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: sgkeck@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
    - Eye Irrit. 2A H319 Causes serious eye irritation.

  - 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

(Contd. on page 2)
Trade name: M-BOND 610 ADHESIVE

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

- **Hazard statements**
  - Highly flammable liquid and vapor.
  - Causes serious eye irritation.
  - 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.
  - Use only outdoors or in a well-ventilated area.
  - Wear protective gloves / eye protection / face protection.
  - If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
  - If INHALED: Remove person to fresh air and keep comfortable for breathing.
  - If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
  - IF exposed or concerned: Get medical advice/attention.
  - Call a poison center/doctor if you feel unwell.
  - 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

- **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:

<table>
<thead>
<tr>
<th>Chemical</th>
<th>Concentration</th>
</tr>
</thead>
<tbody>
<tr>
<td>109-99-9</td>
<td>tetrahydrofuran</td>
</tr>
<tr>
<td>78-93-3</td>
<td>METHYL ETHYL KETONE</td>
</tr>
</tbody>
</table>

4 First-aid measures

· Description of first aid measures
· General information:
Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.
· After inhalation: Supply fresh air; consult doctor in case of complaints.
· After skin contact: Generally the product does not irritate the skin.
· After eye contact: Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.
· After swallowing: 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: Do not allow to enter sewers/surface or ground water.
· Methods and material for containment and cleaning up:
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust). Dispose contaminated material as waste according to item 13. Ensure adequate ventilation. Do not flush with water or aqueous cleansing agents
· Reference to other sections
See Section 7 for information on safe handling. See Section 8 for information on personal protection equipment. See Section 13 for disposal information.
51. Protective Action Criteria for Chemicals

· PAC-1:
  - 109-99-9 tetrahydrofuran 100 ppm
  - 28064-14-4 EPOXY PHENOL NOVOLAC 30 mg/m³
  - 78-93-3 METHYL ETHYL KETONE 200 ppm

· PAC-2:
  - 109-99-9 tetrahydrofuran 500 ppm
  - 28064-14-4 EPOXY PHENOL NOVOLAC 330 mg/m³
  - 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/m³
  - 78-93-3 METHYL ETHYL KETONE 4000* ppm

7 Handling and storage

· Handling:
  · Precautions for safe handling
    Ensure good ventilation/exhaustion at the workplace.
    Prevent formation of aerosols.
  · Information about protection against explosions and fires:
    Keep ignition sources away - Do not smoke.
    Protect 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
      PEL Long-term value: 590 mg/m³, 200 ppm

(Contd. of page 3)
Trade name: M-BOND 610 ADHESIVE

<table>
<thead>
<tr>
<th></th>
<th>REL Short-term value: 735 mg/m³, 250 ppm</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Long-term value: 590 mg/m³, 200 ppm</td>
</tr>
<tr>
<td>TLV</td>
<td>Short-term value: 295 mg/m³, 100 ppm</td>
</tr>
<tr>
<td></td>
<td>Long-term value: 147 mg/m³, 50 ppm</td>
</tr>
<tr>
<td>Skin</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

78-93-3 METHYL ETHYL KETONE

| PEL        | Long-term value: 590 mg/m³, 200 ppm    |
| REL        | Short-term value: 885 mg/m³, 300 ppm   |
| TLV        | Short-term value: 885 mg/m³, 300 ppm   |
|            | Long-term value: 590 mg/m³, 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.
    Avoid contact with the eyes and skin.
  - Breathing equipment:
    In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use respiratory protective device that is independent of circulating air.
  - Protection of hands:

Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.
Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

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

- **Penetration time of glove material**
The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

- **Eye protection:**

  Tightly sealed goggles

## 9 Physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Appearance:</strong></td>
<td>Liquid</td>
</tr>
<tr>
<td><strong>Color:</strong></td>
<td>Colorless</td>
</tr>
<tr>
<td><strong>Odor:</strong></td>
<td>Ether-like</td>
</tr>
<tr>
<td><strong>Odor threshold:</strong></td>
<td>Not determined.</td>
</tr>
<tr>
<td><strong>pH-value:</strong></td>
<td>Not determined.</td>
</tr>
<tr>
<td><strong>Melting point/Melting range:</strong></td>
<td>Undetermined.</td>
</tr>
<tr>
<td><strong>Boiling point/Boiling range:</strong></td>
<td>66 °C (150.8 °F)</td>
</tr>
<tr>
<td><strong>Flash point:</strong></td>
<td>-14 °C (6.8 °F)</td>
</tr>
<tr>
<td><strong>Flammability (solid, gaseous):</strong></td>
<td>Not flammable.</td>
</tr>
<tr>
<td><strong>Ignition temperature:</strong></td>
<td>320 °C (608 °F)</td>
</tr>
<tr>
<td><strong>Decomposition temperature:</strong></td>
<td>Not determined.</td>
</tr>
<tr>
<td><strong>Auto igniting:</strong></td>
<td>Product is not selfigniting.</td>
</tr>
<tr>
<td><strong>Danger of explosion:</strong></td>
<td>Product is not explosive. However, formation of explosive air/vapor mixtures are possible.</td>
</tr>
<tr>
<td><strong>Explosion limits:</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Lower:</strong></td>
<td>1.5 Vol %</td>
</tr>
<tr>
<td><strong>Upper:</strong></td>
<td>12 Vol %</td>
</tr>
<tr>
<td><strong>Vapor pressure at 20 °C (68 °F):</strong></td>
<td>200 hPa (150 mm Hg)</td>
</tr>
<tr>
<td><strong>Density at 20 °C (68 °F):</strong></td>
<td>2.4 g/cm³ (20.028 lbs/gal)</td>
</tr>
<tr>
<td><strong>Relative density:</strong></td>
<td>Not determined.</td>
</tr>
<tr>
<td><strong>Vapor density</strong></td>
<td>Not determined.</td>
</tr>
<tr>
<td><strong>Evaporation rate</strong></td>
<td>Not determined.</td>
</tr>
<tr>
<td><strong>Solubility in / Miscibility with Water:</strong></td>
<td>Not miscible or difficult to mix.</td>
</tr>
<tr>
<td><strong>Partition coefficient (n-octanol/water):</strong></td>
<td>Not determined.</td>
</tr>
</tbody>
</table>
Safety Data Sheet
acc. to OSHA HCS

Trade name: M-BOND 610 ADHESIVE

(Contd. of page 6)

- Viscosity:
  Dynamic: Not determined.
  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: No irritant effect.
    - on the eye: Irritating effect.
  - Sensitization: No sensitizing effects known.
  - Additional toxicological information:
    The product shows the following dangers according to internally approved calculation methods for preparations:
    Harmful
    Irritant

- Carcinogenic categories
  - IARC (International Agency for Research on Cancer)

    | 109-99-9 tetrahydrofuran |
    |--------------------------|
    | 2B |

  - NTP (National Toxicology Program)

    None of the ingredients is listed.

(Contd. on page 8)
12 Ecological information

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

13 Disposal considerations

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

14 Transport information

- UN-Number
  DOT, ADR, IMDG, IATA: UN1133
- UN proper shipping name
  DOT: Adhesives
  ADR: 1133 ADHESIVES
  IMDG, IATA: ADHESIVES
- Transport hazard class(es)
  DOT
  Class: 3 Flammable liquids
### 15 Regulatory information

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

**Sara**

- **Section 355 (extremely hazardous substances):**
  
  None of the ingredients is listed.

- **Section 313 (Specific toxic chemical listings):**
  
  None of the ingredients is listed.

- **TSCA (Toxic Substances Control Act):**
  
  All components have the value ACTIVE.
Trade name: M-BOND 610 ADHESIVE

- **Hazardous Air Pollutants**
  None of the ingredients is listed.

- **Proposition 65**
  None of the ingredients is listed.

- **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**
  None of the ingredients is listed.

  - **EPA (Environmental Protection Agency)**
    - tetrahydrofuran SC
    - METHYL ETHYL KETONE I
  
  - **TLV (Threshold Limit Value established by ACGIH)**
    - 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.
  Causes serious eye irritation.
  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.
Use only outdoors or in a well-ventilated area.
Wear protective gloves / eye protection / face protection.
If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
IF INHALED: Remove person to fresh air and keep comfortable for breathing.
IF in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
IF exposed or concerned: Get medical advice/attention.
Call a poison center/doctor if you feel unwell.
If eye irritation persists: Get medical advice/attention.
In case of fire: Use for extinction: CO2, powder or water spray.
Store in a well-ventilated place. Keep container tightly closed.
Store in a well-ventilated place. Keep cool.
Store locked up.
Dispose of contents/container in accordance with local/regional/national/international regulations.

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

16 Other information

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

Date of preparation / last revision 08/03/2020 / -

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
Eye Irrit. 2A: Serious eye damage/eye irritation – Category 2A
Carc. 2: Carcinogenicity – Category 2
STOT SE 3: Specific target organ toxicity (single exposure) – Category 3
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: sgkcek@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.

(Contd. on page 2)
Safety Data Sheet
according to WHS Regulations

Trade name: M-BOND 610 ADHESIVE

Eye Irrit. 2A  H319  Causes serious eye irritation.
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.
Causes serious eye irritation.
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.
Use only outdoors or in a well-ventilated area.
Wear protective gloves/protective clothing/eye protection/face protection.
IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
IF exposed or concerned: Get medical advice/attention.
Call a POISON CENTER/doctor if you feel unwell.
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.

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

(Contd. on page 3)
Trade name: M-BOND 610 ADHESIVE

3 Composition and Information on Ingredients

· Chemical characterisation: Mixtures
· Description: Mixture of substances listed below with nonhazardous additions.
· Dangerous components:
<table>
<thead>
<tr>
<th>Substance</th>
<th>Concentration</th>
</tr>
</thead>
<tbody>
<tr>
<td>tetrahydrofuran</td>
<td>&gt;50-% ≤100%</td>
</tr>
<tr>
<td>METHYL ETHYL KETONE</td>
<td>&gt;2.5-% ≤10%</td>
</tr>
</tbody>
</table>
· 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; consult doctor in case of complaints.
· After skin contact: Generally the product does not irritate the skin.
· After eye contact:
  Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.
· After swallowing: 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: 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
7 Handling and Storage

- Handling:
  - Precautions for safe handling
    Ensure good ventilation/exhaustion at the workplace.
    Prevent formation of aerosols.
  - Information about fire - and explosion protection:
    Keep ignition sources away - Do not smoke.
    Protect 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

<table>
<thead>
<tr>
<th>Ingredients with limit values that require monitoring at the workplace:</th>
</tr>
</thead>
<tbody>
<tr>
<td>109-99-9 tetrahydrofuran</td>
</tr>
<tr>
<td>WES Long-term value: 295 mg/m³, 100 ppm</td>
</tr>
<tr>
<td>Sk</td>
</tr>
<tr>
<td>78-93-3 METHYL ETHYL KETONE</td>
</tr>
<tr>
<td>WES Short-term value: 890 mg/m³, 300 ppm</td>
</tr>
<tr>
<td>Long-term value: 445 mg/m³, 150 ppm</td>
</tr>
</tbody>
</table>

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

- Exposure controls
- Personal protective equipment:
  - General protective and hygienic measures:
    Keep away from foodstuffs, beverages and feed.
    Immediately remove all soiled and contaminated clothing
    Wash hands before breaks and at the end of work.
    Avoid contact with the eyes.
    Avoid contact with the eyes and skin.
Trade name: M-BOND 610 ADHESIVE

· 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

· Decomposition temperature:
   Not determined.
Safety Data Sheet  
according to WHS Regulations

Trade name: M-BOND 610 ADHESIVE

- **Auto-ignition temperature:** Product is not selfigniting.
- **Explosive properties:** Product is not explosive. However, formation of explosive air/vapour mixtures are possible.
- **Explosion limits:**
  - Lower: 1.5 Vol %
  - Upper: 12 Vol %
- **Vapour pressure at 20 °C:** 200 hPa
- **Density at 20 °C:** 2.4 g/cm³
- **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:** No irritant effect.
- **Skin corrosion/irritation** No irritant effect.
· **Serious eye damage/irritation** Irritating effect.
· **Respiratory or skin sensitisation** No sensitising effects known.
· **Additional toxicological information:** The product shows the following dangers according to the calculation method of the General EU Classification Guidelines for Preparations as issued in the latest version:
  - Harmful
  - Irritant
· **CMR effects (carcinogenicity, 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.
- **Additional ecological information:**
  - General notes:
    - Water hazard class 1 (German Regulation) (Self-assessment): slightly hazardous for water
    - Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.
  - Results of PBT and vPvB assessment
    - PBT: Not applicable.
    - vPvB: Not applicable.
  - Other adverse effects: No further relevant information available.

### 13 Disposal considerations

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

### 14 Transport information

- **UN-Number**
  - ADG, IMDG, IATA: UN1133
- **UN proper shipping name**
  - ADG: 1133 ADHESIVES
  - IMDG, IATA: ADHESIVES
### 51.0.2

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

<table>
<thead>
<tr>
<th>Class</th>
<th>3 Flammable liquids.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Label</td>
<td>3</td>
</tr>
</tbody>
</table>

· Packing group
  · ADG, IMDG, IATA
  · Packing group: ADG, IMDG, IATA
  · Packing group: II

· Environmental hazards:
  · Not applicable.

· Special precautions for user
  · Warning: Flammable liquids.

