commerciale: M-BOND 610 ADHESIVE

CAS: 78-93-3

butanone

(Segue da pagina 2)

EINECS: 201-159-0

>2,5-≤10%

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

SEZIONE 4: Misure di primo soccorso

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

· **Indicazioni generali:**

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

· **Inalazione:**

Portare 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. Se persiste il dolore consultare il medico.

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

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

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

Non sono disponibili altre informazioni.

SEZIONE 5: Misure antincendio

· **5.1 Mezzi di estinzione**

· **Mezzi di estinzione idonei:** CO₂, sabbia, polvere. Non usare acqua.

· **Mezzi di estinzione inadatti per motivi di sicurezza:** Getti d'acqua

· **5.2 Pericoli speciali derivanti dalla sostanza o dalla miscela** Non sono disponibili altre informazioni.

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

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

SEZIONE 6: Misure in caso di rilascio accidentale

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

Indossare equipaggiamento protettivo. Allontanare le persone non equipaggiate.

· **6.2 Precauzioni ambientali:**

In caso di infiltrazione nei corpi d'acqua o nelle fognature avvertire le autorità competenti.

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

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

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

Smaltimento del materiale contaminato conformemente al punto 13.

Provvedere ad una sufficiente areazione.

Non dilavare con acqua o detersivi liquidi.

· **6.4 Riferimento ad altre sezioni**

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

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

Per informazioni relative allo smaltimento vedere Capitolo 13.

IT

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SEZIONE 7: Manipolazione e immagazzinamento

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

SEZIONE 8: Controllo dell'esposizione/protezione individuale

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

8.1 Parametri di controllo

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

109-99-9 tetraidrofurano

| | |
|-----|---|
| TWA | Valore a breve termine: 295 mg/m ³ , 100 ppm Valore a lungo termine: 147 mg/m ³ , 50 ppm cute, A3 |
| VL | Valore a breve termine: 300 mg/m ³ , 100 ppm Valore a lungo termine: 150 mg/m ³ , 50 ppm Pelle |

78-93-3 butanone

| | |
|-----|---|
| TWA | Valore a breve termine: 885 mg/m ³ , 300 ppm Valore a lungo termine: 590 mg/m ³ , 200 ppm IBE |
| VL | Valore a breve termine: 900 mg/m ³ , 300 ppm Valore a lungo termine: 600 mg/m ³ , 200 ppm |

- **Componenti con valori limite biologici:**

109-99-9 tetraidrofurano

| | |
|-----|--|
| IBE | 2 mg/l Campioni: urine Momento del prelievo: a fine turno Indicatore biologico: tetraidrofurano |
|-----|--|

78-93-3 butanone

| | |
|-----|---|
| IBE | 2 mg/l Campioni: urine Momento del prelievo: a fine turno Indicatore biologico: Metil etil chetone |
|-----|---|

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· **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.

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'etere

· **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: 66 °C

· **Punto di infiammabilità:** -14 °C

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| | |
|--|--|
| · Infiammabilità (solidi, gas): | Non applicabile. |
| · Temperatura di accensione: | 320 °C |
| · Temperatura di decomposizione: | Non definito. |
| · Temperatura di autoaccensione: | Prodotto non autoinfiammabile. |
| · Proprietà esplosive: | Può formare perossidi esplosivi. |
| · Limiti di infiammabilità: | |
| Inferiore: | 1,5 Vol % |
| Superiore: | 12 Vol % |
| · Tensione di vapore a 20 °C: | 200 hPa |
| · Densità a 20 °C: | 2,4 g/cm ³ |
| · Densità relativa | Non definito. |
| · Densità di vapore: | Non definito. |
| · Velocità di evaporazione | Non definito. |
| · Solubilità in/Miscibilità con acqua: | Poco e/o non miscibile. |
| · Coefficiente di ripartizione: n-ottanolo/acqua: | Non definito. |
| · Viscosità: | |
| Dinamica: | Non definito. |
| Cinematica: | Non definito. |
| · Tenore del solvente: | |
| Solventi organici: | 70,1 % |
| VOC (CE) | 70,09 % |
| 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**
Nocivo se ingerito.

| | | |
|---|------|-------------------|
| · Valori LD/LC50 rilevanti per la classificazione: | | |
| 109-99-9 tetraidrofurano | | |
| Orale | LD50 | 2.500 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**
Sospettato di provocare il cancro.
- **Tossicità per la riproduzione** Basandosi sui dati disponibili i criteri di classificazione non sono soddisfatti.
- **Tossicità specifica per organi bersaglio (STOT) - esposizione singola**
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.
- **Effetti tossici per l'ambiente:**
- **Osservazioni:** Tossico per i pesci.
- **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.
Tossico per pesci e plancton.
tossico per gli organismi acquatici
- **12.5 Risultati della valutazione PBT e vPvB**
- **PBT:** Non applicabile.
- **vPvB:** Non applicabile.
- **12.6 Altri effetti avversi** Non sono disponibili altre informazioni.

SEZIONE 13: Considerazioni sullo smaltimento

- **13.1 Metodi di trattamento dei rifiuti**
- **Consigli:** Non smaltire il prodotto insieme ai rifiuti domestici Non immettere nelle fognature.
- **Imballaggi non puliti:**
- **Consigli:** Smaltimento in conformità con le disposizioni amministrative.

SEZIONE 14: Informazioni sul trasporto

- **14.1 Numero ONU**
- **ADR, IMDG, IATA**

UN1133

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· **14.2 Nome di spedizione dell'ONU**
· **ADR** 1133 ADESIVI, PERICOLOSO PER L'AMBIENTE
· **IMDG, IATA** ADHESIVES

· **14.3 Classi di pericolo connesso al trasporto**· **ADR**

· **Classe** 3 Liquidi infiammabili
· **Etichetta** 3

· **IMDG, IATA**

· **Class** 3 Liquidi infiammabili
· **Label** 3

· **14.4 Gruppo di imballaggio**· **ADR, IMDG, IATA** II· **14.5 Pericoli per l'ambiente:**· **Marcatura speciali (ADR):** Simbolo (pesce e albero)· **14.6 Precauzioni speciali per gli utilizzatori** Attenzione: Liquidi infiammabili· **Numero Kemler:** 33· **Numero EMS:** F-E,S-D· **Stowage Category** B· **14.7 Trasporto di rinfuse secondo l'allegato II di****MARPOL ed il codice IBC** Non applicabile.· **Trasporto/ulteriori indicazioni:**· **ADR**· **Quantità limitate (LQ)** 5L· **Quantità esenti (EQ)** Codice: E2

Quantità massima netta per imballaggio interno: 30 ml

Quantità massima netta per imballaggio esterno: 500 ml

· **Categoria di trasporto** 2· **Codice di restrizione in galleria** D/E· **IMDG**· **Limited quantities (LQ)** 1L· **Excepted quantities (EQ)** Code: E2

Maximum net quantity per inner packaging: 30 ml

Maximum net quantity per outer packaging: 500 ml

· **UN "Model Regulation":**

UN 1133 ADESIVI, 3, II, PERICOLOSO PER L'AMBIENTE

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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**
E2 Pericoloso per l'ambiente acquatico
P5c LIQUIDI INFIAMMABILI
 - **Quantità limite (tonnellate) ai fini dell'applicazione dei requisiti di soglia inferiore 200 t**
 - **Quantità limite (tonnellate) ai fini dell'applicazione dei requisiti di soglia superiore 500 t**
 - **REGOLAMENTO (CE) n. 1907/2006 ALLEGATO XVII** Restrizioni: 3
 - **Disposizioni nazionali:**
 - **Istruzione tecnica aria:**
- | Classe | quota in % |
|--------|------------|
| NC | 70,1 |
- **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.

- **Fraasi rilevanti**
H225 Liquido e vapori facilmente infiammabili.
H319 Provoca grave irritazione oculare.
H335 Può irritare le vie respiratorie.
H336 Può provocare sonnolenza o vertigini.
H351 Sospettato di provocare il cancro.
- **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
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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
Carc. 2: Cancerogenicità – Categoria 2
STOT SE 3: Tossicità specifica per organi bersaglio (esposizione singola) – Categoria 3
Aquatic Chronic 2: Pericoloso per l'ambiente acquatico - pericolo a lungo termine per l'ambiente acquatico – Categoria 2

물질안전보건자료

GHS에 따라

기압점: 2018.12.06

개정: 2018.12.06

1 화학제품과 회사에 관한 정보

- 제품 식별자
- 제품명: M-BOND 610 ADHESIVE
- 상품번호: 50410-30A
- 해당 순물질이나 혼합물의 관련 하위용도 및 사용금지용도 추가적인 정보가 존재하지 않습니다.
- 제품의 권고 용도와 사용상의 제한: 실험실화학품
- 안전데이터표(Safety Data Sheet)내 공급업체 관련 상세 정보
- 제조자/수입자/유통업자 정보:
Electron Microscopy Sciences
1560 Industry Road
USA-Hatfield, PA 19440
Tel: 215-412-8400 Fax: 215-412-8450
email: sgkcck@aol.com
www.emsdiasum.com
- Samchang Commercial Co., Ltd.
Yeo Eui Do
PO Box 1110
Seoul, Korea
Tel: 82 2 703 3040
Fax: 82 2 717 3298
-
- Daedok Science, Co. Ltd.
34141 E10 Korea Advanced Institute of Science
Guseong-Dong, Yuseong-gu, Daejeon,
Korea
Phone: 82 42 710 2091
Fax: 82 42 367 0005
Website: www.labsmro.com
- 추가적인 정보 획득 가능: Product safety department
- 비상연락 전화번호:
ChemTrec 1-800-424-9300 Contract CCN7661
1-703-527-3887

2 유해성·위험성

- 순물질 또는 혼합물의 분류



화염

인화성 액체 - 구분 2

H225 고인화성 액체 및 증기



건강에 위험

발암성 - 구분 2

H351 암을 일으킬 것으로 의심됨



환경

수생환경 유해성 - 만성2

H411 장기적인 영향에 의해 수생생물에게 유독함

(2 쪽에 계속)

KR

물질안전보건자료

GHS에 따라

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| | | |
|---------|---|-------------------------|
| 78-93-3 | 메틸 에틸 케톤 ⚠ 인화성 액체 - 구분 2, H225; ⚠ 심한 눈 손상성/눈 자극성 - 구분 2, H319; 특정 표적장기 독성 - 1회 노출 - 구분 3, H336 | (2 쪽부터 계속) >2.5-≤10% |
|---------|---|-------------------------|

4 응급조치 요령

· 응급조치요령 내용

· 일반적 정보:

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

· 흡입했을 때:

신선한 공기를 쐬고 나서 반드시 의료진의 도움을 구한다.
 환자가 의식을 잃었을 경우에는 안전한 자세에서 환자를 운반한다.

· 피부에 접촉했을 때: 즉시 물과 비누로 씻고 잘 행군다.

· 눈에 들어갔을 때: 흐르는 물에 눈을 몇 분 동안 씻어내고 나서, 증상이 지속될 경우에는 의사와 상담한다

· 먹었을 때: 즉시 의사의 도움을 구한다.

· 기타 의사의 주의사항:

- 가장 중요한 급·만성 증상 및 영향 추가적인 정보가 존재하지 않습니다.
- 즉각적인 의료 처치 및 특별 치료가 필요함을 시사하는 징후 추가적인 정보가 존재하지 않습니다.

5 폭발·화재시 대처방법

· 소화제

· 적절한 소화제: 이산화탄소, 모래, 석회 가루를 사용하고, 물을 사용하지 않는다.

· 부적절한 소화제: 폼제트용 물

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

· 소방관에 대한 권고사항

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

6 누출 사고 시 대처방법

· 개인적 예방조치, 보호장비 및 응급처치 절차 안전장비 착용하고, 무방비의 사람은 격리시킨다.

· 환경 관련 예방조치:

하천이나 하수로 유입되었을 경우 해당 관청에 보고한다.
 하수도망/해수면 위의 물/지하수로도 달하지 않게 한다.

· 밀폐 및 정화 방법과 소재:

액체가 혼합된 물질 (모래, 규조토, 산성 결합물, 일반 결합물, 톱밥)에 흡입되도록 한다.
 항목 13에 따라 오염된 물질을 쓰레기로 처분한다.
 충분한 환기가 되도록 한다.
 물이나 묽은 세척제로 씻어 내지 마시오

· 타 색션 참조

안전 관리에 대한 정보는 제7 장을 참고하시오.
 개인 보호 장비에 대한 정보는 제8 장을 참고하시오.
 쓰레기 처리에 대한 정보는 제13 장을 참고하시오.

7 취급 및 저장방법

· 취급:

· 안전 취급을 위한 예방조치

작업장에서는 통풍이 잘 되고/습기 제거가 잘 되게 주의한다.

(4 쪽에 계속)

물질안전보건자료

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조심스럽게용기를개봉하거나취급한다.
연무질이형성되는것을피한다.

· 화재 및 폭발 사고 예방대책에 관한 정보:

발 화 요소는 멀리 둔 다-금 연.

열로부터보호한다.

정 전기 의 충 전 으로부터 보호한다.

· 혼합위험성 등 안전 저장 조건

· 보관:

· **안전한 저장 방법:** 차 가운 장 소에 보 관한다.

· **하나의 공동 보관 시설에 대한 보관 관련 정보:** 필 요없음

· 보 관 조 건 에 관 한 추 가 적 인 정 보:

용기를새지않게밀폐한채보관한다.

밀폐된 용기속에 서늘 하고 건조 하 게 보 관 한 다.

열이나직사광선으로부터보호한다.

· **구체적 최종 사용자** 추가적인 정보가 존재하지 않습니다.

8 노출방지 및 개인보호구

· **첨단시설 디자인에 대한 추가정보:** 더 이 상 의 자 료 는 없 음. 항 목 7 을 참 고 하 시 오.

· 통제 변수

· 화학물질의 노출기준, 생물학적 노출기준 등:

109-99-9 tetrahydrofuran

| | |
|------------|---|
| TLV (KR) | 단기간의값: 100 ppm 장기간의값: 50 ppm 발암성 2, Skin |
| IOELV (EU) | 단기간의값: 300 mg/m ³ , 100 ppm 장기간의값: 150 mg/m ³ , 50 ppm Skin |
| PEL (US) | 장기간의값: 590 mg/m ³ , 200 ppm |
| REL (US) | 단기간의값: 735 mg/m ³ , 250 ppm 장기간의값: 590 mg/m ³ , 200 ppm |
| TLV (US) | 단기간의값: 295 mg/m ³ , 100 ppm 장기간의값: 147 mg/m ³ , 50 ppm Skin |

78-93-3 메틸 에틸 케톤

| | |
|------------|---|
| TLV (KR) | 단기간의값: 300 ppm 장기간의값: 200 ppm |
| IOELV (EU) | 단기간의값: 900 mg/m ³ , 300 ppm 장기간의값: 600 mg/m ³ , 200 ppm |
| PEL (US) | 장기간의값: 590 mg/m ³ , 200 ppm |
| REL (US) | 단기간의값: 885 mg/m ³ , 300 ppm 장기간의값: 590 mg/m ³ , 200 ppm |
| TLV (US) | 단기간의값: 885 mg/m ³ , 300 ppm 장기간의값: 590 mg/m ³ , 200 ppm BEI |

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

(5 쪽에계속)

물질안전보건자료 GHS에 따라

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제품명: M-BOND 610 ADHESIVE

(4 쪽부터계속)

- **노출 통제**
- **개인 보호구**
- **일반적보호조치및위생조치:**
 식료품, 음료수와 사료로부터 멀리떨어뜨려 놓는다.
 더러워지거나 음료수가 묻은 옷은 즉시 탈의한다.
 휴식 전 이나 작업이 끝날때마다 손을 씻는다.
 눈과 피부와의 접촉은 피한다.
- **호흡기 보호:**
 단 시간 또는 경미한 오염의 경우에는 호흡 여과기를 사용한다. 심각한 또는 장기간 노출시에는 호흡보호장비를 사용한다.
- **손 보호:**



보호용 장갑

장갑재질은제품 / 원료 / 조제를투과시키지않아야하고, 내구성이있어야한다.
 테스트를 하지 않았기 때문에 제품 / 조제 / 화학 혼합 물에 적합한 장갑재질에 대한 추천이 없다.
 투과 시간, 침투율과 저하를 고려해서 장갑 재료를 선택한다.

- **장갑의재료**
 적합한장갑의선정은재질차이뿐만아니라품질기준의차이도고려하여이루어져야하고제조업종에따라서도다
 계선정되어야한다. 제품은다양한재료로부터의조제로이루어지는것이기때문에, 장갑재질의안정성은사
 전에예측되어질수있는것이아니고, 반드시사용전에 (그안전성이) 체크되어야한다.
- **장갑재료의투과시간** 정확한관통시간은보호장갑제조자에의하여인지되고, 준수되어야한다.
- **눈 보호:**



팍조이는보안경

9 물리화학적 특성

· **기본 물리 및 화학적 특성에 대한 정보**

· **일반정보**

· **외형**

· **물리적 상태:** 액체
 · **색:** 색소가없는
 · **냄새:** 에테르종류의
 · **후각역치** 알맞지않다.

· **pH:** 알맞지않다.

· **상태변화**

· **녹는점/어는점:** 맞지않는
 · **초기 끓는점과 끓는점 범위:** 66 °C

· **인화점:** -14 °C

· **인화성(고체, 기체):** 해당사항 없음.

· **점화온도:** 320 °C

· **분해 온도:** 알맞지않다.

· **자기점화:** 이제품은자연발화성이없다.

(6 쪽에계속)

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(5 쪽부터계속)

| | |
|-----------------------------|-----------------------|
| · 폭발위험: | 폭발가능성이있는과산화물이형성될수있는가 |
| · 인화 또는 폭발 범위의 상한/하한 | |
| 아래로: | 1.5 Vol % |
| 위로: | 12 Vol % |
| · 증기압 의경우 20 °C: | 200 hPa |
| · 밀도 의경우 20 °C: | 2.4 g/cm ³ |
| · 비중: | 알맞지않다. |
| · 증기밀도: | 알맞지않다. |
| · 증발 속도: | 알맞지않다. |
| · 용해도: | |
| 물: | 각각의경우에따라서는 거의혼합할수없는 |
| · n 옥탄올/물 분배계수: | 알맞지않다. |
| · 점도: | |
| 역학성: | 알맞지않다. |
| 등점성: | 알맞지않다. |
| · 용매내용물 | |
| 유기용매: | 70.1 % |
| VOC (EU) | 70.09 % |
| · 고체의 함량: | 0.0 % |
| · 기타 정보 | 추가적인 정보가 존재하지 않습니다. |

10 안정성 및 반응성

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

11 독성에 관한 정보

- **독성학적 영향에 대한 정보**
- **급성 독성:**

| |
|-----------------------------|
| · LD/LC50-수치에 따른 분류: |
| 109-99-9 tetrahydrofuran |
| 구강의 LD50 2,500 mg/kg (rat) |

- **입차적 자극 효과:**
- **피부 부식성 또는 자극성:** 피부와점막을자극한다.
- **심한 눈 손상 또는 자극성:** 자극
- **감각화:** 피부접촉을통하여감각화가가능성이있다.

· **추 가 적 인 독 성 에 관 한 정 보:**

이제품은유럽공동체의공동분류원칙의합법적인절차에근거하여최근에발효된원고에서아래위험들의사전준비에대하여제시하고있다.
건강에해로운

(7 쪽에계속)

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- 자극적인
- 다음 종류의 잠재적인 효과에 대한 정보
- CMR-효과 (암 유발, 돌연변이성 그리고 생식 독성)
- 발암성 - 구분 2

12 환경에 미치는 영향

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

13 폐기시 주의사항

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

14 운송에 필요한 정보

- **유엔 번호**
- **ADR, IMDG, IATA** UN1133
- **UN 적정 선적명**
- **ADR** 1133 ADHESIVES, ENVIRONMENTALLY HAZARDOUS
- **IMDG, IATA** ADHESIVES
- **교통 위험 클래스**
- **ADR**
-
- **등급** 3 발화성용액

(8 쪽에계속)

물질안전보건자료


GHS에 따라

기압점: 2018.12.06

개정: 2018.12.06

제품명: M-BOND 610 ADHESIVE

(7 쪽부터계속)

| | |
|---|---|
| · 위험물 라벨 · IMDG, IATA  | 3 3 발화성용액 3 |
| · Class · Label | 3 발화성용액 3 |
| · 용기등급 · ADR, IMDG, IATA | II |
| · 환경적 유해물질: · 특수 마킹 (ADR): | 심벌 (물고기와 나무) |
| · 이용자 특별 예방조치 · 위험 코드: · EMS-번호: · Stowage Category | 경고: 발화성용액 33 F-E,S-D B |
| · MARPOL73/78(선박으로부터의 해양오염방지협약) 부속서2 및 IBC Code(국제선적화물코드)에 따른 벌크(bulk) 운송 | 해당사항 없음. |
| · 운 송/추가 정보: · ADR · 한정 수량 (LQ) · Excepted quantities (EQ) · 운송 구분 · 터널 제한 코드 | 5L Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml 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 "모범 규제": | UN 1133 ADHESIVES, 3, II, ENVIRONMENTALLY HAZARDOUS |

15 법적 규제현황

| | |
|-------------------|-------------------|
| · 산업안전보건법에 의한 규제: | |
| · 제조 등 금지물질: | 어떠한내용물도 목록화되어있지않다 |
| · 허가대상물질: | 어떠한내용물도 목록화되어있지않다 |
| · 관리대상유해물질: | |
| 109-99-9 | tetrahydrofuran |
| 78-93-3 | 메틸 에틸 케톤 |

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물질안전보건자료

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· 해당 순물질 또는 혼합물에 대한 안전, 보건 및 환경 규제/법률

| | | |
|---|----------------------|----------|
| · Korean Existing Chemical Inventory | | |
| 109-99-9 | tetrahydrofuran | KE-33454 |
| 28064-14-4 | EPOXY PHENOL NOVOLAC | KE-28226 |
| 78-93-3 | 메틸 에틸 케톤 | KE-24094 |

· 화학물질관리법

| | |
|-----------------|----------|
| · 사고대비물질 | |
| 78-93-3 | 메틸 에틸 케톤 |

| | |
|------------------|--|
| · 금지물질 | |
| 어떠한내용물도목록화되어있지않다 | |

| | |
|------------------|--|
| · 제한물질 | |
| 어떠한내용물도목록화되어있지않다 | |

| | |
|---------------|----------|
| · 유독물질 | |
| 78-93-3 | 메틸 에틸 케톤 |

| | |
|---------------|----------|
| · 허가물질 | |
| 78-93-3 | 메틸 에틸 케톤 |

· GHS 라벨 요소

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

· 그림문자



GHS02 GHS07 GHS08 GHS09

· 신호어 위험

· 상표상에명확히위험성이표시된성분:

tetrahydrofuran

· 유해.위험 문구

- 고인화성 액체 및 증기
- 삼키면 유해함
- 피부에 자극을 일으킴
- 눈에 심한 자극을 일으킴
- 알레르기성 피부 반응을 일으킬 수 있음
- 암을 일으킬 것으로 의심됨
- 호흡기계 자극을 일으킬 수 있음
- 장기적인 영향에 의해 수생생물에게 유독함

· 예방조치 문구

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

· 화학물질 안전성 평가: 화학물질 안전성 평가가 수행되지 않음

KR

(10 쪽에계속)

물질안전보건자료

GHS에 따라

기압점: 2018.12.06

개정: 2018.12.06

제품명: M-BOND 610 ADHESIVE

(9 쪽부터계속)

16 그 밖의 참고사항

이보고는우리지식에대한오늘날의상태에대하여평가하고있다, 하지만이보고서는생산특성에관한보증은
기술헌하지않았으며계약적인법률관계에기반을두고있지도않다

- **최초 작성일자:** 2018.12.06
- **개정 횟수 및 최종 개정일자:** 1 / 2018.12.06
- **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 dados de segurança
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Revisão: 06.12.2018

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

- **1.1 Identificador do produto**
- **Nome comercial:** M-BOND 610 ADHESIVE
- **Código do produto:** 50410-30A
- **1.2 Utilizações identificadas relevantes da substância ou mistura e utilizações desaconselhadas**
Não existe mais nenhuma informação relevante disponível.
- **Utilização da substância / da preparação** Químicos de laboratório
- **1.3 Identificação do fornecedor da ficha de dados de segurança**
- **Fabricante/fornecedor:**
Electron Microscopy Sciences
1560 Industry Road
USA-Hatfield, PA 19440
Tel: 215-412-8400 Fax: 215-412-8450
email: sgkcck@aol.com
www.emsdiasum.com
- **Entidade para obtenção de informações adicionais:** Product safety department
- **1.4 Número de telefone de emergência:**
ChemTrec 1-800-424-9300 Contract CCN7661
1-703-527-3887

SECÇÃO 2: Identificação dos perigos

- **2.1 Classificação da substância ou mistura**
- **Classificação em conformidade com o Regulamento (CE) n.º 1272/2008**



GHS02 chama

Flam. Liq. 2 H225 Líquido e vapor facilmente inflamáveis.



GHS08 perigo para a saúde

Carc. 2 H351 Suspeito de provocar cancro.



GHS09 ambiente

Aquatic Chronic 2 H411 Tóxico para os organismos aquáticos com efeitos duradouros.



GHS07

Acute Tox. 4 H302 Nocivo por ingestão.
 Skin Irrit. 2 H315 Provoca irritação cutânea.
 Eye Irrit. 2 H319 Provoca irritação ocular grave.
 Skin Sens. 1 H317 Pode provocar uma reacção alérgica cutânea.
 STOT SE 3 H335 Pode provocar irritação das vias respiratórias.

- **2.2 Elementos do rótulo**
- **Rotulagem em conformidade com o Regulamento (CE) n.º 1272/2008**
O produto classificou-se e está etiquetado em conformidade com o regulamento CLP.

(continuação na página 2)

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(continuação da página 1)

· **Pictogramas de perigo**

GHS02

GHS07

GHS08

GHS09

· **Palavra-sinal Perigo**· **Componentes determinantes para os perigos constantes do rótulo:**

tetrahidrofurano

· **Advertências de perigo**

H225 Líquido e vapor facilmente inflamáveis.

H302 Nocivo por ingestão.

H315 Provoca irritação cutânea.

H319 Provoca irritação ocular grave.