· Hazard identification number (Kemler code):
  · 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:

<table>
<thead>
<tr>
<th>ADG</th>
<th>Limited quantities (LQ)</th>
<th>5L</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Exempted quantities (EQ)</td>
<td>Code: E2</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Maximum net quantity per inner packaging: 30 ml</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Maximum net quantity per outer packaging: 500 ml</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>IMDG</th>
<th>Limited quantities (LQ)</th>
<th>1L</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Exempted quantities (EQ)</td>
<td>Code: E2</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Maximum net quantity per inner packaging: 30 ml</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Maximum net quantity per outer packaging: 500 ml</td>
</tr>
</tbody>
</table>

| UN "Model Regulation": | UN 1133 ADHESIVES, 3, II |

## 15 Regulatory information

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

· Australian Inventory of Chemical Substances
  · All ingredients are listed.

· Standard for the Uniform Scheduling of Medicines and Poisons
  · 78-93-3 METHYL ETHYL KETONE
    · S5

· Australia: Priority Existing Chemicals
  · None of the ingredients is listed.
Safety Data Sheet
according to WHS Regulations

Trade name: M-BOND 610 ADHESIVE

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

- **Hazard pictograms**
  ![GHS02](image1) ![GHS07](image2) ![GHS08](image3)

- **Signal word** Danger

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

- **Hazard statements**
  Highly flammable liquid and vapour.
  Causes serious eye irritation.
  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.
  Use only outdoors or in a well-ventilated area.
  Wear protective gloves/protective clothing/eye protection/face protection.
  IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
  IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
  IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
  IF exposed or concerned: Get medical advice/attention.
  Call a POISON CENTER/doctor if you feel unwell.
  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.

- **Directive 2012/18/EU**
- **Named dangerous substances - ANNEX I** None of the ingredients is listed.
- **Seveso category** P5c FLAMMABLE LIQUIDS
- **Qualifying quantity (tonnes) for the application of lower-tier requirements** 5,000 t
- **Qualifying quantity (tonnes) for the application of upper-tier requirements** 50,000 t
- **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.
## 16 Other information

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

**Abbreviations and acronyms:**
- **ADR:** Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
- **IMDG:** International Maritime Code for Dangerous Goods
- **IATA:** International Air Transport Association
- **EINECS:** European Inventory of Existing Commercial Chemical Substances
- **ELINCS:** European List of Notified Chemical Substances
- **CAS:** Chemical Abstracts Service (division of the American Chemical Society)
- **VOC:** Volatile Organic Compounds (USA, EU)
- **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
- **Eye Irrit. 2A:** Serious eye damage/eye irritation – Category 2A
- **Carc. 2:** Carcinogenicity – Category 2
- **STOT SE 3:** Specific target organ toxicity (single exposure) – Category 3
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: sgkeck@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 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**
    - Eye Irritation - Category 2A  
      - H319 Causes serious eye irritation.
    - 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

(Contd. on page 2)
Safety Data Sheet
according to HPR, Schedule 1

Trade name: M-BOND 610 ADHESIVE

Hazard-determining components of labeling:
tetrahydrofuran

Hazard statements
Highly flammable liquid and vapour.
Causes serious eye irritation.
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.
Use only outdoors or in a well-ventilated area.
Wear protective gloves/protective clothing/eye protection/face protection.
IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].
IF INHALED: Remove person to fresh air and keep comfortable for breathing.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
IF exposed or concerned: Get medical advice/attention.
Call a poison center/doctor if you feel unwell.
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

Composition/Information on ingredients

Chemical characterization: Mixtures
Description: Mixture of the substances listed below with nonhazardous additions.
Trade name: M-BOND 610 ADHESIVE

4 First-aid measures

· Description of first aid measures
· General information:
  Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.
· After inhalation: Supply fresh air; consult doctor in case of complaints.
· After skin contact: Generally the product does not irritate the skin.
· After eye contact:
  Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.
· After swallowing: 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: Do not allow to enter sewers/surface or ground water.
· Methods and material for containment and cleaning up:
  Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
  Dispose contaminated material as waste according to item 13.
  Ensure adequate ventilation.
  Do not flush with water or aqueous cleansing agents
· Reference to other sections
  See Section 7 for information on safe handling.
  See Section 8 for information on personal protection equipment.
  See Section 13 for disposal information.
7 Handling and storage

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

<table>
<thead>
<tr>
<th>Component</th>
<th>EL STEL: 100 ppm</th>
<th>TWA: 50 ppm</th>
<th>Skin, IARC 2B</th>
</tr>
</thead>
<tbody>
<tr>
<td>109-99-9 tetrahydrofuran</td>
<td>EV STEL: 100 ppm</td>
<td>TWA: 50 ppm</td>
<td></td>
</tr>
<tr>
<td>78-93-3 METHYL ETHYL KETONE</td>
<td>EV STEL: 885 mg/m³, 300 ppm</td>
<td>TWA: 590 mg/m³, 200 ppm</td>
<td></td>
</tr>
</tbody>
</table>

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.
  Avoid contact with the eyes and skin.
Safety Data Sheet  
according to HPR, Schedule 1

Trade name: M-BOND 610 ADHESIVE

· 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.
Trade name: M-BOND 610 ADHESIVE

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:** No irritant effect.
    - **on the eye:** Irritating effect.
Safety Data Sheet  
according to HPR, Schedule 1

Printing date 08/03/2020  Reviewed on 08/03/2020

Trade name: M-BOND 610 ADHESIVE

- Sensitization: No sensitizing effects known.
- 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)
    | Substance   | Carcinogenicity |
    |--------------|-----------------|
    | tetrahydrofuran | 2B              |
  - NTP (National Toxicology Program)
    None of the ingredients is listed.

12 Ecological information

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

13 Disposal considerations

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

14 Transport information

- UN-Number
  - DOT/TDG, ADR, IMDG, IATA: UN1133
- UN proper shipping name
  - DOT/TDG: Adhesives
  - ADR: 1133 ADHESIVES

(Contd. on page 8)
Trade name: M-BOND 610 ADHESIVE

<table>
<thead>
<tr>
<th>· IMDG, IATA</th>
<th>ADHESIVES</th>
</tr>
</thead>
<tbody>
<tr>
<td>· Transport hazard class(es)</td>
<td></td>
</tr>
<tr>
<td>· DOT/TDG (Transport dangerous goods):</td>
<td></td>
</tr>
<tr>
<td>[flammable liquid icon]</td>
<td>3 Flammable liquids</td>
</tr>
<tr>
<td>· Class</td>
<td>3</td>
</tr>
<tr>
<td>· Label</td>
<td></td>
</tr>
</tbody>
</table>

| · ADR, IMDG, IATA | |
| · Class | 3 Flammable liquids |
| · Label | 3 |

| · Packing group | II |
| · DOT/TDG, ADR, IMDG, IATA | |

| · Environmental hazards: | Not applicable. |
| · Special precautions for user | Warning: Flammable liquids |
| · Hazard identification number (Kemler code): | 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/TDG | |
| · 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 |
### 15 Regulatory information

- **Safety, health and environmental regulations/legislation specific for the substance or mixture**
- **Sara**
- **Section 355 (extremely hazardous substances):**
  - None of the ingredients is listed.
- **Section 313 (Specific toxic chemical listings):**
  - None of the ingredients is listed.
- **TSCA (Toxic Substances Control Act):**
  - All components have the value ACTIVE.
  - **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).
- **Signal word** Danger
- **Hazard-determining components of labeling:**
  - tetrahydrofuran
- **Hazard statements**
  - Highly flammable liquid and vapour.
  - Causes serious eye irritation.
  - 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.
  - Use only outdoors or in a well-ventilated area.
Wear protective gloves/protective clothing/eye protection/face protection.

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

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

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

IF exposed or concerned: Get medical advice/attention.
Call a poison center/doctor if you feel unwell.
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**: 08/03/2020 / -
- **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
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.

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: sgkcek@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.

  - GHS07
    Eye Irrit. 2  H319  Causes serious eye irritation.
    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.
Trade name: M-BOND 610 ADHESIVE

- Hazard pictograms
  
  GHS02 GHS07 GHS08

- Signal word Danger

- Hazard-determining components of labelling:
  tetrahydrofuran

- Hazard statements
  H225 Highly flammable liquid and vapour.
  H319 Causes serious eye irritation.
  H351 Suspected of causing cancer.
  H335 May cause respiratory irritation.

- Precautionary statements
  P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
  P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].
  P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
  P405 Store locked up.
  P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

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

SECTION 3: Composition/information on ingredients

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

<table>
<thead>
<tr>
<th>Dangerous components:</th>
<th>CAS: 109-99-9</th>
<th>tetrahydrofuran</th>
</tr>
</thead>
<tbody>
<tr>
<td>EINECS: 203-726-8</td>
<td>Flam. Liq. 2, H225; Carc. 2, H351; Eye Irrit. 2, H319; STOT SE 3, H335</td>
<td></td>
</tr>
<tr>
<td></td>
<td>&gt;50-&lt;100%</td>
<td></td>
</tr>
<tr>
<td>CAS: 78-93-3</td>
<td>METHYL ETHYL KETONE</td>
<td></td>
</tr>
<tr>
<td>EINECS: 201-159-0</td>
<td>Flam. Liq. 2, H225; Eye Irrit. 2, H319; STOT SE 3, H336</td>
<td></td>
</tr>
<tr>
<td></td>
<td>&gt;2.5-&lt;10%</td>
<td></td>
</tr>
</tbody>
</table>

- Additional information: For the wording of the listed hazard phrases refer to section 16.
SECTION 4: First aid measures

4.1 Description of first aid measures

- General information:
  Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.
- After inhalation: Supply fresh air; consult doctor in case of complaints.
- After skin contact: Generally the product does not irritate the skin.
- After eye contact:
  Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.
- After swallowing: 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: 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.

Prevent formation of aerosols.

Information about fire - and explosion protection:

Keep ignition sources away - Do not smoke.

Protect from heat.
Trade name: M-BOND 610 ADHESIVE

- 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:
    
    | Ingredient                  | WEL Short-term | WEL Long-term |
    |-----------------------------|----------------|---------------|
    | tetrahydrofuran             | 300 mg/m³, 100 ppm | 150 mg/m³, 50 ppm |
    | Methyl ethyl ketone         | 899 mg/m³, 300 ppm | 600 mg/m³, 200 ppm |

- Ingredients with biological limit values:
  - 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.
      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**

---

**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:** Product is not explosive. However, formation of explosive air/vapour mixtures are possible.
51.0.2

- Explosion limits:
  - Lower: 1.5 Vol %
  - Upper: 12 Vol %

- Vapour pressure at 20 °C: 200 hPa

- Density at 20 °C: 2.4 g/cm³
  - 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 %

9.2 Other information

No further relevant information available.

SECTION 10: Stability and reactivity

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

SECTION 11: Toxicological information

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

- 11.2 LD/LC50 values relevant for classification:
  - 109-99-9 tetrahydrofuran
    - Oral LD50: 2,500 mg/kg (rat)

- Primary irritant effect:
  - Skin corrosion/irritation Based on available data, the classification criteria are not met.
  - Serious eye damage/irritation Causes serious eye irritation.
  - Respiratory or skin sensitisation Based on available data, the classification criteria are not met.
Trade name: M-BOND 610 ADHESIVE

- CMR effects (carcinogenity, 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.

SECTION 12: Ecological information

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

SECTION 13: Disposal considerations

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

SECTION 14: Transport information

- 14.1 UN-Number
  - ADR, IMDG, IATA UN1133
- 14.2 UN proper shipping name
  - ADR 1133 ADHESIVES
  - IMDG, IATA ADHESIVES
14.3 Transport hazard class(es)
- ADR, IMDG, IATA

14.4 Packing group
- ADR, IMDG, IATA
- Packing group II

14.5 Environmental hazards:
- Not applicable.

14.6 Special precautions for user
- Warning: Flammable liquids.
- Hazard identification number (Kemler code): 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

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture
- Directive 2012/18/EU
- Named dangerous substances - ANNEX I: None of the ingredients is listed.
- Seveso category P5c FLAMMABLE LIQUIDS
- Qualifying quantity (tonnes) for the application of lower-tier requirements: 5,000 t
- Qualifying quantity (tonnes) for the application of upper-tier requirements: 50,000 t
- REGULATION (EC) No 1907/2006 ANNEX XVII: Conditions of restriction: 3
Trade name: M-BOND 610 ADHESIVE

· 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
  Eye Irrit. 2: Serious eye damage/eye irritation – Category 2
  Carc. 2: Carcinogenicity – Category 2
  STOT SE 3: Specific target organ toxicity (single exposure) – Category 3
1 化学品及企业标识

- 产品识别者
- 化学品中文(英文)名称: 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
  - 地址: 1560 Industry Road
  - USA-Hatfield, PA 19440
  - Tel: 215-412-8400 Fax: 215-412-8450
  - email: sgkceck@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。吞咽可能有害。造成严重眼刺激。怀疑会致癌。可引起呼吸道刺激。
- 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
  - 严重眼损伤/眼刺激 类别2A H319 造成严重眼刺激
  - 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
  - 急性毒性(径口) 第5类 H303 吞咽可能有害
- 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。
M-BOND 610 ADHESIVE

3 成分/组成信息

- 混合物
  - 描述: 由以下含有无害添加济的成分组成的混合物

<table>
<thead>
<tr>
<th>成分</th>
<th>安全数据编号</th>
<th>容器/包装要求</th>
<th>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</th>
</tr>
</thead>
<tbody>
<tr>
<td>氧杂环戊烷</td>
<td>&gt;50-≤100%</td>
<td>78-93-3</td>
<td>不适用的</td>
</tr>
<tr>
<td>甲乙酮</td>
<td>&gt;2.5-≤10%</td>
<td>109-99-9</td>
<td>不适用的</td>
</tr>
</tbody>
</table>
4 急救措施

- 应急措施要领

- 总说明：中毒的症状可能会在几小时以后才出现；因此在发生事故之后起码要有 48 小时的医疗观察。
  - 吸入：供给新鲜空气，如果病人感到不适时要询问医生。
  - 皮肤接触：一般的产品不会刺激皮肤。
  - 眼睛接触：张开眼睛在流水下冲洗数分钟，如果症状仍然持续，请咨询医生。
  - 食入：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：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。
  - 有关个人保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。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。
化学品中文(英文)名称: M-BOND 610 ADHESIVE

根据 GB/T 16483-2008, GB/T 17519-2013

打印日期 2020.08.03 在 2020.08.03 审核

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.