H317 Pode provocar uma reacção alérgica cutânea.

H351 Suspeito de provocar cancro.

H335 Pode provocar irritação das vias respiratórias.

H411 Tóxico para os organismos aquáticos com efeitos duradouros.

· **Recomendações de prudência**

P210 Manter afastado do calor, superfícies quentes, faíscas, chamas abertas e outras fontes de ignição. Não fumar.

P241 Utilizar equipamento eléctrico/de ventilação/de iluminação/à prova de explosão.

P303+P361+P353 SE ENTRAR EM CONTACTO COM A PELE (ou o cabelo): retirar imediatamente toda a roupa contaminada. Enxaguar a pele com água/tomar um duche.

P305+P351+P338 SE ENTRAR EM CONTACTO COM OS OLHOS: enxaguar cuidadosamente com água durante vários minutos. Se usar lentes de contacto, retire-as, se tal lhe for possível. Continuar a enxaguar.

P405 Armazenar em local fechado à chave.

P501 Eliminar o conteúdo/recipiente de acordo com a legislação local/regional/nacional/internacional.

· **Indicações adicionais:**

EUH019 Pode formar peróxidos explosivos.

· **2.3 Outros perigos**· **Resultados da avaliação PBT e mPmB**· **PBT:** Não aplicável.· **mPmB:** Não aplicável.

SECÇÃO 3: Composição/informação sobre os componentes

· **3.2 Caracterização química: Misturas**· **Descrição:** Mistura das seguintes substâncias com aditivos não perigosos.· **Substâncias perigosas:**

| | | |
|------------------------------------|--|-----------|
| CAS: 109-99-9 EINECS: 203-726-8 | tetrahidrofurano Flam. Líq. 2, H225; Carc. 2, H351; Eye Irrit. 2, H319; STOT SE 3, H335 | >50-≤100% |
| CAS: 78-93-3 EINECS: 201-159-0 | butanona Flam. Líq. 2, H225; Eye Irrit. 2, H319; STOT SE 3, H336 | >2,5-≤10% |

· **Avisos adicionais:** O texto das indicações de perigo aqui incluído poderá ser consultado no capítulo 16.

PT

(continuação na página 3)

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SECÇÃO 4: Medidas de primeiros socorros

- **4.1 Descrição das medidas de primeiros socorros**
- **Indicações gerais:**
Os sintomas de envenenamento podem surgir apenas após várias horas, por isso é necessária vigilância médica pelo menos 48 horas após o acidente.
- **Em caso de inalação:**
Assegurar uma boa entrada de oxigénio e, por razões de segurança, procurar auxílio médico.
Se a vítima estiver inconsciente, posicioná-la e transportá-la com estabilidade, deitada lateralmente.
- **Em caso de contacto com a pele:** Lavar imediatamente com água e sabão e enxaguar abundantemente.
- **Em caso de contacto com os olhos:**
Enxaguar os olhos durante alguns minutos sob água corrente, mantendo as pálpebras abertas. Em caso de persistência dos sintomas, consultar o médico.
- **Em caso de ingestão:** Consultar imediatamente o médico
- **4.2 Sintomas e efeitos mais importantes, tanto agudos como retardados**
Não existe mais nenhuma informação relevante disponível.
- **4.3 Indicações sobre cuidados médicos urgentes e tratamentos especiais necessários**
Não existe mais nenhuma informação relevante disponível.

SECÇÃO 5: Medidas de combate a incêndios

- **5.1 Meios de extinção**
- **Meios adequados de extinção:** CO2, areia, pó extintor. Não usar água.
- **Meios de extinção que não devam ser utilizados por razões de segurança:** Água em jacto
- **5.2 Perigos especiais decorrentes da substância ou mistura**
Não existe mais nenhuma informação relevante disponível.
- **5.3 Recomendações para o pessoal de combate a incêndios**
- **Equipamento especial de protecção:** Não são necessárias medidas especiais.

SECÇÃO 6: Medidas a tomar em caso de fugas accidentais

- **6.1 Precauções individuais, equipamento de protecção e procedimentos de emergência**
Usar equipamento de protecção. Manter as pessoas desprotegidas afastadas.
- **6.2 Precauções a nível ambiental:**
Em caso de infiltrações nos leitos de água ou na canalização, comunicar aos serviços públicos competentes.
Evitar que penetre na canalização / águas superficiais / águas subterrâneas.
- **6.3 Métodos e materiais de confinamento e limpeza:**
Recolher com produtos que absorvam líquidos (areia, seixos, absorventes universais, serradura).
Eliminar residualmente as substâncias contaminadas como um resíduo segundo o Ponto 13.
Assegurar uma ventilação adequada.
Não limpar com água ou produtos de limpeza aquosos.
- **6.4 Remissão para outras secções**
Para informações sobre uma manipulação segura, ver o capítulo 7.
Para informações referentes ao equipamento de protecção individual, ver o capítulo 8.
Para informações referentes à eliminação residual, ver o capítulo 13.

SECÇÃO 7: Manuseamento e armazenagem

- **7.1 Precauções para um manuseamento seguro**
Assegurar uma boa ventilação / exaustão no local de trabalho.
Abrir e manusear o recipiente com cuidado

(continuação na página 4)

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Evitar a formação de aerossóis.

· **Precauções para prevenir incêndios e explosões:**

Manter afastado de fontes de ignição - não fumar.

Proteger do calor.

Proteger contra descargas electrostáticas.

· **7.2 Condições de armazenagem segura, incluindo eventuais incompatibilidades**· **Armazenagem:**· **Requisitos para espaços ou contentores para armazenagem:** Armazenar num local fresco.· **Avisos para armazenagem conjunta:** Não necessário.· **Outros avisos sobre as condições de armazenagem:**

Manter o recipiente hermeticamente fechado.

Armazenar em recipientes bem fechados, em local fresco e seco.

Proteger do calor e da radiação directa do sol.

· **7.3 Utilização(ões) final(is) específica(s)** Não existe mais nenhuma informação relevante disponível.

SECÇÃO 8: Controlo da exposição/Protecção individual

· **Indicações adicionais para concepção de instalações técnicas:** Não existem outras informações, ver ponto 7.· **8.1 Parâmetros de controlo**· **Componentes cujo valor do limite de exposição no local de trabalho deve ser monitorizado:****109-99-9 tetrahydrofurano**

| | |
|-----|---|
| VLE | Valor para exposição curta: 100 ppm Valor para exposição longa: 50 ppm P; A3; Irrit. do TRS; afeção do SNC; lesão renal |
|-----|---|

78-93-3 butanona

| | |
|-----|---|
| VLE | Valor para exposição curta: 300 ppm Valor para exposição longa: 200 ppm IBE; Irritação do TRS; afeção do SNP, SNC |
|-----|---|

· **Componentes con valores-limite biológicos:****109-99-9 tetrahydrofurano**

| | |
|-----|--|
| IBE | 2 mg/L Amostra: urina Momento da amostragem: Fim do turno Indicador biológico: Tetrahydrofurano |
|-----|--|

78-93-3 butanona

| | |
|-----|---|
| IBE | 2 mg/L Amostra: urina Momento da amostragem: Fim do turno Indicador biológico: Metiletilcetona (MEK) |
|-----|---|

· **Indicações adicionais:** Foram utilizadas como base as listas válidas à data da elaboração.· **8.2 Controlo da exposição**· **Equipamento de protecção individual:**· **Medidas gerais de protecção e higiene:**

Manter afastado de alimentos, bebidas e forragens.

Despir imediatamente a roupa contaminada e embebida.

Lavar as mãos antes das pausas e no fim do trabalho.

Evitar o contacto com os olhos e com a pele.

(continuação na página 5)

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· **Protecção respiratória:**

Utilizar uma máscara respiratória se a exposição for reduzida ou durante um curto espaço de tempo; se esta for mais prolongada ou mais intensa, utilizar uma máscara respiratória independente do ar ambiente.

· **Protecção das mãos:**

Luvas de protecção

O material das luvas tem de ser impermeável e resistente ao produto / à substância / preparação.

Uma vez que não foram realizados testes nesta área, não podemos recomendar um determinado tipo de material para as luvas que seja adequado para o produto / a preparação / a mistura de químicos.

Escolher o material das luvas tendo em consideração a durabilidade, a permeabilidade e a degradação.

· **Material das luvas**

A escolha das luvas mais adequadas não depende apenas do material, mas também de outras características qualitativas e varia de fabricante para fabricante. O facto de o produto ser composto por uma variedade de materiais leva a que não seja possível prever a duração dos mesmos e, conseqüentemente, das luvas, sendo assim necessário proceder a uma verificação antes da sua utilização.

· **Tempo de penetração no material das luvas**

Deve informar-se sobre a validade exacta das suas luvas junto do fabricante e respeitá-la.

· **Protecção dos olhos:**

Óculos de protecção totalmente fechados

SECÇÃO 9: Propriedades físico-químicas

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

| | |
|----------------------------|-------------------|
| · Forma: | Líquido |
| · Cor: | Incolor |
| · Odor: | tipo éter |
| · Limiar olfactivo: | Não classificado. |

· **valor pH:** Não classificado.

· **Mudança do estado:**

| | |
|---|-------------------|
| · Ponto de fusão/ponto de congelação: | Não classificado. |
| · Ponto de ebulição inicial e intervalo de ebulição: | 66 °C |

· **Ponto de inflamação:** -14 °C

· **Inflamabilidade (sólido, gás):** Não aplicável.

· **Temperatura de ignição:** 320 °C

· **Temperatura de decomposição:** Não classificado.

· **Temperatura de autoignição:** O produto não é auto-inflamável.

· **Propriedades explosivas:** Pode formar peróxidos explosivos.

· **Limites de explosão:**

| | |
|--------------------|-----------|
| · Inferior: | 1,5 Vol % |
|--------------------|-----------|

(continuação na página 6)

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| | |
|--|--|
| Superior: | 12 Vol % |
| · Pressão de vapor em 20 °C: | 200 hPa |
| · Densidade em 20 °C: | 2,4 g/cm ³ |
| · Densidade relativa | Não classificado. |
| · Densidade de vapor | Não classificado. |
| · Taxa de evaporação: | Não classificado. |
| · Solubilidade em / miscibilidade com água: | Pouco misturável. |
| · Coefficiente de partição: n-octanol/água | Não classificado. |
| · Viscosidade: | |
| · Dinâmico: | Não classificado. |
| · Cinemático: | Não classificado. |
| · Percentagem de solvente: | |
| · Solventes orgânicos: | 70,1 % |
| · VOC (UE) | 70,09 % |
| · Percentagem de substâncias sólidas: | 0,0 % |
| · 9.2 Outras informações | Não existe mais nenhuma informação relevante disponível. |

SECÇÃO 10: Estabilidade e reactividade

- **10.1 Reactividade** Não existe mais nenhuma informação relevante disponível.
- **10.2 Estabilidade química**
- **Decomposição térmica / condições a evitar:** Não existe decomposição se usado de acordo com as especificações.
- **10.3 Possibilidade de reações perigosas** Não se conhecem reacções perigosas.
- **10.4 Condições a evitar** Não existe mais nenhuma informação relevante disponível.
- **10.5 Materiais incompatíveis:** Não existe mais nenhuma informação relevante disponível.
- **10.6 Produtos de decomposição perigosos:** Não se conhecem produtos de decomposição perigosos.

SECÇÃO 11: Informação toxicológica

- **11.1 Informações sobre os efeitos toxicológicos**

· **Toxicidade aguda**
Nocivo por ingestão.

- **Valores LD/LC50 relevantes para a classificação:**

109-99-9 tetrahydrofurano

por via oral | LD50 | 2.500 mg/kg (rat)

- **Efeito de irritabilidade primário:**
- **Corrosão/irritação cutânea**
Provoca irritação cutânea.
- **Lesões oculares graves/irritação ocular**
Provoca irritação ocular grave.
- **Sensibilização respiratória ou cutânea**
Pode provocar uma reacção alérgica cutânea.
- **Efeitos CMR (carcinogenicidade, mutagenicidade e efeitos tóxicos na reprodução)**
- **Mutagenicidade em células germinativas**
Com base nos dados disponíveis, os critérios de classificação não são preenchidos.

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(continuação da página 6)

- **Carcinogenicidade**
Suspeito de provocar cancro.
- **Toxicidade reprodutiva** Com base nos dados disponíveis, os critérios de classificação não são preenchidos.
- **Toxicidade para órgãos-alvo específicos (STOT) - exposição única**
Pode provocar irritação das vias respiratórias.
- **Toxicidade para órgãos-alvo específicos (STOT) - exposição repetida**
Com base nos dados disponíveis, os critérios de classificação não são preenchidos.
- **Perigo de aspiração** Com base nos dados disponíveis, os critérios de classificação não são preenchidos.