· 控制变更

在工作场需要监控的限值成分

<table>
<thead>
<tr>
<th>化学成分</th>
<th>OEL (CN)</th>
<th>PC-TWA</th>
<th>PEL (TW)</th>
<th>PC-TWA</th>
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</thead>
<tbody>
<tr>
<td>109-99-9 氧杂环戊烷</td>
<td>PC-TWA: 300 mg/m³</td>
<td>PC-TWA: 300 mg/m³</td>
<td>200 ppm</td>
<td></td>
</tr>
<tr>
<td>78-93-3 甲乙酮</td>
<td>PC-STEL: 600 mg/m³</td>
<td>PC-TWA: 300 mg/m³</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>PC-TWA: 590 mg/m³, 200 ppm</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

· 额外的资料: 制作期间有效的清单将作为基础来使用.

· 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.
避免和眼睛接触.
避免和眼睛及皮肤接触.

呼吸系统防护:
如果曾短暂接触或在低污染的情况下, 请使用呼吸过滤装置. 如果曾深入或较长时间接触, 请使用独立的呼吸保护装置.

· 手防护:

手防护

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, 渗滤率和降解参数

· 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, 以及来自哪一采纳的生产厂家. 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以预计, 所以, 须在使用之前进行检查

· 浸入手套材料的时间

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

(在 5 页继续)
# 9 理化特性

<table>
<thead>
<tr>
<th>特性</th>
<th>信息</th>
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<tbody>
<tr>
<td>· 有关基本物理及化学特性的信息</td>
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<tr>
<td>· 一般说明</td>
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<tr>
<td>· 外观</td>
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</tr>
<tr>
<td>形状: 液体</td>
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<tr>
<td>颜色: 无色的</td>
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<td>· 气味: 类似醚</td>
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<tr>
<td>· 嗅觉阈限</td>
<td>未决定</td>
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<tr>
<td>· pH值</td>
<td>未决定</td>
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<td>· 条件的更改</td>
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<td>沸点/初沸点和沸程: 66 °C</td>
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</tr>
<tr>
<td>· 闪点</td>
<td>-14 °C</td>
</tr>
<tr>
<td>· 可燃性 (固体、气体): 不适用的</td>
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</tr>
<tr>
<td>点火温度: 320 °C</td>
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</tr>
<tr>
<td>· 分解温度</td>
<td>未决定</td>
</tr>
<tr>
<td>· 自燃温度</td>
<td>该产品是不自燃的</td>
</tr>
<tr>
<td>· 爆炸的危险性: 该产品并非爆炸性的然而有可能形成可爆炸性的空气/蒸汽混合物</td>
<td></td>
</tr>
<tr>
<td>· 爆炸极限</td>
<td></td>
</tr>
<tr>
<td>较低: 1.5 Vol %</td>
<td></td>
</tr>
<tr>
<td>较高: 12 Vol %</td>
<td></td>
</tr>
<tr>
<td>· 蒸气压在 20 °C: 200 hPa</td>
<td></td>
</tr>
<tr>
<td>· 密度在 20 °C: 2.4 g/cm³</td>
<td></td>
</tr>
<tr>
<td>相对密度</td>
<td>未决定</td>
</tr>
<tr>
<td>蒸气密度</td>
<td>未决定</td>
</tr>
<tr>
<td>蒸发速率</td>
<td>未决定</td>
</tr>
<tr>
<td>· 溶解性</td>
<td></td>
</tr>
<tr>
<td>水: 不能拌和的或难以拌和</td>
<td></td>
</tr>
<tr>
<td>· n-辛醇/水分配系数: 未决定</td>
<td></td>
</tr>
<tr>
<td>· 粘性</td>
<td></td>
</tr>
<tr>
<td>动态: 未决定</td>
<td></td>
</tr>
<tr>
<td>运动学的: 未决定</td>
<td></td>
</tr>
<tr>
<td>· 溶剂成分</td>
<td></td>
</tr>
<tr>
<td>有机溶剂: 70.1 %</td>
<td></td>
</tr>
</tbody>
</table>
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: 没有刺激性影响。
    - 在眼睛上面: 刺激的影响。
    - 致敏作用: 没有已知的敏化影响。
  - 更多毒物的资料:
    - 根据有关配制的一般欧盟分类指南的计算方法 (刊印在最新版本), 该产品显示以下的危险: 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。
- 额外的生态学资料:
- 总括注解:
  - 水危害级别1 (德国规例)(通过名单进行自我评估): 对水是稍微危害的
  - 不要让未稀释或大量的产品接触地下水、水道或者污水系统。
- PBT(残留性、生物浓缩性、毒性物质)及vPvB(高残留性、高生物浓缩性物质)评价结果
  - PBT(残留性、生物浓缩性、毒性物质) 不适用的

(在7页继续)
### 13. Disposal

- **Disposal Method:**
  - **Recommendation:** Do not dispose of this product with household waste. Do not allow this product to enter sewage systems.

- **Contaminated Containers and Packings:**
  - **Recommendation:** Dispose of contaminated containers and packings according to official regulations.

### 14. Transport Information

- **United Nations Dangerous Goods Number (UN Number):**
  - ADR, IMDG, IATA: UN1133

- **UN Suitable Ships:**
  - ADR: 1133 Adhesives
  - IMDG, IATA: ADHESIVES

- **Transport Dangerous Grades:**
  - ADR, IMDG, IATA

  - **Symbol:**
    - **Class:** 3 Flammable Liquid
    - **Label:** 3

  - **Packaging Grades:**
    - ADR, IMDG, IATA: II

- **Hazardous Environment:**
  - Not applicable

- **User Special Precautions:**
  - **Danger Code:** Flammable Liquid
  - **Code:** 33
  - **EMS Code:** F-E, S-D
  - **Stowage Category:** B

- **MARPOL 73/78 (IMO 1979 Protocol) Annex II and IBC Code (International Bulk Cargo Code):**
  - **Mass Transport:** Not applicable

- **Transport / Additional Information:**

  - **ADR:**
    - **Excepted Quantities (EQ) Code:** E2
    - Maximum net quantity per inner packaging: 30 ml
    - Maximum net quantity per outer packaging: 500 ml
化学品中文(英文)名称: M-BOND 610 ADHESIVE

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列
- 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

- 名称: 危险

  - 标签上辨别危险的成份:
    - 氧杂环戊烷 (>50%≤100 %)
  - 危险字句
    - 高度易燃液体和蒸气
    - 吞咽可能有害
    - 造成严重眼刺激
    - 疑似会致癌
    - 可引起呼吸道刺激

- 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
化学品安全技术说明书

根据 GB/T 16483-2008, GB/T 17519-2013

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

· 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
  急性毒性 第2类: Flammable liquids – Category 2
  急性毒性(吸入) 第5类: Acute toxicity – Category 5
  严重眼睛损伤/眼睛刺激性 第2类: Serious eye damage/eye irritation – Category 2
  严重眼睛损伤/眼睛刺激 类别2A: Serious eye damage/eye irritation – Category 2A
  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
**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.

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: sgkcek@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

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**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.
- **GHS07**  Eye Irrit. 2 H319 Způsobuje vážné podráždění očí.
  - STOT SE 3 H335 Může způsobit podráždění dýchacích cest.

2.2 Prvky označení

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

(pokračování na straně 2)
Bezpečnostní list
podle 1907/2006/ES, Článek 31

Datum vydání: 03.08.2020
Revize: 03.08.2020

Obchodní označení: M-BOND 610 ADHESIVE

- Výstražné symboly nebezpečnosti

GHS02 GHS07 GHS08

- Signální slovo Nebezpečí

- Nebezpečné komponenty k etiketování:
tetrahydrofuran

- Standardní věty o nebezpečnosti
H225 Vysoce hořlavá kapalina a páry.
H319 Způsobuje vážné podráždění očí.
H351 Podezření na vyvolání rakoviny.
H335 Může způsobit podráždění dýchacích cest.

- Pokyny pro bezpečné zacházení
P210 Chraňte před teplem, horkými povrchy, jiskrami, otevřeným ohněm a jinými zdroji zapálení. Zákaz kouření.
P303+P361+P353 PŘI STYKU S KŮŽÍ (nebo s vlasy): Veškeré kontaminované části odšroubujte. Opláchněte kůži vodou [nebo osprchujte].
P405 Skladujte uzamčené.
P501 Obsah/nádobu likvidujte v souladu s místními/regionálními/národními/mezinárodními předpisy.

- 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: Směs
  - Popis: Směs obsahuje následné látky bez nebezpečných příměsí.
  - Výrobek obsahuje tyto nebezpečné látky:

<table>
<thead>
<tr>
<th>CAS: 109-99-9</th>
<th>EINECS: 203-726-8</th>
<th>tetrahydrofuran</th>
<th>&gt;50–≤100%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flam. Liq. 2, H225; Carc. 2; H351; Eye Irrit. 2, H319; STOT SE 3, H335</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>CAS: 78-93-3</th>
<th>EINECS: 201-159-0</th>
<th>butanon</th>
<th>&gt;2,5–≤10%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flam. Liq. 2, H225; Eye Irrit. 2, H319; STOT SE 3, H336</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- Dodatečná upozornění: Znění uvedených údajů o nebezpečnosti látky je uvedeno v kapitolě 16.
Bezpečnostní list
podle 1907/2006/ES, Článek 31

Datum vydání: 03.08.2020
Revize: 03.08.2020

Obchodní označení: M-BOND 610 ADHESIVE

(pokračování strany 2)

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: Přívod čerstvého vzduchu, při obtížích vyhledat lékaře.
· Při styku s kůží: Tento produkt nemá všeobecně dráždící účinek na pokožku.
· 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
  · 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:
  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, štěrkový písek, pojídla kyselin, universální pojídla, piliny).
  Kontaminovaný materiál odstranit jako odpad podle bodu 13.
  Zajistit dostatečné větrání.
  Nesplachovat vodou nebo čištícími 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.
  Zamezit vytváření aerosolů.
· Upozornění k ochraně před ohněm a explozi:
  Nepřibližovat se ze zápalnými zdroji - nekouřit.

(pokračování na straně 4)
**Bezpečnostní list**
*podle 1907/2006/ES, Článek 31*

Datum vydání: 03.08.2020  
Revize: 03.08.2020

**Obchodní označení:** M-BOND 610 ADHESIVE

Chránit před horkem.
Zajistit proti elektrostatickému náboji.

7.2 Podmínky pro bezpečné skladování látěk a směsí včetně neslučitelných látek a směsí
7.3 Specifické konečné / specifická konečná použití

<table>
<thead>
<tr>
<th>Další údaje k podmínkám skladování:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nádrž držet neprodyšně uzavřenou.</td>
</tr>
<tr>
<td>Skladovat v dobře uzavřených nádobách v chladu a suchu.</td>
</tr>
<tr>
<td>Chránit před horkem a přímým slunečním světlem.</td>
</tr>
</tbody>
</table>

7.2 Podmínky pro bezpečné skladování látek a směsí

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

<table>
<thead>
<tr>
<th>Kontrolní parametry:</th>
</tr>
</thead>
<tbody>
<tr>
<td>NPK 109-99-9 tetrahydrofuran</td>
</tr>
<tr>
<td>Krátkodobá hodnota: 300 mg/m³</td>
</tr>
<tr>
<td>Dlouhodobá hodnota: 150 mg/m³</td>
</tr>
</tbody>
</table>

| NPK 78-93-3 butanon |
| Krátkodobá hodnota: 900 mg/m³ |
| Dlouhodobá hodnota: 600 mg/m³ |

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 se zrakem.
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 proveděte podle času průniku, permeability a degradace.
Bezpečnostní list
podle 1907/2006/ES, Článek 31

Datum vydání: 03.08.2020
Revize: 03.08.2020

Obchodní označení: M-BOND 610 ADHESIVE

(pokračování strany 4)

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

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

· Ochrana očí:
Uzavřené ochranné brýle

(pokračování na straně 6)

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 samozápalení: Produkt není samozápalný.
· Výbušné vlastnosti: I když produktu nehrozí nebezpečí exploze, je přesto možné nebezpečí exploze ve směsi par se vzduchem.
· 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.
· Rozpustnost ve / směsitelnost s
  · vodě: Vůbec nemísitelná nebo jen málo mísitelná.
Bezpečnostní list
podle 1907/2006/ES, Článek 31

Datum vydání: 03.08.2020
Revize: 03.08.2020

Obchodní označení: M-BOND 610 ADHESIVE

(pokračování strany 5)

- Rozdělovací koeficient: n-oktanol/voda: Není určeno.
- Viskozita:
  - Dynamicky: Není určeno.
  - Kinematicky: Není určeno.
- Obsah ředidel:
  - Organická ředidla: 70,1 %
  - VOC (EC): 70,09 %
- 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:
  Nedočkáz 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 účinky
  Na základě dostupných údajů nejsou kritéria pro klasifikaci splněna.
- Zařazení relevantní hodnoty LD/LC 50:
  109-99-9 tetrahydrofuran
  Orálně LD50 2.500 mg/kg (rat)
- Primární dráždivé účinky:
  Žíravost/dráždivost pro kůži Na základě dostupných údajů nejsou kritéria pro klasifikaci splněna.
- Vážné poškození očí / podráždění očí
  Způsobuje vážné podráždění očí.
- Senzibilizace dýchacích cest / senzibilizace kůže
  Na základě dostupných údajů nejsou kritéria pro klasifikaci splněna.
- 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.