SECÇÃO 12: Informação ecológica

- **12.1 Toxicidade**
- **Toxicidade aquática:** Não existe mais nenhuma informação relevante disponível.
- **12.2 Persistência e degradabilidade** Não existe mais nenhuma informação relevante disponível.
- **12.3 Potencial de bioacumulação** Não existe mais nenhuma informação relevante disponível.
- **12.4 Mobilidade no solo** Não existe mais nenhuma informação relevante disponível.
- **Efeitos ecotóxicos:**
- **Observação:** Tóxico para os peixes.
- **Outras indicações ecológicas:**
- **Indicações gerais:**
Classe de perigo para a água 1 (D) (auto-classificação): pouco perigoso para a água
Não deixar chegar substâncias concentradas, ou seja quantidades grandes, às águas subterrâneas, aos cursos de água ou à canalização.
Tóxico nas águas para os peixes e para o plâncton.
tóxico para os organismos aquáticos
- **12.5 Resultados da avaliação PBT e mPmB**
- **PBT:** Não aplicável.
- **mPmB:** Não aplicável.
- **12.6 Outros efeitos adversos** Não existe mais nenhuma informação relevante disponível.

SECÇÃO 13: Considerações relativas à eliminação

- **13.1 Métodos de tratamento de resíduos**
- **Recomendação:** Não se pode eliminar juntamente com o lixo doméstico. Não permita que chegue à canalização.
- **Embalagens contaminadas:**
- **Recomendação:** Eliminação residual conforme o regulamento dos serviços públicos.

SECÇÃO 14: Informações relativas ao transporte

- | | |
|---|---|
| · 14.1 Número ONU | |
| · ADR, IMDG, IATA | UN1133 |
| · 14.2 Designação oficial de transporte da ONU | |
| · ADR | 1133 ADESIVOS, PERIGOSO PARA O AMBIENTE |
| · IMDG, IATA | ADHESIVES |

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· 14.3 Classes de perigo para efeitos de transporte

· ADR



· Classe 3 Líquidos inflamáveis
· Rótulo 3

· IMDG, IATA



· Class 3 Líquidos inflamáveis
· Label 3

· 14.4 Grupo de embalagem

· ADR, IMDG, IATA II

· 14.5 Perigos para o ambiente:

· Marcação especial (ADR): Símbolo convencional (peixes e árvore)

· 14.6 Precauções especiais para o utilizador

Atenção: Líquidos inflamáveis

· N° Kemler: 33

· N° EMS: F-E,S-D

· Stowage Category B

· 14.7 Transporte a granel em conformidade com o

anexo II da Convenção MARPOL e o Código IBC Não aplicável.

· Transporte/outras informações:

· ADR

· Quantidades Limitadas (LQ) 5L

· Quantidades exceptuadas (EQ) Código: E2

Quantidade líquida máxima por embalagem interior: 30 ml

Quantidade líquida máxima por embalagem exterior: 500 ml

· Categoria de transporte 2

· Código de restrição em túneis 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 1133 ADESIVOS, 3, II, PERIGOSO PARA O AMBIENTE

PT

(continuação na página 9)

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SECÇÃO 15: Informação sobre regulamentação

- **15.1 Regulamentação/legislação específica para a substância ou mistura em matéria de saúde, segurança e ambiente**
- **Diretiva 2012/18/UE**
- **Substâncias perigosas designadas - ANEXO I Nenhum dos componentes se encontra listado.**
- **Categoria “Seveso”**
E2 Perigoso para o ambiente aquático
P5c LÍQUIDOS INFLAMÁVEIS
- **Quantidades-limiar (em toneladas), para a aplicação de requisitos de nível inferior 200 t**
- **Quantidades-limiar (em toneladas), para a aplicação de requisitos de nível superior 500 t**
- **Regulamento (CE) n.º 1907/2006 ANEXO XVII Condições de limitação: 3**
- **15.2 Avaliação da segurança química: Não foi realizada nenhuma Avaliação de Segurança Química.**

SECÇÃO 16: Outras informações

As informações fornecidas baseiam-se no estado actual dos nossos conhecimentos, embora não representem uma garantia das propriedades do produto e não fundamentam uma relação contratual.

- **Frases relevantes**
H225 Líquido e vapor facilmente inflamáveis.
H319 Provoca irritação ocular grave.
H335 Pode provocar irritação das vias respiratórias.
H336 Pode provocar sonolência ou vertigens.
H351 Suspeito de provocar cancro.
- **Abreviaturas e acrónimos:**
ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
IMDG: International Maritime Code for Dangerous Goods
IATA: International Air Transport Association
GHS: Globally Harmonised System of Classification and Labelling of Chemicals
EINECS: European Inventory of Existing Commercial Chemical Substances
ELINCS: European List of Notified Chemical Substances
CAS: Chemical Abstracts Service (division of the American Chemical Society)
VOC: Volatile Organic Compounds (USA, EU)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
PBT: Persistent, Bioaccumulative and Toxic
vPvB: very Persistent and very Bioaccumulative
Flam. Liq. 2: Líquidos inflamáveis – Categoria 2
Acute Tox. 4: Toxicidade aguda – Categoria 4
Skin Irrit. 2: Corrosão/irritação cutânea – Categoria 2
Eye Irrit. 2: Lesões oculares graves/irritação ocular – Categoria 2
Skin Sens. 1: Sensibilização cutânea – Categoria 1
Carc. 2: Carcinogenicidade – Categoria 2
STOT SE 3: Toxicidade para órgãos-alvo específicos (exposição única) – Categoria 3
Aquatic Chronic 2: Perigoso para o ambiente aquático - perigo de longo prazo para o ambiente aquático – Categoria 2

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1 Наименование вещества / препарата и фирмы / предприятия

- Идентификатор продукта
- Торговое наименование: **M-BOND 610 ADHESIVE**
- Артикульный номер: 50410-30A
- Соответствующие установленные применения вещества или смеси и не рекомендуемые области использования
Отсутствует какая-либо соответствующая информация.
- Применение вещества / препарата Лабораторные химикаты
- Подробная информация поставщика паспорта безопасности
- Производитель / Поставщик:
Electron Microscopy Sciences
1560 Industry Road
USA-Hatfield, PA 19440
Tel: 215-412-8400 Fax: 215-412-8450
email: sgkcck@aol.com
www.emsdiasum.com
- Отдел, предоставляющий информацию: Product safety department
- Номер телефона экстренной связи:
ChemTrec 1-800-424-9300 Contract CCN7661
1-703-527-3887

2 Возможные виды опасности

- Классификация вещества или смеси



пламя

Воспламеняющаяся жидкость 2 H225 Легко воспламеняющаяся жидкость и пар.



опасность для здоровья

Канцерогенность 2 H351 Предположительно вызывает рак.



окружающая среда

Хроническая токсичность для воды 2 H411 Токсично для водных организмов с долгосрочными последствиями.



| | |
|-------------------------|--|
| Острая токсичность 4 | H302 Вредно при проглатывании. |
| Раздражение кожи 2 | H315 Вызывает раздражение кожи. |
| Раздражение глаз 2A | H319 Вызывает серьезное раздражение глаз. |
| Кожная сенсибилизация 1 | H317 Может вызывать аллергическую кожную реакцию. |
| СТОМ - однократно 3 | H335 Может вызывать раздражение дыхательных путей. |

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(Продолжение страницы 1)

· **Элементы маркировки**

· **Элементы маркировки в соответствии с СГС**

Данный продукт классифицируется и маркируется в соответствии с Согласованной на глобальном уровне системой классификации и маркировки химических веществ (GHS).

· **Пиктограммы, обозначающие опасности**



GHS02 GHS07 GHS08 GHS09

· **Сигнальное слово** Опасно

· **Компоненты этикетки, указывающие на опасность:**

tetrahydrofuran

· **Предупреждения об опасности**

Легко воспламеняющаяся жидкость и пар.

Вредно при проглатывании.

Вызывает раздражение кожи.

Вызывает серьезное раздражение глаз.

Может вызывать аллергическую кожную реакцию.

Предположительно вызывает рак.

Может вызывать раздражение дыхательных путей.

Токсично для водных организмов с долгосрочными последствиями.

· **Меры предосторожности**

Береечь от тепла/искр/открытого огня/горячих поверхностей. – Не курить.

Использовать взрывобезопасное электрическое / вентиляционное / осветительное оборудование.

ПРИ ПОПАДАНИИ НА КОЖУ (или волосы): Немедленно снять всю загрязненную одежду. Промыть кожу водой/под душем.

ПРИ ПОПАДАНИИ В ГЛАЗА: Осторожно промыть глаза водой в течение нескольких минут. Снять контактные линзы, если вы пользуетесь ими и если это легко сделать. Продолжить промывание глаз.

Хранить под замком.

Утилизировать содержимое / тару в соответствии с местными / региональными / национальными / международными предписаниями.

· **Другие опасные факторы**

· **Результаты оценки PBT (устойчивое биоаккумулятивное токсическое вещество) и vPvB (очень устойчивое биоаккумулятивное вещество)**

· **PBT:** Неприменимо.

· **vPvB:** Неприменимо.

3 Состав / Данные по составляющим компонентам

· **Химическая характеристика: Смеси**

· **Описание:** Смесь из веществ, перечисленных ниже, с неопасными добавками.

· **Содержащиеся опасные вещества:**

| | | |
|----------|---|-----------|
| 109-99-9 | tetrahydrofuran Воспламеняющаяся жидкость 2, H225; Канцерогенность 2, H351; Раздражение глаз 2A, H319; СТОМ - однократно 3, H335 | >50-≤100% |
| 78-93-3 | METHYL ETHYL KETONE Воспламеняющаяся жидкость 2, H225; Раздражение глаз 2A, H319; СТОМ - однократно 3, H336; Острая токсичность 5, H303; Острая токсичность 5, H313 | >2,5-≤10% |

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· **Дополнительные указания:** Текст приведённых указаний на факторы риска см. в Главе 16.

4 Меры по оказанию первой помощи

- **Описание мер первой медицинской помощи**
- **Общие указания:**
Симптомы отравления могут проявиться даже спустя много часов, поэтому имеется необходимость в медицинском надзоре в течение как минимум 48 часов после аварии (несчастного случая).
- **После вдыхания:**
Обеспечить доступ свежего воздуха и для надёжности вызвать врача.
При потере сознания (обморочном состоянии) положить пациента на бок в стабильном положении для транспортировки.
- **После контакта с кожей:** Немедленно промыть с помощью воды и мыла, хорошо сполоснуть.
- **После контакта с глазами:**
Промойте открытый глаз под проточной водой в течение нескольких минут. При сохранении симптомов обратитесь к врачу.
- **После проглатывания:** Немедленно вызвать врача.
- **Указания для врача:**
- **Наиболее важные симптомы и эффекты, как немедленные, так и проявляющиеся впоследствии**
Отсутствует какая-либо соответствующая информация.
- **Указание на необходимость оперативной медицинской помощи и специального режима**
Отсутствует какая-либо соответствующая информация.

5 Меры по борьбе с пожаром

- **Средства пожаротушения**
- **Надлежащие средства тушения:**
СО₂, песок, порошковое средство для тушения. Применение воды не допускается.
- **Средства тушения, являющиеся непригодными из соображений безопасности:** Полноструйная вода
- **Особые опасности, создаваемые веществом или смесью**
Отсутствует какая-либо соответствующая информация.
- **Рекомендации для пожарных**
- **Защитное оснащение:** Нет необходимости в каких-либо специальных мерах.

6 Меры при непреднамеренном выделении (утечке)

- **Меры по обеспечению личной безопасности, защитное снаряжение и порядок действий в чрезвычайной ситуации**
Надеть защитное снаряжение. Держать на отдалении незащищённых людей.
- **Меры по защите окружающей среды:**
При попадании в водоёмы или в канализационную систему проинформировать об этом соответствующие службы.
Не допускать попадания в канализационную систему / поверхностные или грунтовые воды.
- **Методы и материалы для локализации и очистки:**
Собрать при помощи связывающего жидкость материала (песка, кизельгура, кислотно-вяжущего средства, универсальных вяжущих средств, опилок).
Утилизировать заражённый материал как отходы в соответствии с Пунктом 13.
Обеспечить достаточную вентиляцию.
Не смывать посредством воды или водянистых чистящих средств.
- **Ссылки на другие разделы**
Информация по безопасному обращению - в Главе 7.

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Информация по индивидуальному защитному снаряжению - в Главе 8.
Информация по утилизации - в Главе 13.

7 Обращение с веществом и его хранение

- **Обращение с веществом:**
- **Меры предосторожности по безопасному обращению**
Обеспечить хорошую вентиляцию / вытяжку на рабочем месте.
Соблюдать осторожность при открывании ёмкостей и при обращении с ними.
Не допускать образования аэрозолей.
- **Указания по защите от пожаров и взрывов:**
Держать подальше от источников воспламенения - не курить.
Защищать от жара.
Принять меры против электростатического заряжения.
- **Условия безопасного хранения, включая несовместимости**
- **Хранение:**
- **Требования, предъявляемые к складским помещениям и таре:** Хранить в прохладном месте.
- **Указания по совместимости с другими веществами при хранении:** Не требуется.
- **Дальнейшие данные по условиям хранения:**
Держать ёмкости плотно закрытыми.
Хранить в хорошо закрытой таре в прохладном и сухом месте.
Защищать от жары и от прямых солнечных лучей.
- **Характерное конечное применение (или применения)**
Отсутствует какая-либо соответствующая информация.

8 Ограничение воздействия вещества и контроль / индивидуальные средства защиты

- **Дополнительные указания по структуре технических устройств:**
Никаких дополнительных данных; см. Пункт 7.
- **Параметры контроля**

- **Составляющие компоненты с предельными значениями, требующие мониторинга на рабочих местах:**

109-99-9 tetrahydrofuran

PDK Краткосрочное значение: 100 мг/м³
пары и/или газы

78-93-3 METHYL ETHYL KETONE

PDK Краткосрочное значение: 400 мг/м³
Долгосрочное значение: 200 мг/м³
пары и/или газы

- **Дополнительные указания:**
В качестве основы послужили списки, являвшиеся на момент составления актуальными.
- **Требования по охране труда и меры по обеспечению безопасности персонала**
- **Средства индивидуальной защиты:**
- **Общие меры по защите от воздействия и гигиене:**
Держать подальше от продуктов питания, напитков и корма для животных.
Немедленно снять всю загрязнённую и пропитанную вредными веществами одежду.
Мыть руки перед перерывами и по окончании работы.
Избегать контакта с глазами и с кожей.

(Продолжение на странице 5)

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· Защита органов дыхания:

При кратковременном контакте с веществом или при воздействии вещества низкой концентрации пользоваться фильтрующим устройством для защиты органов дыхания. При интенсивном или более продолжительном контакте следует воспользоваться автономным устройством защиты органов дыхания.

· Защита рук:

Защитные перчатки (рукавицы).

Материал перчаток / рукавиц должен быть устойчивым к воздействию продукта / вещества / препарата и не пропускать их.

Никаких рекомендаций в отношении материала перчаток / рукавиц, пригодных для применения в ходе работы с продуктом / препаратом / смесью химикатов дать нельзя, так как никаких испытаний в этом отношении не проводилось.

Выбор материала перчаток / рукавиц производится с учётом времени прорыва, степени проницаемости и эрозии.

· Материал перчаток / рукавиц

Выбор подходящих перчаток / рукавиц определяется не только материалом, но также и другими качественными особенностями, причём между различными производителями существует большая разница. Так как продукт представляет собой смесь различных веществ, то не представляется никакой возможности для расчёта устойчивости материала, из которого изготовлены перчатки / рукавицы, что вызывает необходимость перепроверки на предмет пригодности перед использованием.

· Период проницаемости материала перчаток / рукавиц.

Необходимо осведомиться у производителя защитных перчаток / рукавиц о точном времени прорыва и придерживаться его.

· Защита глаз:

Плотно прилегающие защитные очки

9 Физические и химические свойства

· Информация по основным физическим и химическим свойствам**· Общая информация****· Внешний вид:****Форма:**

Жидкость

Цвет:

Бесцветное

· Запах:

Эфироподобно

· Порог запаха:

Не определено.

· Значение pH:

Не определено.

· Изменение состояния**Точка плавления / интервал температур плавления:**

Не определено.

Точка кипения / интервал температур кипения: 66 °С**· Температурная точка вспышки:**

-14 °С

· Воспламеняемость (твёрдое, газообразное вещество):

Неприменимо.

(Продолжение на странице 6)

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| | |
|--|--|
| · Температура воспламенения: | 320 °С |
| · Температура распада: | Не определено. |
| · Самовоспламеняемость: | Продукт не является самовоспламеняемым. |
| · Взрывоопасность: | Может образовывать взрывчатые перекиси. |
| · Границы взрываемости: Нижняя: | 1,5 пол. % |
| Верхняя: | 12 пол. % |
| · Давление пара при 20 °С: | 200 гПа |
| · Плотность при 20 °С: | 2,4 г/см ³ |
| · Относительная плотность | Не определено. |
| · Плотность пара | Не определено. |
| · Скорость испарения | Не определено. |
| · Растворимость в / Смешиваемость с водой: | Несмешиваемо или трудносмешиваемо. |
| · Коэффициент распределения (n-октанол / вода): | Не определено. |
| · Вязкость: Динамическая: | Не определено. |
| Кинематическая: | Не определено. |
| · Содержание растворителя: Органические растворители: | 70,1 % |
| VOC (ЕС) | 70,09 % |
| · Содержание твёрдых тел: | 0,0 % |
| · Другая информация | Отсутствует какая-либо соответствующая информация. |

10 Стабильность и реакционная способность

- **Реакционная способность** Отсутствует какая-либо соответствующая информация.
- **Химическая стабильность**
- **Термический распад / условия, которых следует избегать:**
При использовании в соответствии с предписаниями не происходит никакого распада.
- **Возможность опасных реакций** Неизвестно ни о каких опасных реакциях.
- **Условия, вызывающие опасные изменения** Отсутствует какая-либо соответствующая информация.
- **Несовместимые материалы:** Отсутствует какая-либо соответствующая информация.
- **Опасные продукты распада:** Неизвестно ни о каких опасных продуктах распада.

11 Данные по токсикологии

- **Информация по токсикологическому воздействию**
- **Острая токсичность:**

· **Значения LD/LC50 (летальной дозы/концентрации), необходимые для классифицирования:**

109-99-9 tetrahydrofuran

| | | |
|---------------------|------|-------------------|
| Орально (через рот) | LD50 | 2.500 мг/кг (rat) |
|---------------------|------|-------------------|

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- **Первичное раздражающее воздействие:**
- **на кожу:** Раздражает кожу и слизистые оболочки.
- **на глаза:** Раздражающее воздействие.
- **Сенсибилизация:** Сенсибилизация возможна посредством кожного контакта.
- **Дополнительные токсикологические указания:**
На основании расчётного метода Всеобщей Классификационной Директивы ЕС для Препаратов в её последней (актуальной) редакции продукт представляет следующие виды опасности:
Вредно для здоровья
Раздражающе
- **Информация по следующим группам потенциальных воздействий:**
- **Канцерогенное, изменяющее наследственность и вызывающее бесплодие действие**
Канцерогенность 2

12 Экологическая информация

- **Токсичность**
- **Акватоксичность:** Отсутствует какая-либо соответствующая информация.
- **Стойкость и склонность к деградации** Отсутствует какая-либо соответствующая информация.
- **Поведение в экологических системах:**
- **Биоаккумулятивный потенциал** Отсутствует какая-либо соответствующая информация.
- **Подвижность в грунте** Отсутствует какая-либо соответствующая информация.
- **Экотоксические воздействия:**
- **Примечания:** Ядовито для рыб.
- **Дополнительные экологические указания:**
- **Общие указания:**
Класс вредности для воды 1 (Само-классификация): немного вредно для воды
Не допускать попадания продукта в грунтовые воды, водоёмы или в канализационную систему в неразбавленном виде или в больших количествах.
В водоёмах ядовито также для рыб и планктона.
Ядовито для водных организмов.
- **Результаты оценки PBT (устойчивое биоаккумулятивное токсическое вещество) и vPvB (очень устойчивое биоаккумулятивное вещество)**
- **PBT:** Неприменимо.
- **vPvB:** Неприменимо.
- **Другие вредные эффекты** Отсутствует какая-либо соответствующая информация.

13 Указания по утилизации

- **Методы обработки отходов**
- **Рекомендация:**
Утилизация совместно с бытовыми отходами недопустима. Не допускать попадания в канализацию.
- **Неочищенные упаковки:**
- **Рекомендация:**
Утилизация должна быть осуществлена в соответствии с предписаниями компетентных служб.

14 Информация по транспорту

- **Номер UN**
- **ADR, IMDG, IATA** UN1133

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· **Собственное транспортное наименование ООН**
· **ADR** 1133 КЛЕИ, ОПАСНОЕ ДЛЯ ОКРУЖАЮЩЕЙ СРЕДЫ
· **IMDG, IATA** ADHESIVES

· **классов опасности транспорта**· **ADR**

· **Класс** 3 Легковоспламеняющиеся жидкости
· **Этикетка для опасного содержимого** 3

· **IMDG, IATA**

· **Class** 3 Легковоспламеняющиеся жидкости
· **Label** 3

· **Группа упаковки**· **ADR, IMDG, IATA** II· **Экологические риски:**· **Особые отметки (ADR):** Символ (рыба и дерево)· **Особые меры предосторожности для пользователей**

Осторожно: Легковоспламеняющиеся жидкости

· **Код опасности (по Кемлеру):** 33· **Номер EMS:** F-E,S-D· **Stowage Category** B

· **Транспортировка навалом в соответствии с Приложением II MARPOL73/78 (Международная конвенция по предотвращению загрязнения вод с судов) и IBC Code (Международный кодекс перевозок опасных химических грузов наливом)** Неприменимо.

· **Транспорт / дополнительная информация:**· **ADR**· **Ограниченные объёмы (LQ)** 5L· **Освобожденные количества (EQ)** Код: E2

Максимальное количество нетто на внутреннюю тару: 30 мл

Максимальное количество нетто на наружную тару: 500 мл

· **Транспортная категори** 2· **Код ограничения проезда через туннели** D/E· **IMDG**· **Limited quantities (LQ)** 1L

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· **Excepted quantities (EQ)**

Code: E2

Maximum net quantity per inner packaging: 30 мл

Maximum net quantity per outer packaging: 500 мл

· **UN "Model Regulation":**UN 1133 КЛЕИ, 3, II, ОПАСНОЕ ДЛЯ
ОКРУЖАЮЩЕЙ СРЕДЫ

15 Предписания

- **Нормы безопасности, правила охраны труда и экологические нормативы или стандарты, действующие для вещества или смеси**
- **Элементы маркировки в соответствии с СГС**
Данный продукт классифицируется и маркируется в соответствии с Согласованной на глобальном уровне системой классификации и маркировки химических веществ (GHS).
- **Пиктограммы, обозначающие опасности**



GHS02

GHS07

GHS08

GHS09

- **Сигнальное слово** Опасно
- **Компоненты этикетки, указывающие на опасность:**
tetrahydrofuran
- **Предупреждения об опасности**
Легко воспламеняющаяся жидкость и пар.
Вредно при проглатывании.
Вызывает раздражение кожи.
Вызывает серьезное раздражение глаз.
Может вызывать аллергическую кожную реакцию.
Предположительно вызывает рак.
Может вызывать раздражение дыхательных путей.
Токсично для водных организмов с долгосрочными последствиями.
- **Меры предосторожности**
Беречь от тепла/искр/открытого огня/горячих поверхностей. – Не курить.
Использовать взрывобезопасное электрическое / вентиляционное / осветительное оборудование.
ПРИ ПОПАДАНИИ НА КОЖУ (или волосы): Немедленно снять всю загрязненную одежду. Промыть кожу водой/под душем.
ПРИ ПОПАДАНИИ В ГЛАЗА: Осторожно промыть глаза водой в течение нескольких минут. Снять контактные линзы, если вы пользуетесь ими и если это легко сделать. Продолжить промывание глаз.
Хранить под замком.
Утилизировать содержимое / тару в соответствии с местными / региональными / национальными / международными предписаниями.
- **Оценка химической безопасности:** Оценка химической безопасности не проведена.

16 Прочая информация:

Данные опираются на актуальные знания, однако они не являются гарантией каких-либо конкретных свойств продукта и не устанавливают никаких действующих с юридической точки зрения договорных отношений.

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· Соответствующие данные

- H225 Легко воспламеняющаяся жидкость и пар.*
- H303 Может нанести вред при проглатывании.*
- H313 Может нанести вред при контакте с кожей.*
- H319 Вызывает серьезное раздражение глаз.*
- H335 Может вызывать раздражение дыхательных путей.*
- H336 Может вызывать сонливость или головокружение.*
- H351 Предположительно вызывает рак.*

· Аббревиатуры и акронимы:

- 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*
- Воспламеняющаяся жидкость 2: Flammable liquids – Category 2*
- Острая токсичность 4: Acute toxicity – Category 4*
- Острая токсичность 5: Acute toxicity – Category 5*
- Раздражение кожи 2: Skin corrosion/irritation – Category 2*
- Раздражение глаз 2A: Serious eye damage/eye irritation – Category 2A*
- Кожная сенсibilизация 1: Skin sensitisation – Category 1*
- Канцерогенность 2: Carcinogenicity – Category 2*
- СТОМ - однократно 3: Specific target organ toxicity (single exposure) – Category 3*
- Хроническая токсичность для воды 2: Hazardous to the aquatic environment - long-term aquatic hazard – Category 2*

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Ficha de datos de seguridad

según 1907/2006/CE, Artículo 31

fecha de impresión 06.12.2018

Revisión: 06.12.2018

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

- **1.1 Identificador del producto**
- **Nombre comercial:** M-BOND 610 ADHESIVE
- **Número del artículo:** 50410-30A
- **1.2 Usos pertinentes identificados de la sustancia o de la mezcla y usos desaconsejados**
No existen más datos relevantes disponibles.
- **Utilización del producto / de la elaboración** Sustancias químicas de laboratorio
- **1.3 Datos del proveedor de la ficha de datos de seguridad**
- **Fabricante/distribuidor:**
Electron Microscopy Sciences
1560 Industry Road
USA-Hatfield, PA 19440
Tel: 215-412-8400 Fax: 215-412-8450
email: sgkcck@aol.com
www.emsdiasum.com
- **Aname**
C/ Perez Galdos no. 2
28693 Quijorna
Madrid, Spain
Tel: +34.91.816.89.50
Fax: +34.91.816.85.94
email: ventas@aname.es
- **Área de información:** Product safety department
- **1.4 Teléfono de emergencia:**
ChemTrec 1-800-424-9300 Contract CCN7661
1-703-527-3887

SECCIÓN 2: Identificación de los peligros

- **2.1 Clasificación de la sustancia o de la mezcla**
- **Clasificación con arreglo al Reglamento (CE) n° 1272/2008**



GHS02 llama

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



GHS08 peligro para la salud

Carc. 2 H351 Se sospecha que provoca cáncer.