(pokračování na straně 7)
Bezpečnostní list
podle 1907/2006/ES, Článek 31

Datum vydání: 03.08.2020
Revize: 03.08.2020

Obchodní označení: M-BOND 610 ADHESIVE

(pokračování strany 6)

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.

Další ekologické údaje:

Všeobecné upozornění:
Třída ohrožení vody 1 (Samozažená): slabé ohrožení vody
Nesmí se dostat nezředěný nebo ve větším množství do spodní vody, povodí nebo kanalizace.

- 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 domácností. Nepřipustit únik do kanalizace.

- Kontaminované obaly:
- Doporučení: Odstranění podle příslušných předpisů.

ODDÍL 14: Informace pro přepravu

- 14.1 UN číslo
  ADR, IMDG, IATA UN1133

- 14.2 Oficiální (OSN) pojmenování pro přepravu
  ADR 1133 LEPIDLA
  IMDG, IATA ADHESIVES

- 14.3 Třída/třídy nebezpečnosti pro přepravu
  ADR, IMDG, IATA

  - třída 3 Hořlavé kapaliny
  - Etiketa 3

- 14.4 Obalová skupina
  ADR, IMDG, IATA II

- 14.5 Nebezpečnost pro životní prostředí: Nedá se použít.
### Bezpečnostní list

**podle 1907/2006/ES, Článk 31**

<table>
<thead>
<tr>
<th>Datum vydání: 03.08.2020</th>
<th>Revize: 03.08.2020</th>
</tr>
</thead>
</table>

**Obchodní označení:** M-BOND 610 ADHESIVE

(pokračování strany 7)

<table>
<thead>
<tr>
<th>· 14.6 Zvláštní bezpečnostní opatření pro uživatele</th>
<th>Varování: Hořlavé kapaliny</th>
</tr>
</thead>
<tbody>
<tr>
<td>· Identifikační číslo nebezpečnosti (Kemlerovo číslo):</td>
<td>33</td>
</tr>
<tr>
<td>· EMS-skupina:</td>
<td>F-E,S-D</td>
</tr>
<tr>
<td>· Stowage Category</td>
<td>B</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>· 14.7 Hromadná přeprava podle přílohy II úmluvy</th>
<th>Nedá se použít.</th>
</tr>
</thead>
<tbody>
<tr>
<td>MARPOL a předpisu IBC</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>· Přeprava/další údaje:</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>· ADR</td>
<td></td>
</tr>
<tr>
<td>· Omezené množství (LQ)</td>
<td>5L</td>
</tr>
<tr>
<td>· Vyňatá množství (EQ)</td>
<td>Kód: E2</td>
</tr>
<tr>
<td></td>
<td>Nejvyšší čisté množství na vnitřní obal: 30 ml</td>
</tr>
<tr>
<td></td>
<td>Nejvyšší čisté množství na vnější obal: 500 ml</td>
</tr>
<tr>
<td>· Přepravní kategorie</td>
<td>2</td>
</tr>
<tr>
<td>· Kód omezení pro tunely:</td>
<td>D/E</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>· IMDG</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>· Limited quantities (LQ)</td>
<td>1L</td>
</tr>
<tr>
<td>· Excepted quantities (EQ)</td>
<td>Code: E2</td>
</tr>
<tr>
<td></td>
<td>Maximum net quantity per inner packaging: 30 ml</td>
</tr>
<tr>
<td></td>
<td>Maximum net quantity per outer packaging: 500 ml</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>· UN &quot;Model Regulation&quot;:</th>
<th>UN 1133 LEPIDLA, 3, II</th>
</tr>
</thead>
</table>

### ODDÍL 15: Informace o předpisech

<table>
<thead>
<tr>
<th>· 15.1 Předpisy týkající se bezpečnosti, zdraví a životního prostředí/specifické právní předpisy týkající se látky nebo směsi</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>· Rady 2012/18/EU</td>
<td></td>
</tr>
<tr>
<td>· Nebezpečné látky jmenovitě uvedené - PŘÍLOHA I Žádná z obsažených látek není na seznamu.</td>
<td></td>
</tr>
<tr>
<td>· Kategorie Seveso P5c HOŘLAVÉ KAPALINY</td>
<td></td>
</tr>
<tr>
<td>· Kvalifikační množství (v tunách) při uplatnění požadavků pro podlimitní množství 5.000 t</td>
<td></td>
</tr>
<tr>
<td>· Kvalifikační množství (v tunách) při uplatnění požadavků pro nadlimitní množství 50.000 t</td>
<td></td>
</tr>
<tr>
<td>· Rady (ES) č. 1907/2006 PŘÍLOHA XVII Omezující podmínky: 3</td>
<td></td>
</tr>
</tbody>
</table>

| · 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.

<table>
<thead>
<tr>
<th>· Relevantní věty</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>· H225 Vysoce hořlavá kapalina a páry.</td>
<td></td>
</tr>
<tr>
<td>· H319 Způsobuje vážné podráždění očí.</td>
<td></td>
</tr>
<tr>
<td>· H335 Může způsobit podráždění dýchacích cest.</td>
<td></td>
</tr>
<tr>
<td>· H336 Může způsobit ospalost nebo závratě.</td>
<td></td>
</tr>
<tr>
<td>· H351 Podezření na vyvolání rakoviny.</td>
<td></td>
</tr>
</tbody>
</table>

(pokračování na straně 9)
Obchodní označení: M-BOND 610 ADHESIVE

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
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
Eye Irrit. 2: Vážné poškození očí / podráždění očí – Kategorie 2
Carc. 2: Karcinogenní – Kategorie 2
STOT SE 3: Toxicita pro specifické cílové orgány (jednorázová expozice) – Kategorie 3
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 Laboratoriumchemcaliën
· 1.3 Details betreffende de verstrekker van het veiligheidsinformatieblad
· Fabrikant/leverancier:
  Electron Microscopy Sciences
  1560 Industry Road
  USA-Hatfield, PA 19440
  Tel: 215-412-8400  Fax: 215-412-8450
  email: sgkcck@aol.com
  www.emsdiasum.com
  Aurion
  Binnenhaven 5
  6709 PD Wageningen
  The Netherlands
  Tel: 31 317 415094
  Fax: 31 317 415955
  email: info@aurion.nl
· Inlichtingengevende sector: Product safety department
· 1.4 Telefoonnummer voor noodgevallen:
  ChemTrec 1-800-424-9300 Contract CCN7661
  1-703-527-3887

RUBRIEK 2: Identificatie van de gevaren

· 2.1 Indeling van de stof of het mengsel
· Indeling overeenkomstig Verordening (EG) nr. 1272/2008

GHS02 vlam

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

GHS08 gezondheidsgevaar

Carc. 2  H351 Verdacht van het veroorzaken van kanker.

GHS07

Eye Irrit. 2  H319 Veroorzaakt ernstige oogirritatie.

STOT SE 3  H335 Kan irritatie van de luchtwegen veroorzaken.

(Vervolg op blz. 2)
Handelsnaam: M-BOND 610 ADHESIVE

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

Gevarenpictogrammen

GHS02  GHS07  GHS08

Signaalwoord Gevaar

Gevaaraanduidende componenten voor de etikettering:
tetrahydrofuraan

Gevaaraanduidingen
H225 Licht ontvlambare vloeistof en damp.
H319 Veroorzaakt ernstige oogirritatie.
H351 Verdacht van het veroorzaken van kanker.
H335 Kan irritatie van de luchtwegen veroorzaken.

Veiligheidsaanbevelingen
P210 Verwijderd houden van warmte, hete oppervlakken, vonken, open vuur en andere ontstekingsbronnen. Niet roken.
P241 Explosieveilige [elektrische/ventilatie/-verlichtings-]apparatuur gebruiken.
P305+P351+P338 BIJ CONTACT MET DE OGEN: voorzichtig afspoelen met water gedurende een aantal minuten; contactlenzen verwijderen, indien mogelijk; blijven spoelen.
P405 Achter slot bewaren.
P501 De inhoud en de verpakking verwerken volgens de plaatselijke/regionale/nationale/internationale voorschriften.

2.3 Andere gevaren
Resultaten van PBT- en zPzB-beoordeling
PBT: Niet bruikbaar.
zPzB: Niet bruikbaar.

RUBRIEK 3: Samenstelling en informatie over de bestanddelen

3.2 Chemische karakterisering: Mengsels
Beschrijving: Mengsel van na elkaar aangevoerde stoffen met ongevaarlijke bijmengingen.

<table>
<thead>
<tr>
<th>Bestanddeel</th>
<th>CAS</th>
<th>EINECS</th>
<th>Beschrijving</th>
<th>Veiligheidsinformatie</th>
<th>Concentratie</th>
</tr>
</thead>
<tbody>
<tr>
<td>tetrahydrofuraan</td>
<td>109-99-9</td>
<td>203-726-8</td>
<td>Flam. Liq. 2, H225; Carc. 2, H351; Eye Irrit. 2, H319; STOT SE 3, H335</td>
<td>&gt;50- ≤100%</td>
<td></td>
</tr>
<tr>
<td>butanon</td>
<td>78-93-3</td>
<td>201-159-0</td>
<td>Flam. Liq. 2, H225; Eye Irrit. 2, H319; STOT SE 3, H336</td>
<td>&gt;2,5- ≤10%</td>
<td></td>
</tr>
</tbody>
</table>
RUBRIEK 4: Eerstehulpmaatregelen

· 4.1 Beschrijving van de eerstehulpmaatregelen
· Algemene informatie:
   Het is mogelijk dat vergiftigingssymptomen pas na vele uren optreden. Om deze reden is medische controle gedurende minstens 48 uur na een ongeval noodzakelijk.
· Na het inademen:
   Frisse lucht toedienen; bij klachten arts ontbieden.
· Na huidcontact:
   Over het algemeen is het produkt niet prikkelend voor de huid
· Na oogcontact:
   De ogen gedurende verscheidene minuten onder stromend water afspoelen terwijl de oogspleet geopend blijft. Bij aanhoudende klachten een dokter 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 brandweerlieden
   Speciale beschermende kleding: Geen bijzondere maatregelen nodig.

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

· 6.1 Persoonlijke voorzorgsmaatregelen, beschermde uitrusting en noodprocedures
   Beschermende kleding aantrekken. Niet beschermden personen op afstand houden.
· 6.2 Milieuvorzorgsmaatregelen:
   Niet in de riolering/het oppervlaktewater/ het grondwater laten terechtkomen.
· 6.3 Insulatings- en reinigingsmethoden en -materiaal:
   Met vloeistofbindend materiaal (zand, bergmeel, zuurbinder, universele binder, zaagmeel) opnemen. Besmet materiaal zoals afval volgens punt 13 verwijderen.
   Voor voldoende ventilatie zorgen.
   Niet met water of waterachtige reinigingsmiddelen wegspoelen.
· 6.4 Verwijzing naar andere rubrieken
   Informatie inzake veilig gebruik - zie hoofdstuk 7.
   Informatie inzake persoonlijke beschermingsuitrusting - zie hoofdstuk 8.
   Informatie inzake berging - zie hoofdstuk 13.
RUBRIEK 7: Hantering en opslag

7.1 Voorzorgsmaatregelen voor het veilig hanteren van de stof of het mengsel
Voor goede ventilatie/afzuiging op de werkplaatsen zorgen.
Aërosolvorming vermijden.

· Informatie m.b.t. brand- en ontploffingsgevaar:
Onstekingsbronnen 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.

RUBRIEK 8: Maatregelen ter beheersing van blootstelling/persoonlijke bescherming

8.1 Controleparameters

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

<table>
<thead>
<tr>
<th>109-99-9 tetrahydrofuraan</th>
</tr>
</thead>
<tbody>
<tr>
<td>Korte termijn waarde: 600 mg/m³, 200 ppm</td>
</tr>
<tr>
<td>Lange termijn waarde: 300 mg/m³, 100 ppm</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>78-93-3 butanon</th>
</tr>
</thead>
<tbody>
<tr>
<td>Korte termijn waarde: 900 mg/m³, 300 ppm</td>
</tr>
<tr>
<td>Lange termijn waarde: 590 mg/m³, 200 ppm</td>
</tr>
</tbody>
</table>

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

8.2 Maatregelen ter beheersing van blootstelling

Persoonlijke beschermingsvoorzieningen:

· Algemene beschermings- en gezondheidsmaatregelen:
Verwijderd houden van eet- en drinkwaren.
Verontreinigde kleding onmiddellijk uittrekken.
Voór de pauze en aan het einde van werktijd handen wassen.
Aanraking met de ogen vermijden.
Aanraking met de ogen en de huid vermijden.

· Ademhalingsbescherming:
Bij korte of geringe belasting ademfiltertoestel; bij intensieve resp. langdurige expositie een van de omringende lucht onafhankelijk ademhalingstoestel gebruiken.
Veiligheidsinformatieblad
volgens 1907/2006/EG, Artikel 31

datum van de druk: 03.08.2020
Herziening van: 03.08.2020

Handelsnaam: M-BOND 610 ADHESIVE

(Vervolg van blz. 4)

· Handbescherming:

Veiligheidshandschoenen


· 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:

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

· Ontploffingsgrenzen:

  Onderste: 1,5 Vol %
**Handelsnaam:** M-BOND 610 ADHESIVE

(Vervolg van blz. 5)

<table>
<thead>
<tr>
<th>Bovenste:</th>
<th>12 Vol %</th>
</tr>
</thead>
<tbody>
<tr>
<td>· Dampspanning bij 20 °C:</td>
<td>200 hPa</td>
</tr>
<tr>
<td>· Dichtheid bij 20 °C:</td>
<td>2,4 g/cm³</td>
</tr>
<tr>
<td>· Relatieve dichtheid</td>
<td>Niet bepaald.</td>
</tr>
<tr>
<td>· Damp dichtheid</td>
<td>Niet bepaald.</td>
</tr>
<tr>
<td>· Verdampingssnelheid</td>
<td>Niet bepaald.</td>
</tr>
<tr>
<td>· Oplosbaarheid in/mengbaarheid met Water:</td>
<td>Niet resp. gering mengbaar.</td>
</tr>
<tr>
<td>· Verdelingscoëfficiënt: n-octanol/water:</td>
<td>Niet bepaald.</td>
</tr>
<tr>
<td>· Viscositeit</td>
<td></td>
</tr>
<tr>
<td>Dynamisch:</td>
<td>Niet bepaald.</td>
</tr>
<tr>
<td>Kinematisch:</td>
<td>Niet bepaald.</td>
</tr>
<tr>
<td>· Oplosmiddelgehalte:</td>
<td>70,1 %</td>
</tr>
<tr>
<td>Organisch oplosmiddel:</td>
<td></td>
</tr>
<tr>
<td>VOC (EG)</td>
<td>70,09 %</td>
</tr>
<tr>
<td>· Gehalte aan vaste bestanddelen:</td>
<td>0,0 %</td>
</tr>
<tr>
<td>· 9.2 Overige informatie</td>
<td>Geen verdere relevante informatie verkrijgbaar.</td>
</tr>
</tbody>
</table>

**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.
  · 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 ontleedingsproducten** Geen gevaarlijke ontleedingsproducten bekend.

**RUBRIEK 11: Toxicologische informatie**

· **11.1 Informatie over toxicologische effecten**
  · Acute toxiciteit Gebaseerd op beschikbare gegevens; aan de indelingscriteria is niet voldaan.
  · Indelingsrelevantie LD/LC50-waarden:
    109-99-9 tetrahydrofuraan
    Oraal LD50 2,500 mg/kg (rat)
  · Primaire aandoening:
    · Huidcorrosie/-irritatie Gebaseerd op beschikbare gegevens; aan de indelingscriteria is niet voldaan.
    · Ernstig oogletsel/oogirritatie Veroorzaakt ernstige oogirritatie.
    · Sensibilisatie van de luchtwegen/de huid
      Gebaseerd op beschikbare gegevens; aan de indelingscriteria is niet voldaan.
    · CMK-effecten (kankerverwekkendheid, mutageniteit en giftigheid voor de voortplanting)
    · Mutageniteit in geslachtscellen
      Gebaseerd op beschikbare gegevens; aan de indelingscriteria is niet voldaan.
Veiligheidsinformatieblad
volgens 1907/2006/EG, Artikel 31

Handelsnaam: M-BOND 610 ADHESIVE

(Vervolg van blz. 6)

- 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.

RUBRIEK 12: Ecologische informatie

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

RUBRIEK 13: Instructies voor verwijdering

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

RUBRIEK 14: Informatie met betrekking tot het vervoer

- 14.1 VN-nummer
  - ADR, IMDG, IATA: UN1133
- 14.2 Juiste ladingnaam overeenkomstig de modelreglementen van de VN
  - ADR: 1133 LIJMEN
  - IMDG, IATA: ADHESIVES

(Vervolg op blz. 8)
### Veiligheidsinformatieblad

**Handelsnaam:** M-BOND 610 ADHESIVE

---

#### 14.3 Transportgevarenklasse(n)

- ADR, IMDG, IATA

<table>
<thead>
<tr>
<th>Klasse</th>
<th>Etiket</th>
</tr>
</thead>
<tbody>
<tr>
<td>3 Brandbare vloeistoffen</td>
<td>3</td>
</tr>
</tbody>
</table>

#### 14.4 Verpakkingsgroep:

- ADR, IMDG, IATA

<table>
<thead>
<tr>
<th>Klasse</th>
<th>Etiket</th>
</tr>
</thead>
<tbody>
<tr>
<td>II</td>
<td></td>
</tr>
</tbody>
</table>

#### 14.5 Milieugevaren:

Niet bruikbaar.

#### 14.6 Bijzondere voorzorgen voor de gebruiker

- Gevaaridentificatienummer (Kemler-getal): 33
- EMS-nummer: F-E,S-D
- Stowage Category: B

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

Niet bruikbaar.

#### Transport/verdere gegevens:

- ADR
- Beperkte hoeveelheden (LQ): 5L, Code: E2
- Grootste netto hoeveelheid per binnenverpakking: 30 ml
- Grootste netto hoeveelheid per buitenverpakking: 500 ml
- Uitgezonderde hoeveelheden (EQ): Code: E2
- Maximum net quantity per inner packaging: 30 ml
- Maximum net quantity per outer packaging: 500 ml
- Vervoerscategorie: 2
- Tunnelbeperkingscode: D/E

#### IMDG

- Limited quantities (LQ): 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

---

**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.

---

(Vervolg op blz. 9)
Veiligheidsinformatieblad
volgens 1907/2006/EG, Artikel 31

Handelsnaam: M-BOND 610 ADHESIVE

(Vervolg van blz. 8)

- NIET-limitatieve lijst van voor de voortplanting giftige stoffen - Vruchtbaarheid
  geen der bestanddelen staat op de lijst.

- NIET-limitatieve lijst van voor de voortplanting giftige stoffen - Ontwikkeling
  geen der bestanddelen staat op de lijst.

- NIET-limitatieve lijst van voor de voortplanting giftige stoffen - Borstvoeding
  geen der bestanddelen staat op de lijst.

- Lijst Zeer Zorgwekkende Stoffen (ZZS)
  geen der bestanddelen staat op de lijst.

- Lijst van Potentieel Zeer Zorgwekkende Stoffen
  78-93-3 butanon

- Richtlijn 2012/18/EU
  Gevaarlijke stoffen die met naam genoemd worden - BIJLAGE I geen der bestanddelen staat op de lijst.
  - Seveso-categorie P5c ONTVLAMBARE VLOEISTOFFEN
  - Drempelwaarde (ton) voor toepassing van voorschriften voor lagedrempelinrichtingen 5.000 t
  - Drempelwaarde (ton) voor toepassing van voorschriften voor hogedrempelinrichtingen 50.000 t

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

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

15.2 Chemischeveiligheidsbeoordeling: Een chemische veiligheidsbeoordeling is niet uitgevoerd.

RUBRIEK 16: Overige informatie

Deze gegevens zijn gebaseerd op de huidige stand van onze kennis. Zij beschrijven echter geen garantie van 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
  Eye Irrit. 2: Ernstig oogletsel/oogirritatie – Categorie 2
  Carc. 2: Kankerverwekkendheid – Categorie 2
  STOT SE 3: Specifieke doelorgaanxiciteit bij eenmalige blootstelling – Categorie 3
# Fiche de données de sécurité

## 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.
- **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: sgkck@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.
    - Eye Irrit. 2  H319  Provoque une sévère irritation des yeux.
    - 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.
Nom du produit: M-BOND 610 ADHESIVE

· Pictogrammes de danger
  
  GHS02  GHS07  GHS08

· Mention d'avertissement Danger

· Composants dangereux déterminants pour l'étiquetage:
tétrahydrofurane

· Mentions de danger
H225 Liquide et vapeurs très inflammables.
H319 Provoque une sévère irritation des yeux.
H351 Susceptible de provoquer le cancer.
H335 Peut irriter les voies respiratoires.

· Conseils de prudence
  P210 Tenir à l'écart de la chaleur, des surfaces chaudes, des étincelles, des flammes nues et de toute autre source d'inflammation. Ne pas fumer.
  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 [ou se doucher].
  P305+P351+P338 EN CAS DE CONTACT AVEC LES YEUX: Rincer avec précaution à l'eau pendant plusieurs minutes. Enlever les lentilles de contact si la victime en porte et si elles peuvent être facilement enlevées. Continuer à rincer.
  P405 Garder sous clef.
  P501 Éliminer le contenu/récipient conformément à la réglementation locale/régionale/nationale/internationale.

· 2.3 Autres dangers

· Résultats des évaluations PBT et vPvB
  · PBT: Non applicable.
  · vPvB: Non applicable.

RUBRIQUE 3: Composition/informations sur les composants

· 3.2 Caractérisation chimique: Mélanges

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

<table>
<thead>
<tr>
<th>CAS: 109-99-9</th>
<th>tétrahydrofurane</th>
</tr>
</thead>
<tbody>
<tr>
<td>EINECS: 203-726-8</td>
<td>&gt;50-≤100%</td>
</tr>
<tr>
<td>Flam. Liq. 2, H225;</td>
<td>Carc. 2, H351;</td>
</tr>
<tr>
<td>Eye Irrit. 2, H319;</td>
<td>STOT SE 3, H335</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>CAS: 78-93-3</th>
<th>butanone</th>
</tr>
</thead>
<tbody>
<tr>
<td>EINECS: 201-159-0</td>
<td>&gt;2,5-≤10%</td>
</tr>
<tr>
<td>Flam. Liq. 2, H225;</td>
<td>Eye Irrit. 2, H319;</td>
</tr>
<tr>
<td>STOT SE 3, H336</td>
<td></td>
</tr>
</tbody>
</table>

· Indications complémentaires: Pour le libellé des phrases de risque citées, se référer au chapitre 16.
**RUBRIQUE 4: Premiers secours**

- **4.1 Description des premiers secours**
- **Remarques générales:**
  Les symptômes d’intoxication peuvent apparaître après de nombreuses heures seulement; une surveillance médicale est donc nécessaire au moins 48 heures après un accident.
- **Après inhalation:** Donner de l'air frais, consulter un médecin en cas de troubles.
- **Après contact avec la peau:** En règle générale, le produit n’irrite pas la peau.
- **Après contact avec les yeux:**
  Rincer les yeux, 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**
- **Equipement spécial de sécurité:** Aucune mesure particulière n’est requise.

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

- **6.1 Précautions individuelles, équipement de protection et procédures d’urgence**
  Porter un équipement de sécurité. Eloigner les personnes non protégées.
- **6.2 Précautions pour la protection de l’environnement:**
  Ne pas rejeter dans les canalisations, dans les eaux de surface et dans les nappes d’eau souterraines.
- **6.3 Méthodes et matériel de confinement et de nettoyage:**
  Recueillir les liquides à l'aide d'un produit absorbant (sable, kieselguhr, neutralisant d’acide, liant universel, sciure).
  Évacuer 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.
  Éviter la formation d’aérosols.
Nom du produit: M-BOND 610 ADHESIVE

- 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.

- 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 flûts bien fermés.
      Protéger de la forte chaleur et du rayonnement direct du soleil.

- 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.

- Paramètres de contrôle

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

    | Substance   | VLEP Valeur momentanée | VLEP Valeur à long terme |
    |-------------|------------------------|--------------------------|
    | 109-99-9 tétrahydrofurane | 300 mg/m³, 100 ppm     | 150 mg/m³, 50 ppm       |
    | 78-93-3 butanone          | 900 mg/m³, 300 ppm     | 600 mg/m³, 200 ppm      |

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

- Contrôles de l'exposition

  - Equipe ment 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.
      Eviter tout contact avec les yeux et avec la peau.

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

  - Protection des mains:

    Gants de protection
Le matériau des gants doit être imperméable et résistant au produit / à la substance / à la préparation. À cause du manque de tests, aucune recommandation pour un matériau de gants pour le produit / la préparation / le mélange de produits chimiques ne peut être donnée. 