GHS09 medio ambiente

Aquatic Chronic 2 H411 Tóxico para los organismos acuáticos, con efectos nocivos duraderos.



GHS07

Acute Tox. 4 H302 Nocivo en caso de ingestión.

Skin Irrit. 2 H315 Provoca irritación cutánea.

(se continua en página 2)

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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.

· Pictogramas de peligro



GHS02 GHS07 GHS08 GHS09

· Palabra de advertencia Peligro

· Componentes peligrosos a indicar en el etiquetaje:

tetrahidrofurano

· Indicaciones de peligro

H225 Líquido y vapores muy inflamables.
 H302 Nocivo en caso de ingestión.
 H315 Provoca irritación cutánea.
 H319 Provoca irritación ocular grave.
 H317 Puede provocar una reacción alérgica en la piel.
 H351 Se sospecha que provoca cáncer.
 H335 Puede irritar las vías respiratorias.
 H411 Tóxico para los organismos acuáticos, con efectos nocivos duraderos.

· 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.

· Datos adicionales:

EUH019 Puede formar peróxidos explosivos.

· 2.3 Otros peligros

· Resultados de la valoración PBT y mPmB

- **PBT:** No aplicable.
- **mPmB:** No aplicable.

SECCIÓN 3: Composición/información sobre los componentes

· 3.2 Caracterización química: Mezclas

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

· Componentes peligrosos:

| | | |
|-------------------|--|-----------|
| CAS: 109-99-9 | tetrahidrofurano | >50-≤100% |
| EINECS: 203-726-8 | Flam. Liq. 2, H225; Carc. 2, H351; Eye Irrit. 2, H319; STOT SE 3, H335 | |

(se continua en página 3)

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Nombre comercial: M-BOND 610 ADHESIVE



(se continua en página 2)

CAS: 78-93-3

butanona

>2,5-≤10%

EINECS: 201-159-0

 Flam. Liq. 2, H225;  Eye Irrit. 2, H319; STOT SE 3, H336

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

SECCIÓN 4: Primeros auxilios

· 4.1 Descripción de los primeros auxilios

· Instrucciones generales:

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

· En caso de inhalación del producto:

Suministrar 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:

Limpia los ojos abiertos durante varios minutos con agua corriente. En caso de trastornos persistentes consultar un médico.

· En caso de ingestión:

Consultar inmediatamente un médico.

· 4.2 Principales síntomas y efectos, agudos y retardados

No existen más datos relevantes disponibles.

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

No existen más datos relevantes disponibles.

SECCIÓN 5: Medidas de lucha contra incendios

· 5.1 Medios de extinción

· **Sustancias extintoras apropiadas:** CO₂, arena, polvo extintor. No utilizar agua.

· **Sustancias extintoras inapropiadas por razones de seguridad:** Agua a pleno chorro

· **5.2 Peligros específicos derivados de la sustancia o la mezcla** No existen más datos relevantes disponibles.

· 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:

Al penetrar en las aguas o en el alcantarillado, avisar a las autoridades pertinentes.

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

· 6.3 Métodos y material de contención y de limpieza:

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

Desechar el material contaminado como vertido según ítem 13.

Asegurar suficiente ventilación.

No enjuagar con agua ni productos de limpieza acuosos.

· 6.4 Referencia a otras secciones

Ver capítulo 7 para mayor información sobre una manipulación segura.

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

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

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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.

Abrir y manejar el recipiente con cuidado.

Evitar la formación de aerosoles.

· Prevención de incendios y explosiones:

Mantener alejadas las fuentes de encendido. No fumar.

Proteger del calor.

Tomar medidas contra las cargas electrostáticas.

· 7.2 Condiciones de almacenamiento seguro, incluidas posibles incompatibilidades

· Almacenamiento:

· Exigencias con respecto al almacén y los recipientes: Almacenar en un lugar fresco.

· Normas en caso de un almacenamiento conjunto: No es necesario.

· Indicaciones adicionales sobre las condiciones de almacenamiento:

Mantener el recipiente cerrado herméticamente.

Almacenarlo en envases bien cerrados en un lugar fresco y seco.

Proteger del calor y de la luz directa del sol.

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

SECCIÓN 8: Controles de exposición/protección individual

· Instrucciones adicionales para el acondicionamiento de instalaciones técnicas:

Sin datos adicionales, ver punto 7.

· 8.1 Parámetros de control

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

109-99-9 tetrahidrofurano

LEP Valor de corta duración: 300 mg/m³, 100 ppm

Valor de larga duración: 150 mg/m³, 50 ppm
vía dérmica, VLI, VLB

78-93-3 butanona

LEP Valor de corta duración: 900 mg/m³, 300 ppm

Valor de larga duración: 600 mg/m³, 200 ppm
VLB, VLI

· Componentes con valores límite biológicos:

109-99-9 tetrahidrofurano

VLB 2 mg/l

Muestra: orina

Momento de Muestero: Final de la jornada laboral

Indicador Biológico: Tetrahidrofurano

78-93-3 butanona

VLB 2 mg/l

Muestra: orina

Momento de Muestero: Final de la jornada laboral

Indicador Biológico: Metiletacetona

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

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- **8.2 Controles de la exposición**
- **Equipo de protección individual:**
- **Medidas generales de protección e higiene:**
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 los ojos y la piel.
- **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:** Eféreo
- **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:** 66 °C
- **Punto de inflamación:** -14 °C
- **Inflamabilidad (sólido, gas):** No aplicable.

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| | |
|---|--|
| · Temperatura de ignición: | 320 °C |
| · Temperatura de descomposición: | No determinado. |
| · Temperatura de auto-inflamación: | El producto no es autoinflamable. |
| · Propiedades explosivas: | Puede formar peróxidos explosivos. |
| · Límites de explosión: | |
| Inferior: | 1,5 Vol % |
| Superior: | 12 Vol % |
| · Presión de vapor a 20 °C: | 200 hPa |
| · Densidad a 20 °C: | 2,4 g/cm ³ |
| · Densidad relativa | No determinado. |
| · Densidad de vapor | No determinado. |
| · Tasa de evaporación: | No determinado. |
| · Solubilidad en / miscibilidad con agua: | Poco o no mezclable. |
| · Coefficiente de reparto: n-octanol/agua: | No determinado. |
| · Viscosidad: | |
| Dinámica: | No determinado. |
| Cinemática: | No determinado. |
| · Concentración del disolvente: | |
| Disolventes orgánicos: | 70,1 % |
| VOC (CE) | 70,09 % |
| Contenido de cuerpos sólidos: | 0,0 % |
| · 9.2 Otros datos | No existen más datos relevantes disponibles. |

SECCIÓN 10: Estabilidad y reactividad

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

SECCIÓN 11: Información toxicológica

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

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

109-99-9 tetrahidrofurano

| | | |
|------|------|-------------------|
| Oral | LD50 | 2.500 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**
Se sospecha que provoca cáncer.
- **Toxicidad para la reproducción** A la vista de los datos disponibles, no se cumplen los criterios de clasificación.
- **Toxicidad específica en determinados órganos (STOT) – exposición única**
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.
- **Efectos ecotóxicos:**
- **Observación:** Tóxico para peces.
- **Indicaciones medioambientales adicionales:**
- **Indicaciones generales:**
Nivel de riesgo para el agua 1 (autoclasiación): 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.
Vertido en aguas superficiales, también es tóxico para los peces y el plancton.
tóxico para organismos acuáticos
- **12.5 Resultados de la valoración PBT y mPmB**
- **PBT:** No aplicable.
- **mPmB:** No aplicable.
- **12.6 Otros efectos adversos** No existen más datos relevantes disponibles.

SECCIÓN 13: Consideraciones relativas a la eliminación

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

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SECCIÓN 14: Información relativa al transporte

| | |
|---|--|
| <ul style="list-style-type: none"> · 14.1 Número ONU · ADR, IMDG, IATA | <p style="text-align: right;">UN1133</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;">1133 ADHESIVOS, PELIGROSO PARA EL MEDIO AMBIENTE</p> <p style="text-align: right;">ADHESIVES</p> |
| <ul style="list-style-type: none"> · 14.3 Clase(s) de peligro para el transporte · ADR | <div style="display: flex; justify-content: space-around; align-items: center;">   </div> <p style="text-align: right;">3 Líquidos inflamables</p> <p style="text-align: right;">3</p> |
| <ul style="list-style-type: none"> · Clase · Etiqueta | <p style="text-align: right;">3 Líquidos inflamables</p> <p style="text-align: right;">3</p> |
| <ul style="list-style-type: none"> · IMDG, IATA | <div style="display: flex; justify-content: center; align-items: center;">  </div> <p style="text-align: right;">3 Líquidos inflamables</p> <p style="text-align: right;">3</p> |
| <ul style="list-style-type: none"> · Class · Label | <p style="text-align: right;">3 Líquidos inflamables</p> <p style="text-align: right;">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: · Marcado especial (ADR): | <p style="text-align: right;">Símbolo (pez y árbol)</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</p> <p style="text-align: right;">33</p> <p style="text-align: right;">F-E,S-D</p> <p style="text-align: right;">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) · Categoría de transporte · Código de restricción del túnel | <p style="text-align: right;">5L</p> <p style="text-align: right;">Código: E2</p> <p style="text-align: right;">Cantidad neta máxima por envase interior: 30 ml</p> <p style="text-align: right;">Cantidad neta máxima por embalaje exterior: 500 ml</p> <p style="text-align: right;">2</p> <p style="text-align: right;">D/E</p> |
| <ul style="list-style-type: none"> · IMDG · Limited quantities (LQ) · Excepted quantities (EQ) | <p style="text-align: right;">1L</p> <p style="text-align: right;">Code: E2</p> <p style="text-align: right;">Maximum net quantity per inner packaging: 30 ml</p> <p style="text-align: right;">Maximum net quantity per outer packaging: 500 ml</p> |

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· "Reglamentación Modelo" de la UNECE: UN 1133 ADHESIVOS, 3, II, PELIGROSO PARA EL MEDIO AMBIENTE

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**
E2 Peligroso para el medio ambiente acuático
P5c LÍQUIDOS INFLAMABLES
- **Cantidad umbral (toneladas) a efectos de aplicación de los requisitos de nivel inferior** 200 t
- **Cantidad umbral (toneladas) a efectos de aplicación de los requisitos de nivel superior** 500 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.

H319 Provoca irritación ocular grave.

H335 Puede irritar las vías respiratorias.

H336 Puede provocar somnolencia o vértigo.

H351 Se sospecha que provoca cáncer.

· 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

Carc. 2: Carcinogenicidad – Categoría 2

STOT SE 3: Toxicidad específica en determinados órganos (exposición única) – Categoría 3

Aquatic Chronic 2: Peligroso para el medio ambiente acuático - peligro acuático a largo plazo – Categoría 2

แผ่นข้อมูลความปลอดภัย

ตาม 1907/2006/EC, มาตรา 31

วันที่พิมพ์ 2018.12.06

การปรับปรุงใหม่ : 2018.12.06

1 การระบุสาร/ การทำ/ และของบริษัท / บริษัทที่เข้าถือครอง

- 1.1 ลักษณะเฉพาะของผลิตภัณฑ์
- ชื่อทางการค้า **M-BOND 610 ADHESIVE**
- เลขที่รายชื่อ 50410-30A
- 1.2 สารหรือสารผสมที่เกี่ยวข้องที่ระบุให้ใช้และที่ไม่ควรถูกใช้ ไม่มีข้อมูลที่เกี่ยวข้องนอกเหนือจากนี้
- การประยุกต์ใช้สาร/ การทำ เคมีภัณฑ์ห้องทดลอง
- 1.3 รายละเอียดของผู้จัดหาข้อมูลด้านความปลอดภัย
- ผู้ผลิต/ ผู้จัดหา
Electron Microscopy Sciences
1560 Industry Road
USA-Hatfield, PA 19440
Tel: 215-412-8400 Fax: 215-412-8450
email: sgkcck@aol.com
www.emsdiasum.com
- ข้อมูลรายละเอียดเพิ่มเติมหาได้จาก Product safety department
- 1.4 หมายเลขโทรศัพท์ฉุกเฉิน:
ChemTrec 1-800-424-9300 Contract CCN7661
1-703-527-3887

2 การระบุสิ่งที่อันตราย

- 2.1 การจำแนกประเภทของสารหรือสารผสม
- การแบ่งประเภทตามข้อบังคับ (จีซี) เลขที่ 1272/2008



เปลวไฟ

Flam. Liq. 2 H225 ของเหลวและไอที่ไวไฟสูง



สิ่งอันตรายต่อสุขภาพ

Carc. 2 H351 สงสัยว่าจะเป็นสาเหตุการเกิดมะเร็ง



สิ่งแวดล้อม

Aquatic Chronic 2 H411 มีพิษต่อสิ่งมีชีวิตในน้ำพร้อมผลกระทบระยะยาว



Acute Tox. 4 H302 เป็นอันตรายหากกลืนเข้าไป

Skin Irrit. 2 H315 เป็นสาเหตุให้เกิดการระคายเคืองผิวหนัง

Eye Irrit. 2 H319 เป็นสาเหตุให้เกิดการระคายเคืองอย่างร้ายแรงที่ตา

Skin Sens. 1 H317 อาจเป็นสาเหตุให้ผิวหนังแสดงอาการแพ้

STOT SE 3 H335 อาจเป็นสาเหตุให้เกิดการระคายเคืองต่อระบบหายใจ

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

(ต่อที่หน้า 2)