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

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

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

Protection des yeux:

Lunettes de protection hermétiques

---

**RUBRIQUE 9: Propriétés physiques et chimiques**

<table>
<thead>
<tr>
<th>9.1 Informations sur les propriétés physiques et chimiques essentielles</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Indications générales</strong></td>
</tr>
<tr>
<td><strong>Aspect:</strong></td>
</tr>
<tr>
<td>Forme: Liquide</td>
</tr>
<tr>
<td>Couleur: Incolore</td>
</tr>
<tr>
<td>Odeur: Genre éther</td>
</tr>
<tr>
<td>Seuil olfactif: Non déterminé.</td>
</tr>
<tr>
<td><strong>valeur du pH:</strong> Non déterminé.</td>
</tr>
<tr>
<td><strong>Changement d'état</strong></td>
</tr>
<tr>
<td>Point de fusion/point de congélation: Non déterminé.</td>
</tr>
<tr>
<td>Point initial d'ébullition et intervalle d'ébullition: 66 °C</td>
</tr>
<tr>
<td><strong>Point d'éclair:</strong> -14 °C</td>
</tr>
<tr>
<td><strong>Inflammabilité (solide, gaz):</strong> Non applicable.</td>
</tr>
<tr>
<td><strong>Température d'inflammation:</strong> 320 °C</td>
</tr>
<tr>
<td><strong>Température de décomposition:</strong> Non déterminé.</td>
</tr>
<tr>
<td><strong>Température d'auto-inflammabilité:</strong> Le produit ne s'enflamme pas spontanément.</td>
</tr>
<tr>
<td><strong>Propriétés explosives:</strong> Le produit n'est pas explosif; toutefois, des mélanges explosifs vapeur-air peuvent se former.</td>
</tr>
<tr>
<td><strong>Limites d'explosion:</strong></td>
</tr>
<tr>
<td>Inférieure: 1,5 Vol %</td>
</tr>
<tr>
<td>Supérieure: 12 Vol %</td>
</tr>
<tr>
<td><strong>Pression de vapeur à 20 °C:</strong> 200 hPa</td>
</tr>
<tr>
<td><strong>Densité à 20 °C:</strong> 2,4 g/cm³</td>
</tr>
</tbody>
</table>
Nom du produit: M-BOND 610 ADHESIVE

- 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.
  - 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
- 10.3 Décomposition thermique/conditions à éviter: Pas de décomposition en cas d’usage conforme.
- 10.4 Conditions à éviter: Pas d’autres informations importantes disponibles.
- 10.5 Matières incompatibles: Pas d’autres informations importantes disponibles.
- 10.6 Produits de décomposition dangereux: Pas de produits de décomposition dangereux connus

RUBRIQUE 11: Informations toxicologiques

- 11.1 Informations sur les effets toxicologiques
- Toxicité aiguë: Compte tenu des données disponibles, les critères de classification ne sont pas remplis.
- Valeurs LD/LC50 déterminantes pour la classification:
  - 109-99-9 tétrahydrofurane
    - Oral LD50: 2,500 mg/kg (rat)
- Effet primaire d'irritation:
  - Corrosion cutanée/irritation cutanée
    - Compte tenu des données disponibles, les critères de classification ne sont pas remplis.
  - Lésions oculaires graves/irritation oculaire
    - Provoque une sévère irritation des yeux.
  - Sensibilisation respiratoire ou cutanée
    - Compte tenu des données disponibles, les critères de classification ne sont pas remplis.
- Effets CMR (cancérogène, mutagène et toxique pour la reproduction)
- Mutagénicité sur les cellules germinales
  - Compte tenu des données disponibles, les critères de classification ne sont pas remplis.
- Cancérogénicité
  - Susceptible de provoquer le cancer.
Nom du produit: M-BOND 610 ADHESIVE

- 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.

RUBRIQUE 12: Informations écologiques

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

RUBRIQUE 13: Considérations relatives à l’élimination

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

RUBRIQUE 14: Informations relatives au transport

- 14.1 Numéro ONU
  ADR, IMDG, IATA
  UN1133
- 14.2 Désignation officielle de transport de l'ONU
  ADR
  IMDG, IATA
  1133 ADHÉSIFS
  ADHESIVES
Nom du produit: M-BOND 610 ADHESIVE

14.3 Classe(s) de danger pour le transport
- ADR, IMDG, IATA

<table>
<thead>
<tr>
<th>Classe</th>
<th>3 Liquides inflammables.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Étiquette</td>
<td>3</td>
</tr>
</tbody>
</table>

14.4 Groupe d'emballage
- ADR, IMDG, IATA

<table>
<thead>
<tr>
<th>Groupe</th>
<th>II</th>
</tr>
</thead>
</table>

14.5 Dangers pour l'environnement:
- Non applicable.

14.6 Précautions particulières à prendre par l'utilisateur
- Attention: Liquides inflammables.
- Numéro d'identification du danger (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:

<table>
<thead>
<tr>
<th>ADR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quantités limitées (LQ)</td>
</tr>
<tr>
<td>Quantités exceptées (EQ)</td>
</tr>
<tr>
<td>Catégorie de transport</td>
</tr>
<tr>
<td>Code de restriction en tunnels</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>IMDG</th>
</tr>
</thead>
<tbody>
<tr>
<td>Limited quantities (LQ)</td>
</tr>
<tr>
<td>Excepted quantities (EQ)</td>
</tr>
<tr>
<td>&quot;Règlement type&quot; de l'ONU:</td>
</tr>
</tbody>
</table>

RUBRIQUE 15: Informations relatives à la réglementation

15.1 Réglementations/législation particulières à la substance ou au mélange en matière de sécurité, de santé et d'environnement
- Directive 2012/18/UE
- Substances dangereuses désignées - ANNEXE I Aucun des composants n’est compris.
- Catégorie SEVESO P5c LIQUIDES INFLAMMABLES
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
  Eye Irrit. 2: Lésions oculaires graves/irritation oculaire – Catégorie 2
  Carc. 2: Cancérogénicité – Catégorie 2
  STOT SE 3: Toxicité spécifique pour certains organes cibles (exposition unique) – Catégorie 3
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: sgkeck@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.

GHS07

(Fortsetzung auf Seite 2)
Handelsname: M-BOND 610 ADHESIVE

Eye Irrit. 2  H319 Verursacht schwere Augenreizung.
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

· Signalwort Gefahr

· Gefahrenbestimmende Komponenten zur Etikettierung:
Tetrahydrofuran

· Gefahrenhinweise
H225 Flüssigkeit und Dampf leicht entzündbar.
H319 Verursacht schwere Augenreizung.
H351 Kann vermutlich Krebs erzeugen.
H335 Kann die Atemwege reizen.

· Sicherheitshinweise
P241 Explosionsgeschützte [elektrische/Lüftungs-/Beleuchtungs-] Geräte verwenden.
P405 Unter Verschluss aufbewahren.

2.3 Sonstige Gefahren
· Ergebnisse der PBT- und vPvB-Beurteilung
· PBT: Nicht anwendbar.
· vPvB: Nicht anwendbar.

Abschnitt 3: Zusammensetzung/Angaben zu Bestandteilen

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

Gefährliche Inhaltsstoffe:

<table>
<thead>
<tr>
<th>CAS</th>
<th>EINECS</th>
<th>Mischungsanteil</th>
</tr>
</thead>
<tbody>
<tr>
<td>109-99-9</td>
<td>203-726-8</td>
<td>&gt;50-≤100%</td>
</tr>
<tr>
<td>78-93-3</td>
<td>201-159-0</td>
<td>&gt;2,5-≤10%</td>
</tr>
</tbody>
</table>

(Fortsetzung auf Seite 3)
Handelsname: M-BOND 610 ADHESIVE

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

ABSCHNITT 4: Erste-Hilfe-Maßnahmen

· 4.1 Beschreibung der Erste-Hilfe-Maßnahmen
· Allgemeine Hinweise:
  Vergiftungssymptome können erst nach vielen Stunden auftreten, deshalb ärztliche Überwachung mindestens 48 Stunden nach einem Unfall.
· Nach Einatmen: Frischluftzufuhr, bei Beschwerden Arzt aufsuchen.
· Nach Hautkontakt: Im allgemeinen ist das Produkt nicht hautreizend.
· Nach Augenkontakt:
  Augen 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
· Aus Sicherheitsgründen ungeeignete Löschmittel: Wasser im Vollstrahl
· 5.2 Besondere vom Stoff oder Gemisch ausgehende Gefahren
  Keine weiteren relevanten Informationen verfügbar.
· 5.3 Hinweise für die Brandbekämpfung
· Besondere Schutzausrüstung: Keine besonderen Maßnahmen erforderlich.

ABSCHNITT 6: Maßnahmen bei unbeabsichtigter Freisetzung

· 6.1 Personenbezogene Vorsichtsmaßnahmen, Schutzausrüstungen und in Notfällen anzuwendende Verfahren
  Schutzausrüstung tragen. Ungeschützte Personen fernhalten.
· 6.2 Umweltschutzmaßnahmen:
  Nicht in die Kanalisation/Oberflächenwasser/Grundwasser gelangen lassen.
· 6.3 Methoden und Material für Rückhaltung und Reinigung:
  Mit flüssigkeitsbindendem Material (Sand, Kieselgur, Säurebinder, Universalbinder, Sägemehl) aufnehmen.
  Kontaminiertes Material als Abfall nach Abschnitt 13 entsorgen.
  Für ausreichende Lüftung sorgen.
  Nicht mit Wasser oder wäßrigen Reinigungsmitteln wegsprühen.
· 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.
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/m³, 50 ml/m³
2(I); DFG, EU, H, Y

78-93-3 Butanon
AGW Langzeitwert: 600 mg/m³, 200 ml/m³
1(I); DFG, EU, H, Y

Bestandteile mit biologischen Grenzwerten:

109-99-9 Tetrahydrofuran
BGW 2 mg/l
Untersuchungsmaterial: Urin
Probenahmezeitpunkt: Expositionsende bzw. Schichtende
Parameter: Tetrahydrofuran

78-93-3 Butanon
BGW 2 mg/l
Untersuchungsmaterial: Urin
Probenahmezeitpunkt: Expositionsende bzw. Schichtende
Parameter: 2-Butanon

Zusätzliche Hinweise: Als Grundlage dienten 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 vermeiden.
  Berührung mit den Augen und der Haut vermeiden.
- Atemschutz:
  Bei kurzzeitiger oder geringer Belastung Atemfiltergerät; bei intensiver bzw. längerer Exposition umluftunabhängiges Atemschutzgerät verwenden.
- Handschutz:


- Handschuhmaterial
  Die Auswahl eines geeigneten Handschuhs ist nicht nur vom Material, sondern auch von weiteren Qualitätsmerkmalen abhängig und von Hersteller zu Hersteller unterschiedlich. Da das Produkt eine Zubereitung aus mehreren Stoffen darstellt, ist die Beständigkeit von Handschuhmaterialen nicht vorausberechenbar und muß deshalb vor dem Einsatz überprüft werden.

- Durchdringungszeit des Handschuhmaterials
  Die genaue Durchbruchzeit ist beim Schutzhandschuhhersteller zu erfahren und einzuhalten.

- Augenschutz:

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.
- Zustandsänderung
  Schmelzpunkt/Gefrierpunkt: Nicht bestimmt.
Handelsname: M-BOND 610 ADHESIVE

<table>
<thead>
<tr>
<th>Siedebeginn und Siedebereich:</th>
<th>66 °C</th>
</tr>
</thead>
<tbody>
<tr>
<td>· Flammpunkt:</td>
<td>-14 °C</td>
</tr>
<tr>
<td>· Entzündbarkeit (fest, gasförmig):</td>
<td>Nicht anwendbar.</td>
</tr>
<tr>
<td>· Zündtemperatur:</td>
<td>320 °C</td>
</tr>
<tr>
<td>· Zersetzungstemperatur:</td>
<td>Nicht bestimmt.</td>
</tr>
<tr>
<td>· Selbstentzündungstemperatur:</td>
<td>Das Produkt ist nicht selbstentzündlich.</td>
</tr>
<tr>
<td>· Explosive Eigenschaften:</td>
<td>Das Produkt ist nicht explosionsgefährlich, jedoch ist die Bildung explosionsgefährlicher Dampf-/Luftgemische möglich.</td>
</tr>
<tr>
<td>· Explosionsgrenzen:</td>
<td></td>
</tr>
<tr>
<td>Untere:</td>
<td>1,5 Vol %</td>
</tr>
<tr>
<td>Obere:</td>
<td>12 Vol %</td>
</tr>
<tr>
<td>· Dampfdruck bei 20 °C:</td>
<td>200 hPa</td>
</tr>
<tr>
<td>· Dichte bei 20 °C:</td>
<td>2,4 g/cm³</td>
</tr>
<tr>
<td>· Relative Dichte</td>
<td>Nicht bestimmt.</td>
</tr>
<tr>
<td>· Dampfdichte</td>
<td>Nicht bestimmt.</td>
</tr>
<tr>
<td>· Verdampfungsgeschwindigkeit</td>
<td>Nicht bestimmt.</td>
</tr>
<tr>
<td>· Löschlichkeit in / Mischbarkeit mit Wasser:</td>
<td>Nicht bzw. wenig mischbar.</td>
</tr>
<tr>
<td>· Verteilungskoeffizient: n-Octanol/Wasser:</td>
<td>Nicht bestimmt.</td>
</tr>
<tr>
<td>· Viskosität:</td>
<td></td>
</tr>
<tr>
<td>Dynamisch:</td>
<td>Nicht bestimmt.</td>
</tr>
<tr>
<td>Kinematisch:</td>
<td>Nicht bestimmt.</td>
</tr>
<tr>
<td>· Lösemittelgehalt:</td>
<td></td>
</tr>
<tr>
<td>Organische Lösemittel:</td>
<td>70,1 %</td>
</tr>
<tr>
<td>VOC (EU)</td>
<td>70,09 %</td>
</tr>
<tr>
<td>· Festkörpergehalt:</td>
<td>0,0 %</td>
</tr>
<tr>
<td>· 9.2 Sonstige Angaben</td>
<td>Keine weiteren relevanten Informationen verfügbar.</td>
</tr>
</tbody>
</table>

ABSCHNITT 10: Stabilität und Reaktivität

· 10.1 Reaktivität Keine weiteren relevanten Informationen verfügbar.
· 10.2 Chemische Stabilität
· Thermische Zersetzung / zu vermeidende Bedingungen: Keine Zersetzung bei bestimmungsgemäßer Verwendung.
· 10.3 Möglichkeit gefährlicher Reaktionen Keine gefährlichen Reaktionen bekannt.
· 10.4 Zu vermeidende Bedingungen Keine weiteren relevanten Informationen verfügbar.
· 10.5 Unverträgliche Materialien: Keine weiteren relevanten Informationen verfügbar.
· 10.6 Gefährliche Zersetzungsprodukte: Keine gefährlichen Zersetzungsprodukte bekannt.
ABSCHNITT 11: Toxikologische Angaben

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

Einstufungsrelevante LD/LC50-Werte:

109-99-9 Tetrahydrofuran
Oral LD50 2.500 mg/kg (rat)

Primäre Reizwirkung:
- Ätz-/Reizwirkung auf die Haut Aufgrund der verfügbaren Daten sind die Einstufungskriterien nicht erfüllt.
- Schwere Augenschädigung/-reizung
  Verursacht schwere Augenreizung.
- Sensibilisierung der Atemwege/Haut
  Aufgrund der verfügbaren Daten sind die Einstufungskriterien nicht erfüllt.
- CMR-Wirkungen (krebs erzeugende, erbgut verändernde und fortpflanzungs gefährdende Wirkung)
- Keimzell-Mutagenität Aufgrund der verfügbaren Daten sind die Einstufungskriterien nicht erfüllt.
- Karzinogenität
  Kann vermutlich Krebs erzeugen.
- Reproduktions toxizität Aufgrund der verfügbaren Daten sind die Einstufungskriterien nicht erfüllt.
- Spezifische Zielorgan-Toxizität bei einmaliger Exposition
  Kann die Atemwege reizen.
- Spezifische Zielorgan-Toxizität bei wiederholter Exposition
  Aufgrund der verfügbaren Daten sind die Einstufungskriterien nicht erfüllt.
- Aspirationsgefahr Aufgrund der verfügbaren Daten sind die Einstufungskriterien nicht erfüllt.

ABSCHNITT 12: Umweltbezogene Angaben

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

ABSCHNITT 13: Hinweise zur Entsorgung

13.1 Verfahren der Abfallbehandlung
Empfehlung:
Darf nicht zusammen mit Hausmüll entsorgt werden. Nicht in die Kanalisation gelangen lassen.
Handelsname: M-BOND 610 ADHESIVE

- 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
  - IMDG, IATA: ADHESIVES

- **14.3 Transportgefahrenklassen**
  - ADR, IMDG, IATA

  - Klasse: 3 Entzündbare flüssige Stoffe
  - Gefahrzettel: 3

- **14.4 Verpackungsgruppe**
  - ADR, IMDG, IATA: II

- **14.5 Umweltgefahren:**
  - Nicht anwendbar.

- **14.6 Besondere Vorsichtsmaßnahmen für den Verwender**
  - Achtung: Entzündbare flüssige Stoffe
  - Nummer zur Kennzeichnung der Gefahr (Kemler-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

  - 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
ABSCHNITT 15: Rechtsvorschriften

- **15.1 Vorschriften zu Sicherheit, Gesundheits- und Umweltschutz/spezifische Rechtsvorschriften für den Stoff oder das Gemisch**
  - Richtlinie 2012/18/EU
  - Namenslich aufgeführte gefährliche Stoffe - ANHANG I Keiner der Inhaltsstoffe ist enthalten.
  - Seveso-Kategorie P5c ENTZÜNDBARE FLÜSSIGKEITEN
  - Mengenschwelle (in Tonnen) für die Anwendung in Betrieben der unteren Klasse 5.000 t
  - Mengenschwelle (in Tonnen) für die Anwendung in Betrieben der oberen Klasse 50.000 t
  - VERORDNUNG (EG) Nr. 1907/2006 ANHANG XVII Beschränkungsbedingungen: 3

- **Nationale Vorschriften:**

- **Technische Anleitung Luft:**

<table>
<thead>
<tr>
<th>Klasse</th>
<th>Anteil in %</th>
</tr>
</thead>
<tbody>
<tr>
<td>NK</td>
<td>70,1</td>
</tr>
</tbody>
</table>

- **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
  - Flam. Liq. 2: Entzündbare Flüssigkeiten – Kategorie 2
  - Eye Irrit. 2: Schwere Augenschädigung/Augenreizung – Kategorie 2
  - Carc. 2: Karzinogenität – Kategorie 2
  - STOT SE 3: Spezifische Zielorgan-Toxizität (einmalige Exposition) – Kategorie 3
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: sgkck@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.

GHS07

Eye Irrit. 2  H319  Provoca grave irritazione oculare.

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.

(continua a pagina 2)
Scheda di dati di sicurezza
ai sensi del regolamento 1907/2006/CE, Articolo 31

Denominazione commerciale: M-BOND 610 ADHESIVE

- Pittogrammi di pericolo

GHS02  GHS07  GHS08

- Avvertenza Pericolo

- Componenti pericolosi che ne determinano l’etichettatura:
tetraidrofurano

- Indicazioni di pericolo

H225 Liquido e vapori facilmente infiammabili.
H319 Provoca grave irritazione oculare.
H351 Sospettato di provocare il cancro.
H335 Può irritare le vie respiratorie.

- Consigli di prudenza

P210 Tenere lontano da fonti di calore, superfici calde, scintille, fiamme libere o altre fonti di accensione. Non fumare.
P241 Utilizzare impianti [elettrici/di ventilazione/d’illuminazione] a prova di esplosione.
P303+P361+P353 IN CASO DI CONTATTO CON LA PELLE (o con i capelli): togliersi di dosso immediatamente tutti gli indumenti contaminati. Sciaccquare la pelle [o 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 sciaccquare.
P405 Conservare sotto chiave.
P501 Smaltire il prodotto/recipiente in conformità con le disposizioni locali / regionali / nazionali / internazionali.

- 2.3 Altri pericoli

- Risultati della valutazione PBT e vPvB

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

SEZIONE 3: Composizione/informazioni sugli ingredienti

- 3.2 Caratteristiche chimiche: Miscele

- Descrizione: Miscela delle seguenti sostanze con additivi non pericolosi.

- Sostanze pericolose:

<table>
<thead>
<tr>
<th>CAS:</th>
<th>EINECS:</th>
<th>Sostanza</th>
<th>Indicazioni</th>
<th>Concentrazione</th>
</tr>
</thead>
<tbody>
<tr>
<td>109-99-9</td>
<td>203-726-8</td>
<td>tetraidrofurano</td>
<td>Flam. Liq. 2, H225; Carc. 2; H351; Eye Irrit. 2; H319; STOT SE 3, H335</td>
<td>&gt;50-≤100%</td>
</tr>
<tr>
<td>78-93-3</td>
<td>201-159-0</td>
<td>butanone</td>
<td>Flam. Liq. 2, H225; Eye Irrit. 2; H319; STOT SE 3, H336</td>
<td>&gt;2,5-≤10%</td>
</tr>
</tbody>
</table>

- Ulteriori indicazioni: Il testo dell’avvertenza dei pericoli citati può essere appreso dal capitolo 16
SEZIONE 4: Misure di primo soccorso

- **4.1 Descrizione delle misure di primo soccorso**
- **Indicazioni generali:**
  I sintomi di avvelenamento possono comparire dopo molte ore, per tale motivo è necessaria la sorveglianza di un medico nelle 48 ore successive all'incidente.
- **Inalazione:** Portare in zona ben areata, in caso di disturbi consultare il medico.
- **Contatto con la pelle:** Generalmente il prodotto non è irritante per la pelle.
- **Contatto con gli occhi:** Lavare con acqua corrente per 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:**
  Impedire infiltrazioni nella fognatura/nelle acque superficiali/nelle acque freatiche.

- **6.3 Metodi e materiali per il contenimento e per la bonifica:**
  Raccogliere il liquido con materiale assorbente (sabbia, tripoli, legante di acidi, legante universale, segatura).
  Smaltimento del materiale contaminato conformemente al punto 13.
  Provvedere ad una sufficiente areazione.
  Non dilavare con acqua o detergenti liquidi.

- **6.4 Riferimento ad altre sezioni**
  Per informazioni relative ad un manipolazione sicura, vedere capitolo 7.
  Per informazioni relative all’equipaggiamento protettivo ad uso personale vedere Capitolo 8.
  Per informazioni relative allo smaltimento vedere Capitolo 13.

SEZIONE 7: Manipolazione e immagazzinamento

- **7.1 Precauzioni per la manipolazione sicura**
  Accurata ventilazione/aspirazione nei luoghi di lavoro.
  Evitare la formazione di aerosol.
Denominazione commerciale: M-BOND 610 ADHESIVE

- **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.

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**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:**

  
<table>
<thead>
<tr>
<th>Compilato</th>
<th>109-99-9 tetraidrofurano</th>
<th>78-93-3 butanone</th>
</tr>
</thead>
<tbody>
<tr>
<td>TWA Valore</td>
<td>TWA Valore a breve termine: 295 mg/m³, 100 ppm</td>
<td>TWA Valore a breve termine: 885 mg/m³, 300 ppm</td>
</tr>
<tr>
<td>Valore a</td>
<td>Valore a lungo termine: 147 mg/m³, 50 ppm</td>
<td>Valore a lungo termine: 590 mg/m³, 200 ppm</td>
</tr>
<tr>
<td>breve termine:</td>
<td>coute, A3</td>
<td>IBE</td>
</tr>
<tr>
<td>breve termine:</td>
<td>Valore a lungo termine: 300 mg/m³, 100 ppm</td>
<td>Valore a breve termine: 900 mg/m³, 300 ppm</td>
</tr>
<tr>
<td>breve termine:</td>
<td>Valore a lungo termine: 150 mg/m³, 50 ppm</td>
<td>Valore a lungo termine: 600 mg/m³, 200 ppm</td>
</tr>
<tr>
<td>breve termine:</td>
<td>Pelle</td>
<td>Pelle</td>
</tr>
</tbody>
</table>

  **Componenti con valori limite biologici:**

<table>
<thead>
<tr>
<th>Compilato</th>
<th>109-99-9 tetraidrofurano</th>
<th>78-93-3 butanone</th>
</tr>
</thead>
<tbody>
<tr>
<td>IBE 2 mg/l</td>
<td>IBE</td>
<td>IBE</td>
</tr>
<tr>
<td>Campioni: urine</td>
<td>2 mg/l</td>
<td>Campioni: urine</td>
</tr>
<tr>
<td>Momento del prelievo: a fine turno</td>
<td></td>
<td>Momento del prelievo: a fine turno</td>
</tr>
<tr>
<td>Indicatore biologico: tetraidrofurano</td>
<td></td>
<td>Indicatore biologico: Metil etil chetone</td>
</tr>
</tbody>
</table>

  **Ulteriori indicazioni:** Le liste valide alla data di compilazione sono state usate come base.
Denominazione commerciale: M-BOND 610 ADHESIVE

· 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.
  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:

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:

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.
Denominazione commerciale: M-BOND 610 ADHESIVE

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Punto di ebollizione iniziale e intervallo di ebollizione:</td>
<td>66 °C</td>
</tr>
<tr>
<td>Punto di infiammabilità:</td>
<td>-14 °C</td>
</tr>
<tr>
<td>Infiammabilità (solidi, gas):</td>
<td>Non applicabile.</td>
</tr>
<tr>
<td>Temperatura di accensione:</td>
<td>320 °C</td>
</tr>
<tr>
<td>Temperatura di decomposizione:</td>
<td>Non definito.</td>
</tr>
<tr>
<td>Temperatura di autoaccensione:</td>
<td>Prodotto non autoinfiammabile.</td>
</tr>
<tr>
<td>Proprietà esplosive:</td>
<td>Prodotto non è esplosivo, è tuttavia possibile la formazione di miscele di vapori/aria esplosive.</td>
</tr>
<tr>
<td>Limiti di infiammabilità:</td>
<td></td>
</tr>
<tr>
<td>Inferiore:</td>
<td>1,5 Vol %</td>
</tr>
<tr>
<td>Superiore:</td>
<td>12 Vol %</td>
</tr>
<tr>
<td>Tensione di vapore a 20 °C:</td>
<td>200 hPa</td>
</tr>
<tr>
<td>Densità a 20 °C:</td>
<td>2,4 g/cm³</td>
</tr>
<tr>
<td>Densità relativa:</td>
<td>Non definito.</td>
</tr>
<tr>
<td>Densità di vapore:</td>
<td>Non definito.</td>
</tr>
<tr>
<td>Velocità di evaporazione:</td>
<td>Non definito.</td>
</tr>
<tr>
<td>Solubilità in/Miscibilità con acqua:</td>
<td>Poco e/o non miscibile.</td>
</tr>
<tr>
<td>Coefficiente di ripartizione: n-ottanolo/acqua:</td>
<td>Non definito.</td>
</tr>
<tr>
<td>Viscosità:</td>
<td></td>
</tr>
<tr>
<td>Dinamica:</td>
<td>Non definito.</td>
</tr>
<tr>
<td>Cinemática:</td>
<td>Non definito.</td>
</tr>
<tr>
<td>Tenore del solvente:</td>
<td></td>
</tr>
<tr>
<td>Solventi organici:</td>
<td>70,1 %</td>
</tr>
<tr>
<td>VOC (CE)</td>
<td>70,09 %</td>
</tr>
<tr>
<td>Contenuto solido:</td>
<td>0,0 %</td>
</tr>
<tr>
<td>9.2 Altre informazioni</td>
<td>Non sono disponibili altre informazioni.</td>
</tr>
</tbody>
</table>

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

**Denominazione commerciale: M-BOND 610 ADHESIVE**

(Segue da pagina 6)

**SEZIONE 11: Informazioni tossicologiche**

- **11.1 Informazioni sugli effetti tossicologici**
  - Tossicità acuta: Basandosi sui dati disponibili i criteri di classificazione non sono soddisfatti.
  - Valori LD/LC50 rilevanti per la classificazione:
    - 109-99-9 tetraidrofurano
      - Orale LD50: 2.500 mg/kg (rat)
  - Irritabilità primaria:
    - Corrosione/irritazione cutanea: Basandosi sui dati disponibili i criteri di classificazione non sono soddisfatti.
    - Lesioni oculari gravi/irritazioni oculari gravi: Provoca grave irritazione oculare.
  - Sensibilizzazione respiratoria o cutanea: Basandosi sui dati disponibili i criteri di classificazione non sono soddisfatti.
  - Effetti CMR (cancerogenicità, mutagenicità e tossicità per la riproduzione):
    - Mutagenicità delle cellule germinali: Basandosi sui dati disponibili i criteri di classificazione non sono soddisfatti.
    - Cancerogenicità: 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.
- **Ulteriori indicazioni in materia ambientale:**
  - Ulteriori indicazioni:
    - Pericolosità per le acque classe 1 (D) (Autoclassificazione): poco pericoloso
      - Non immettere nelle acque freatiche, nei corsi d'acqua o nelle fognature non diluito o in grandi quantità.
- **12.5 Risultati della valutazione PBT e vPvB**
  - PBT: Non applicabile.
  - vPvB: Non applicabile.
- **12.6 Altri effetti avversi**
  - Non sono disponibili altre informazioni.