TH

แผ่นข้อมูลความปลอดภัย

ตาม 1907/2006/EC, มาตรา 31

วันที่พิมพ์ 2018.12.06

การปรับปรุงใหม่ : 2018.12.06

ชื่อทางการค้า M-BOND 610 ADHESIVE

(ต่อหน้า 1)

· ภาพสัญลักษณ์สิ่งที่เป็นอันตราย



GHS02 GHS07 GHS08 GHS09

· สัญญาอันตราย

· ส่วนประกอบที่ระบุอันตรายบนฉลาก

tetrahydrofuran

· ประกาศสิ่งที่เป็นอันตราย

H225 ของเหลวและไอที่ไวไฟสูง

H302 เป็นอันตรายหากกลืนเข้าไป

H315 เป็นสาเหตุให้เกิดการระคายเคืองผิวหนัง

H319 เป็นสาเหตุให้เกิดการระคายเคืองอย่างร้ายแรงที่ตา

H317 อาจเป็นสาเหตุให้ผิวหนังแสดงอาการแพ้

H351 สงสัยว่าจะเป็นสาเหตุการเกิดมะเร็ง

H335 อาจเป็นสาเหตุให้เกิดการระคายเคืองต่อระบบหายใจ

H411 มีพิษต่อสิ่งมีชีวิตในน้ำพร้อมผลกระทบต่อระยะยาว

· ประกาศการป้องกันระดับระบ่งภัย

P210 เก็บให้ห่างจากความร้อน/ ประกายไฟ/เปลวไฟ/ ผิวที่ร้อน - ห้ามสูบบุหรี่

P241 ใช้อุปกรณ์ไฟฟ้า/ ระบายอากาศ/ไฟฟ้า/ อุปกรณ์เครื่องใช้ชนิดกันระเบิด

P303+P361+P353 หากสัมผัสผิวหนัง (หรือเส้นผม) ถอดเสื้อผ้าที่เปื้อนทั้งหมดทันที ล้างผิวหนังด้วยน้ำ/อาบน้ำ

P305+P351+P338 หากเข้าตา : ชะล้างตาอย่างระมัดระวังเป็นเวลาหลายๆนาที ถอดคอนแทกซ์เลนส์ถ้ายังอยู่ที่เดิมและ
สะตวาทักจะทำก็ให้ชะล้างต่อไป

P405 เก็บในที่ใส่กุญแจมิด

P501 ทิ้งสิ่งที่บรรจุ/ภาชนะที่บรรจุตามกฎหมายของท้องถิ่น/แคว้น/ในประเทศ/ระหว่างประเทศ

· ข้อมูลรายละเอียดเสริม

EUH019 อาจเกิดสารระเบิดเพอร์ออกไซด์

· 2.3 อันตรายอื่นๆ

· ผลของ PBT และการประเมิน vPvB

· PBT: ไม่สามารถใช้ได้

· vPvB: ไม่สามารถใช้ได้

3 ส่วนประกอบ/ ข้อมูลรายละเอียดของส่วนผสมต่างๆ

· 3.2 คุณลักษณะทางเคมี: ส่วนผสม

· คำอธิบาย ส่วนผสมของสารในรายการข้างล่างพร้อมสารเติมแต่งที่ไม่เป็นอันตราย

· ส่วนประกอบที่มีอันตราย

| | | |
|------------------------------------|---|-----------|
| CAS: 109-99-9 EINECS: 203-726-8 | tetrahydrofuran ⚠ Flam. Liq. 2, H225; ⚠ Carc. 2, H351; ⚠ Eye Irrit. 2, H319; STOT SE 3, H335 | >50-≤100% |
| CAS: 78-93-3 EINECS: 201-159-0 | เมทิลเอทิลคีโตน ⚠ Flam. Liq. 2, H225; ⚠ Eye Irrit. 2, H319; STOT SE 3, H336 | >2.5-≤10% |

· ข้อมูลรายละเอียดเสริม สำหรับข้อความที่ระบุในรายการความเสี่ยงที่อ้างอิงถึงในส่วนที่ 16

TH

(ต่อหน้า 3)

แผนข้อมูลความปลอดภัย

ตาม 1907/2006/EC, มาตรา 31

วันที่พิมพ์ 2018.12.06

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ชื่อทางการค้า M-BOND 610 ADHESIVE

(ต่อหน้า 2)

4 มาตรการการปฐมพยาบาลเบื้องต้น

- 4.1 คำอธิบายถึงมาตรการปฐมพยาบาล
- **ข้อมูลรายละเอียดทั่วไป**
อาการจากพิษอาจเกิดขึ้นหลังจากนั้นหลายชั่วโมงดังนั้นจะต้องเฝ้าติดตามอาการทางการแพทย์อย่างน้อย 48 ชั่วโมงหลังจากอุบัติเหตุ
- **หลังจากการสูดหายใจเข้าไป**
หาบริเวณที่มีอากาศบริสุทธิ์และเพื่อให้มันใจติดต่อแพทย์
ในกรณีที่คนไข้ไม่รู้สึกตัวให้ขนย้ายคนไข้อย่างมั่นคงในท่าตะแคงด้านข้าง
- **หลังจากการสัมผัสผิวหนัง** ล้างด้วยน้ำและสบู่แล้วฟอกให้ทั่วทันที
- **หลังจากการสัมผัสสูดดม** ซะตาที่เปิดอยู่ใต้น้ำที่กำลังไหลเป็นเวลาหลายนาที่ถ้าอาการไม่ดีขึ้นให้ปรึกษาแพทย์
- **หลังจากการกลืนเข้าไป:** พบแพทย์โดยทันที
- 4.2 อาการสำคัญส่วนใหญ่และผลกระทบ ทั้งชนิดเฉียบพลันและค่อยๆ แสดงอาการ
ไม่มีข้อมูลที่เกี่ยวข้องนอกเหนือจากนี้
- 4.3 **ข้อบ่งชี้ของอาการที่ต้องเข้ารับการรักษาจากแพทย์ทันทีและการบำบัดพิเศษที่จำเป็น**
ไม่มีข้อมูลที่เกี่ยวข้องนอกเหนือจากนี้

5 มาตรการการดับเพลิง

- 5.1 สารที่ใช้ดับเพลิง
- สารดับเพลิงที่เหมาะสม คาร์บอน ไดออกไซด์ทรายผงดับไฟอย่าใช้น้ำ
- สารดับเพลิงที่ไม่ควรใช้ด้วยเหตุผลด้านความปลอดภัย น้ำฉีดพ่นเป็นลำ
- 5.2 อันตรายเฉพาะอย่างที่เกิดจากสารหรือส่วนผสม ไม่มีข้อมูลที่เกี่ยวข้องนอกเหนือจากนี้
- 5.3 คำแนะนำสำหรับพนักงานดับเพลิง
- อุปกรณ์ป้องกันภัย ไม่ต้องมีมาตรการพิเศษ

6 มาตรการลดอุบัติเหตุ

- 6.1 การป้องกันส่วนบุคคล อุปกรณ์ป้องกัน และขั้นตอนดำเนินการเมื่อเกิดกรณีฉุกเฉิน
สวมอุปกรณ์ป้องกันภัยกันคนที่ไม่ใช้อุปกรณ์ป้องกันออกไป
- 6.2 การให้ความคุ้มครองสิ่งแวดล้อมล่วงหน้า:
แจ้งผู้มีอำนาจที่เกี่ยวข้องในกรณีที่เกิดการไหลซึมเข้าลำน้ำหรือระบบระบายน้ำ
อย่าปล่อยให้เข้าไปในท่อน้ำทิ้ง/ นำบนดินหรือใต้ดิน
- 6.3 วิธีดำเนินการและวัสดุสำหรับบรรจุและการทำความสะอาด:
ดูดซับด้วยวัสดุที่สามารถยึดของเหลวไว้ (ทรายไดอะโตไมท์ที่ตัวยึดเกาะกรดตัวยึดทั่วๆ ไปซีลเลอร์)
ทิ้งวัสดุที่ปนเปื้อนเป็นของเสียตามรายการในบัญชี 13
ตรวจให้แน่ใจว่ามีภาชนะบรรจุอากาศที่ตีพอ
อย่าฉีดด้วยน้ำหรือน้ำยาทำความสะอาดที่มีน้ำเป็นส่วนผสม
- 6.4 การอ้างอิงถึงส่วนอื่น
ดูข้อมูลรายละเอียดเรื่องความปลอดภัยในการขนถ่ายจากส่วนที่ 7
ดูข้อมูลรายละเอียดเรื่องอุปกรณ์ป้องกันส่วนบุคคลจากส่วนที่ 8
ดูข้อมูลรายละเอียดเรื่องการจัดจากส่วนที่ 13

7 การขนถ่ายและการจัดเก็บ

- 7.1 การป้องกันล่วงหน้าสำหรับการจัดการด้านความปลอดภัย
ทำให้แน่ใจว่าสถานที่ทำงานมีการระบายอากาศ/ ใอเสียที่ดี
เปิดและถือภาชนะรองรับอย่างระมัดระวัง
ป้องกันการเกิดละอองสารฟุ้ง
- **ข้อมูลรายละเอียดเกี่ยวกับการป้องกันอัคคีภัยและการระเบิด**
ออกห่างจากแหล่งที่ติดไฟอย่าสูบบุหรี่

(ต่อหน้า 4)

แผ่นข้อมูลความปลอดภัย

ตาม 1907/2006/EC, มาตรา 31

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ชื่อทางการค้า M-BOND 610 ADHESIVE

(ต่อหน้า 3)

ป้องกันให้พ้นจากความร้อน
ป้องกันให้พ้นจากประกวไฟฟาสถิตย

- 7.2 **เงื่อนไขในการเก็บรักษาอย่างปลอดภัย, รวมถึงสิ่งที่เข้ากันไม่ได้ใดๆ**
- **การจัดเก็บ**
- **ข้อกำหนดที่ต้องปฏิบัติตามสำหรับห้องเก็บและภาชนะบรรจุ** เก็บในบริเวณที่เย็น
- **ข้อมูลรายละเอียดด้านการจัดเก็บในสถานที่จัดเก็บรวม** ไม่ได้กำหนด
- **ข้อมูลรายละเอียดเพิ่มเติมด้านสภาพการจัดเก็บ**
- เก็บโดยปิดผนึกอย่างแน่นหนา
- เก็บในที่เย็นสภาพแห้งในภาชนะบรรจุที่ปิดผนึกอย่างดี
- ป้องกันให้พ้นจากความร้อนและแสงแดดส่อง
- 7.3 **การระบุถึงการสิ้นสุดการใช้** ไม่มีข้อมูลที่เกี่ยวข้องนอกเหนือจากนี้

8 การควบคุมการทิ้งในลักษณะเปิด / การป้องกันภัยสำหรับบุคคล

- **ข้อมูลรายละเอียดเสริมสำหรับการออกแบบสิ่งอำนวยความสะดวกทางเทคนิค** ไม่มีข้อมูลนอกเหนือจากนี้ดูรายการ 7
- 8.1 **การควบคุมตัวแปร**

• **ส่วนผสมพร้อมค่าขอบเขตที่ต้องเฝ้าดูในสถานที่ปฏิบัติงาน**

109-99-9 tetrahydrofuran

| | |
|----------|--|
| PEL (US) | ค่าระยะยาว: 590 mg/m ³ , 200 ppm |
| REL (US) | ค่าระยะสั้น: 735 mg/m ³ , 250 ppm ค่าระยะยาว: 590 mg/m ³ , 200 ppm |
| TLV (US) | ค่าระยะสั้น: 295 mg/m ³ , 100 ppm ค่าระยะยาว: 147 mg/m ³ , 50 ppm Skin |

78-93-3 เมทิลเอทิลคีโตน

| | |
|----------|--|
| PEL (US) | ค่าระยะยาว: 590 mg/m ³ , 200 ppm |
| REL (US) | ค่าระยะสั้น: 885 mg/m ³ , 300 ppm ค่าระยะยาว: 590 mg/m ³ , 200 ppm |
| TLV (US) | ค่าระยะสั้น: 885 mg/m ³ , 300 ppm ค่าระยะยาว: 590 mg/m ³ , 200 ppm BEI |

- **ข้อมูลรายละเอียดเสริม** รายการถูกต้องระหว่างที่จัดทำโดยอาศัยการใช้งานเป็นหลัก

8.2 การควบคุมการสัมผัส

อุปกรณ์ป้องกันภัยส่วนบุคคล

มาตรการการป้องกันและสุขอนามัยทั่วไป

เก็บให้ห่างจากสิ่งของที่เป็นอาหารเครื่องดื่มและอาหารสัตว์
ให้ถอดเสื้อผ้าที่เปื้อนและเจือปนออกทันที
ล้างมือก่อนที่จะหยุดพักและเมื่อสิ้นสุดเวลาทำงาน
หลีกเลี่ยงการสัมผัสถูกตาและผิวหนัง

การป้องกันการสูดหายใจเข้าไป

ในกรณีที่อยู่เป็นเวลานานหรืออากาศเป็นพิษระดับต่ำใช้หน้ากากกรองเพื่อช่วยหายใจในกรณีที่มีความเข้มข้นสูงหรืออยู่เป็นเวลานานให้ใช้เครื่องป้องกันที่มีอุปกรณ์ช่วยหายใจในตัว

การป้องกันมือ



ถุงมือป้องกัน

วัสดุของถุงมือจะต้องไม่ให้อากาศผ่านเข้าออกและทนทานต่อผลิตภัณฑ์/ สาร/ การผลิต

เนื่องจากขาดการทดสอบจึงไม่มีคำแนะนำสำหรับวัสดุที่ใช้ทำถุงมือสำหรับผลิตภัณฑ์/ การผลิต/ ของผสมเคมี

(ต่อหน้า 5)

แผ่นข้อมูลความปลอดภัย

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(ต่อหน้า 4)

เลือกวัสดุสำหรับถูงมือโดยพิจารณาจากเวลาที่ใช้ในการซึมผ่านอัตราการแพร่และการเสื่อม

· วัสดุที่ใช้ทำถูงมือ

การเลือกใช้ถูงมือที่เหมาะสมไม่เพียงแต่ขึ้นอยู่กับวัสดุแต่ยังขึ้นกับมาตรฐานด้านคุณภาพและข้อแตกต่างระหว่างผู้ผลิตแต่ละแห่ง โดยที่ผลิตภัณฑ์เตรียมมาจากสารหลายชนิดความทนทานของวัสดุถูงมือไม่สามารถที่จะคำนวณล่วงหน้า ดังนั้นจึงต้องตรวจสอบกับการใช้งาน

· เวลาที่ใช้ในการทะลุผ่านวัสดุที่ใช้ทำถูงมือ

ผู้ผลิตถูงมือป้องกันจะต้องทดสอบหาเวลาแน่นอนที่ใช้ในการทะลุผ่านและจะต้องมีการตรวจสอบติดตาม

· การป้องกันตา



แว่นตาที่ขอบปิดสนิท

9 คุณสมบัติทางกายภาพและเคมี

· 9.1 ข้อมูลคุณสมบัติพื้นฐานทางกายภาพและเคมี

· ข้อมูลรายละเอียดทั่วไป

· ลักษณะ :

รูปลักษณะ
สี

ของเหลว

ไม่มีสี

· กลิ่น

คล้ายอีเทอร์

· เกณฑ์กลิ่น :

ไม่ได้กำหนดไว้.

· ค่า pH

ไม่ได้กำหนดไว้.

· การเปลี่ยนสภาวะ

จุดหลอมเหลว/ ขอบเขตการหลอมละลาย
จุดเดือด/ ขอบเขตการเดือด

ไม่ได้กำหนด

66 °C

· จุดวาบไฟ

-14 °C

· ความสามารถติดไฟ (ของแข็งแกลส)

ไม่สามารถใช้ได้

· อุณหภูมิจุดระเบิด

320 °C

· อุณหภูมิละลายตัว

ไม่ได้กำหนดไว้.

· การเผาไหม้ด้วยตัวเอง

ผลิตภัณฑ์ไม่เป็นสารจุดไฟติดด้วยตัวเอง

· อันตรัยจากการระเบิด

อาจเกิดสารระเบิดเปอร์ออกไซด์

· ขอบเขตการระเบิด

ขั้นต่ำ
ขั้นสูง

1.5 Vol %

12 Vol %

· ความดันไอ ที่ 20 °C

200 hPa

· ความหนาแน่น ที่ 20 °C

2.4 g/cm³

· ความหนาแน่นสัมพัทธ์

ไม่ได้กำหนดไว้.

· ความหนาแน่นของไอ

ไม่ได้กำหนดไว้.

· อัตราการระเหย

ไม่ได้กำหนดไว้.

· ความสามารถในการละลายใน / ความสามารถผสมเป็นสารละลายเนื้อเดียวทุกส่วนผสมกับน้ำ

ไม่สามารถผสมกันได้หรือยากที่จะผสม

· สัมประสิทธิ์การแยกตัว (เอ็น-ออกทานอล/น้ำ)

ไม่ได้กำหนดไว้.

(ต่อหน้า 6)

แผ่นข้อมูลความปลอดภัย

ตาม 1907/2006/EC, มาตรา 31

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ชื่อทางการค้า M-BOND 610 ADHESIVE

(ต่อหน้า 5)

| | |
|--|---|
| · ความหนืด (ไดนามิค) พลศาสตร์ (คิเนเมติก) จลนศาสตร์ | ไม่ได้กำหนดไว้. ไม่ได้กำหนดไว้. |
| · ปริมาณส่วนประกอบตัวทำละลาย ตัวทำละลายอินทรีย์ VOC (EC) | 70.1 % 70.09 % |
| · ส่วนประกอบที่เป็นของแข็ง · 9.2 ข้อมูลอื่นๆ | 0.0 % ไม่มีข้อมูลที่เกี่ยวข้องนอกเหนือจากนี้ |

10 ความเสถียรและความสามารถในการทำปฏิกิริยา

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

11 ข้อมูลรายละเอียดเกี่ยวกับพิษวิทยา

- 11.1 ข้อมูลเกี่ยวกับผลกระทบทางพิษวิทยา

· ความเป็นพิษอย่างสาหัส:
เป็นอันตรายหากกลืนเข้าไป

- การจัดแบ่งตามค่า LD/LC50

109-99-9 tetrahydrofuran

ทางปาก LD50 2,500 mg/kg (rat)

- อาการระคายเคืองเบื้องต้น
- บวมผิวหนัง
เป็นสาเหตุให้เกิดการระคายเคืองผิวหนัง
- ที่ดวงตา
เป็นสาเหตุให้เกิดการระคายเคืองอย่างร้ายแรงที่ตา
- การทำให้แพ้
อาจเป็นสาเหตุให้ผิวหนังแสดงอาการแพ้

12 ข้อมูลรายละเอียดเกี่ยวกับนิเวศวิทยา

- 12.1 ความเป็นพิษ
- ความเป็นพิษที่เกี่ยวกับน้ำ ไม่มีข้อมูลที่เกี่ยวข้องนอกเหนือจากนี้
- 12.2 การคงอยู่และการย่อยสลาย ไม่มีข้อมูลที่เกี่ยวข้องนอกเหนือจากนี้
- 12.3 การสะสมทางชีวภาพที่อาจเกิดขึ้น ไม่มีข้อมูลที่เกี่ยวข้องนอกเหนือจากนี้
- 12.4 การเปลี่ยนแปลงในดิน ไม่มีข้อมูลที่เกี่ยวข้องนอกเหนือจากนี้
- ผลกระทบด้านพิษต่อระบบนิเวศน์
- ข้อสังเกต เป็นพิษสำหรับปลา
- ข้อมูลรายละเอียดเสริมเกี่ยวกับนิเวศวิทยา
- หมายเหตุทั่วไป
เป็นอันตรายต่อน้ำชั้น 1 (กฎข้อบังคับของเยอรมัน)(การประเมินค่าด้วยตัวเอง):เป็นอันตรายเล็กน้อยกับน้ำ

(ต่อหน้า 7)

แผ่นข้อมูลความปลอดภัย

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(ต่อที่หน้า 6)

อย่าปล่อยให้ผลิตภัณฑ์ที่ยังไม่ได้เจือจางหรือผลิตภัณฑ์เป็นจำนวนมากไปถึงน้ำผิวดินเส้นทางน้ำหรือระบบระบายน้ำเสีย

เป็นพิษกับปลาและแพลงค์ตอนในผิวน้ำ

มีพิษต่อสิ่งมีชีวิตในน้ำ

- 12.5 ผลของ PBT และการประเมิน vPvB
- PBT: ไม่สามารถใช้ได้
- vPvB: ไม่สามารถใช้ได้
- 12.6 ผลข้างเคียงอื่นๆ ไม่มีข้อมูลที่เกี่ยวข้องนอกเหนือจากนี้

13 การพิจารณาการกำจัด

- 13.1 วิธีการกำจัดของเสีย
- คำแนะนำ ต้องไม่ทิ้งไปพร้อมกับขยะจากบ้านเรือนอย่าปล่อยให้ผลิตภัณฑ์เข้าถึงระบบระบายน้ำเสีย
- ภาชนะบรรจุที่ยังไม่ได้ล้างทำความสะอาด
- คำแนะนำ การกำจัดจะต้องทำตามกฎระเบียบที่เป็นทางการ

14 ข้อมูลรายละเอียดในการขนส่ง

| | |
|--|---|
| · 14.1 เลขที่ UN | |
| · ADR, IMDG, IATA | UN1133 |
| · 14.2 ชื่อการจัดส่งสินค้าที่เหมาะสมของ UN | |
| · ADR | 1133 ADHESIVES, ENVIRONMENTALLY HAZARDOUS |
| · IMDG, IATA | ADHESIVES |
| · 14.3 ชั้นเรียนอันตรายจากการขนส่ง | |
| · ADR | |
| | |
| · ประเภท | 3 ของเหลวติดไฟได้ |
| · ฉลากสิ่งที่เป็นอันตราย | 3 |
| · IMDG, IATA | |
| | |
| · Class | 3 ของเหลวติดไฟได้ |
| · Label | 3 |
| · 14.4 กลุ่มของภาชนะบรรจุ | |
| · ADR, IMDG, IATA | II |
| · 14.5 สิ่งที่เป็นอันตรายต่อสภาพแวดล้อม | |
| · เฉพาะการติดฉลาก (ADR): | สัญลักษณ์ (ปลาและต้นไม้) |
| · 14.6 การป้องกันพิเศษล่วงหน้าสำหรับผู้ใช้ | |
| · รหัสความอันตราย: | คำเตือน !: ของเหลวติดไฟได้ |
| · หมายเลข EMS | 33 |
| | F-E,S-D |

(ต่อที่หน้า 8)

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แผนข้อมูลความปลอดภัย

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(ต่อหน้า 7)

| | |
|---|---|
| · Stowage Category | B |
| · 14.7 การขนส่งขนาดใหญ่ตามภาคผนวก 2 ของ MARPOL73/78 และรหัส IBC | ไม่สามารถใช้ได้ |
| · การขนส่ง/ข้อมูลรายละเอียดเสริม | |
| · ADR | |
| · ปริมาณที่จำกัด (LQ) | 5L |
| · Excepted quantities (EQ) | Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml |
| · หมวดหมู่การขนส่ง | 2 |
| · รหัสควบคุมการผ่านอุโมงค์ | 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 |
| · “กฎระเบียบต้นแบบ” ของ UN | UN 1133 ADHESIVES, 3, II, ENVIRONMENTALLY HAZARDOUS |

15 ข้อมูลรายละเอียดของกฎระเบียบ

- 15.1 ความปลอดภัย สุขภาพและระเบียบ/กฎหมายสิ่งแวดล้อมโดยเฉพาะของสารหรือสารผสม
- บัญชีรายชื่อวัตถุอันตราย

| | | |
|-----------------------|--------------------------|-----------|
| · กรมวิชาการเกษตร | ไม่มีส่วนผสมอยู่ในรายการ | |
| · กรมประมง | ไม่มีส่วนผสมอยู่ในรายการ | |
| · กรมปศุสัตว์ | ไม่มีส่วนผสมอยู่ในรายการ | |
| · อาหารและยา | ไม่มีส่วนผสมอยู่ในรายการ | |
| · กรมโรงงานอุตสาหกรรม | 78-93-3 เมทิลเอทิลคีโตน | ชนิดที่ 3 |
| · กรมธุรกิจพลังงาน | ไม่มีส่วนผสมอยู่ในรายการ | |

- 15.2 การประเมินความปลอดภัยของสารเคมี: ไม่ได้ดำเนินการตามการประเมินความปลอดภัยของสารเคมี

16 ข้อมูลรายละเอียดอื่นๆ

ข้อมูลรายละเอียดนี้ใช้ความรู้ปัจจุบันของเราเป็นหลักอย่างไรก็ตามข้อมูลนี้ไม่ใช่การรับประกันจากสถาบันต่อคุณสมบัติเฉพาะของผลิตภัณฑ์และไม่สามารถยืนยันการบังคับใช้ตามกฎหมายที่เกี่ยวข้องกับสัญญา

- วลีที่เกี่ยวข้องกับ
 - H225 ของเหลวและไอที่ไวไฟสูง
 - H319 เป็นสาเหตุให้เกิดการระคายเคืองอย่างร้ายแรงที่ตา
 - H335 อาจเป็นสาเหตุให้เกิดการระคายเคืองต่อระบบหายใจ
 - H336 อาจเป็นสาเหตุให้เชื่องซึมหรือหน้ามืดเวียนศีรษะ

(ต่อหน้า 9)

แผ่นข้อมูลความปลอดภัย

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H351 สงสัยว่าจะเป็นสาเหตุการเกิดมะเร็ง

คำย่อและชื่อย่อที่ผสมขึ้น

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

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

GHS: Globally Harmonised System of Classification and Labelling of Chemicals

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

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

VOC: Volatile Organic Compounds (USA, EU)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

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

Carc. 2: Carcinogenicity – Category 2

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

Aquatic Chronic 2: Hazardous to the aquatic environment - long-term aquatic hazard – Category 2

-TH-