**SEZIONE 13: Considerazioni sullo smaltimento**

- **13.1 Metodi di trattamento dei rifiuti**
  - Consigli: Non smaltire il prodotto insieme ai rifiuti domestici Non immettere nelle fognature.

(continua a pagina 8)
### SEZIONE 14: Informazioni sul trasporto

<table>
<thead>
<tr>
<th>Articolo</th>
<th>Descrizione</th>
<th>Valore</th>
</tr>
</thead>
<tbody>
<tr>
<td>14.1</td>
<td>Numero ONU</td>
<td>UN1133</td>
</tr>
<tr>
<td>14.2</td>
<td>Nome di spedizione dell'ONU</td>
<td>1133 ADESIVI ADHESIVES</td>
</tr>
<tr>
<td>14.3</td>
<td>Classe di pericolo connesso al trasporto</td>
<td>Classe 3 Liquidi infiammabili</td>
</tr>
<tr>
<td>14.4</td>
<td>Gruppo di imballaggio</td>
<td>II</td>
</tr>
<tr>
<td>14.5</td>
<td>Pericoli per l'ambiente</td>
<td>Non applicabile</td>
</tr>
<tr>
<td>14.6</td>
<td>Precauzioni speciali per gli utilizzatori</td>
<td>Attenzione: Liquidi infiammabili</td>
</tr>
<tr>
<td>14.7</td>
<td>Trasporto di rinfuse secondo l'allegato II di MARPOL ed il codice IBC</td>
<td>Non applicabile</td>
</tr>
</tbody>
</table>

**Trasporto/ulteriori indicazioni:**

- **ADR**
  - Quantità limitate (LQ): 5L
  - Quantità esenti (EQ): Codice: E2
  - 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
SEZIONE 15: Informazioni sulla regolamentazione

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

· Direttiva 2012/18/UE
· Sostanze pericolose specificate - ALLEGATO I Nessuno dei componenti è contenuto.
· Categoria Seveso P5c LIQUIDI INFAMMABILI
· Quantità limite (tonnellate) ai fini dell'applicazione dei requisiti di soglia inferiore 5.000 t
· Quantità limite (tonnellate) ai fini dell'applicazione dei requisiti di soglia superiore 50.000 t
· REGOLAMENTO (CE) n. 1907/2006 ALLEGATO XVII Restrizioni: 3

· Disposizioni nazionali:
· Istruzione tecnica aria:

<table>
<thead>
<tr>
<th>Classe</th>
<th>quota in %</th>
</tr>
</thead>
<tbody>
<tr>
<td>NC</td>
<td>70,1</td>
</tr>
</tbody>
</table>

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

SEZIONE 16: Altre informazioni

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

· Frasi rilevanti
H225 Liquido e vapori facilmente infiammabili.
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
ELINCS: European List of Notified Chemical Substances
CAS: Chemical Abstracts Service (division of the American Chemical Society)
VOC: Volatile Organic Compounds (USA, EU)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
PBT: Persistent, Bioaccumulative and Toxic
vPvB: very Persistent and very Bioaccumulative
Flam. Liq. 2: Liquidi infiammabili – Categoria 2
Eye Irrit. 2: Gravi lesionioculari/irritazione oculare – Categoria 2
Carc. 2: Cancrogenicità – Categoria 2
STOT SE 3: Tossicità specifica per organi bersaglio (esposizione singola) – Categoria 3
1 化学品及び会社情報

- 製品識別子
- 商品名: M-BOND 610 ADHESIVE
- 製品番号: 50410-30A
- 該当純物質または混合物の関連特定用途及び使用禁止用途
  追加的な関連情報は得られていません。
- 成分の利用/調合 実験用化学物質
- 安全データシートの供給元の詳細情報
  製造者/納入者:
  Electron Microscopy Sciences
  1560 Industry Road
  USA-Hatfield, PA 19440
  Tel: 215-412-8400  Fax: 215-412-8450
  email: sgkck@aol.com
  www.emsdiasum.com
- この他の情報問い合わせ先: Product safety department
- 緊急通報用電話番号:
  ChemTrec 1-800-424-9300 Contract CCN7661
  1-703-527-3887

2 危険有害性の要約

- 純物質または混合物の分類

  火炎
  引火性液体 区分2 H225 引火性の高い液体及び蒸気

  健康に危険
  発がん性 区分2 H351 発がんのおそれの疑い

  重篤な眼の損傷性/眼刺激性 区分2A H319 強い眼刺激
  特定標的臓器有害性(単回暴露) 区分3 H335 呼吸器への刺激のおそれ

- ラベル要素
  GHS ラベル要素
  本製品はGHS(化学品の分類および表示に関する世界調和システム)により分類及び表示されています。
商品名: M-BOND 610 ADHESIVE

危険図表
GHS02 GHS07 GHS08

表示薬  危険
危険と定められた成分をラベル表示:
tetrahydrofuran

危険文句
引火性の高い液体及び蒸気
強い眼刺激
発がんのおそれの疑い
呼吸器への刺激のおそれ

注意文句
熟/火花/裸火/高温のもののような着火源から遠ざけること。- 禁煙。
防爆型の電気機器/換気装置/照明機器/機器を使用すること。
皮膚（または髪）に付着した場合：直ちに汚染された衣類をすべて脱ぐこと。皮膚を水流/シャワーで洗うこと。
眼に入った場合：水で数分間注意深く洗うこと。次にコンタクトレンズを着用していて容易に外せる場合は外すこと。その後も洗浄を続けること。
施錠して保管すること。
現地/地域/国/国際規定に従い内容物・容器の露出

その他の危険性
PBT（残留性、生物濃縮性、毒性物質）及びvPvB（高残留性、高生物濃縮性物質）アセスメント
PBT（残留性、生物濃縮性、毒性物質）: 情報なし
vPvB（高残留性、高生物濃縮性物質）: 情報なし

3 組成及び成分情報

化学的特性: 混合物
説明: 危険のない混ぜ合わせたものを以下成分からなる混合物

危険な含有成分:

<table>
<thead>
<tr>
<th>化合物コード</th>
<th>化合物名</th>
<th>含有率</th>
<th>危険性分け</th>
</tr>
</thead>
<tbody>
<tr>
<td>109-99-9</td>
<td>tetrahydrofuran</td>
<td>&gt;50-≤100%</td>
<td>分区2, H225; 分区2, H335; 分区2, H351; 重篤な眼の損傷性/眼刺激性 区分2, H319; 特定標的臓器有害性(単回暴露) 区分3, H335</td>
</tr>
<tr>
<td>78-93-3</td>
<td>METHYL ETHYL KETONE</td>
<td>&gt;2.5-≤10%</td>
<td>分区2, H225; 重篤な眼の損傷性/眼刺激性 区分2, H319; 特定標的臓器有害性(単回暴露) 区分3, H336</td>
</tr>
</tbody>
</table>

4 応急措置

応急手当処置に関する説明
一般情報
中毒症状は時間がかなり経過した後に現れる場合もあるため、事故後最低48時間は医師の監視のもとで過ごすこと
商品名: M-BOND 610 ADHESIVE

5 火災時の措置

・消火剤
- 適切な消火剤: CO2、砂、消火剤、水は使用しない
- 安全上の理由から不適切な消火剤: 全開状態で放水
- 本化学物質または混合物から発生する特別な危険性 追加的な関連情報は得られていません。
- 消防士向けアドバイス
- 特別な保護装備: 特別な措置は必要としない

6 漏出時の措置

・個人的予防措置、保護具及び応急処置法
- 防護服を着用。防護服を着用していない人は近づけない
- 環境関連予防措置: 下水処理施設、地上水あるいは地下に達しないようにする
- 液体吸収材 (砂、珪藻土、酸結合剤、ユニバーサル結合剤、おがくず) で吸収する
- れんが性汚染材は廃棄物として処理する
- 十分な換気を心がけ
- 水もしくは液体洗剤で洗い流さない
- 他のセクションへの言及
- 安全な取り扱い方に関しては 7 項を参照
- 人の保護装備の情報に関しては 8 項を参照
- 廃棄処分に関しては 13 項参照

7 取扱い及び保管上の注意

・取扱い方:
- 安全操作のための予防措置
- 作業場では十分な換気、埃を吸い取るよう心がける
- エアゾールの発生を防ぐ
- 火災および爆発防止に関する注意事項:
- 発火元は遠ざける。禁煙
- 高温から保護する
- 静電荷を防ぐ措置をほどこす
- 混融危険性を含めた安全貯蔵条件
- 保管:
- 保管スペースおよび容器に関する要求事項: 涼しい場所に保管する
- 同じ場所に保管する際の注意事項: 必要ない
- 保管条件に関するその他の注意事項: 容器は密閉した状態に保つ
安全データシート
JIS Z 7253:2012 による

印刷日: 2020.08.03
改訂日: 2020.08.03

商品名: M-BOND 610 ADHESIVE

よく密閉した樽の中で涼しく乾燥した場所に保管する
熱および直射日光は避けける
特定の最終用途 追加的な関連情報は得られていません。

8 災害防止及び保護措置

・技術設備の形体に関する追加注意事項: その他の申し立てなし、7 項参照

管理パラメーター

・作業場において限界値の監視を要する成分:

<table>
<thead>
<tr>
<th>化学物質名</th>
<th>OEL 長期値</th>
<th>試料採取時期</th>
<th>試料</th>
<th>製品名</th>
</tr>
</thead>
<tbody>
<tr>
<td>tetrahydrofuran</td>
<td>148 mg/m³, 50 ppm</td>
<td>End of shift</td>
<td>urine</td>
<td>Tetrahydrofuran</td>
</tr>
<tr>
<td>METHYL ETHYL KETONE</td>
<td>590 mg/m³, 200 ppm</td>
<td>End of shift or a few hours after high exposure</td>
<td>urine</td>
<td>Methylethylketone</td>
</tr>
</tbody>
</table>

生物学的許容値

<table>
<thead>
<tr>
<th>化学物質名</th>
<th>OEL-B</th>
<th>試料採取時期</th>
<th>試料</th>
<th>物質</th>
</tr>
</thead>
<tbody>
<tr>
<td>tetrahydrofuran</td>
<td>2 mg/l</td>
<td>End of shift</td>
<td>urine</td>
<td>Tetrahydrofuran</td>
</tr>
<tr>
<td>METHYL ETHYL KETONE</td>
<td>5 mg/l</td>
<td>End of shift or a few hours after high exposure</td>
<td>urine</td>
<td>Methylethylketone</td>
</tr>
</tbody>
</table>

追加注意事項: 生成時に有効なリストがもとになっている

暴露管理

・人の保護装備:

・一般防止措置および衛生措置:
食物、飲み物、飼料からは遠ざける
汚れのしみ込んだ衣類は即刻脱ぐ
休憩の前に、作業終了後には手を洗う
眼に入らないように

・呼吸保護器具:
短時間もしくは負担が小さい場合には呼気フィルター付装置を、集中的にある時は長時間を触れる
場合には、酸素ボンベ付き呼吸保護装置を使用すること

手の保護

保護手袋

手袋の材質は物質/材料/調合剤に対して耐性であり、成分を通すことがあってはならない
テストをおこなっていないため、物質/調合剤/化合物を取扱う際の手袋の材質として動かされる
浸透時間、透過性および劣化の点を留意しながら手袋の材質を選択する
### 安全データシート

#### M-BOND 610 ADHESIVE

- **手袋材**: 適当な手袋は材質だけではなく、その他の品質によっても変わり、各メーカーによって異なる。調合する際の物質は複数の成分から生成されるため、手袋材の耐久性は予想できない。このため使用前には必ずチェックしなければならない。
- **手袋材の透湿時間**: 正確な透湿時間については保護手袋メーカーに問い合わせ、それを遵守すること。
- **眼の保護**: 密閉式保護めがね

### 物理的及び化学的性質

#### 基本的な物理及び化学特性に関する情報

- **外観**: 液体
- **色**: 無色
- **におい**: エーテルのような
- **嗅覚閾値**: 決まっていない。
- **pH-値**: 決まっていない。

#### 状態の変化

- **融点/融解範囲**: 決まっていない
- **沸点/沸点範囲**: 66 °C
- **引火点**: -14 °C
- **発火性(液体、気体)**: 情報なし
- **発火温度**: 320 °C
- **分解温度**: 決まっていない。
- **自然発火性**: プロダクトは自然発火しない
- **爆発の危険**: プロダクトは爆発する危険はない。ただし爆発する危険のある蒸気と空気の混合物を形成する可能性はある。

#### 爆発限界

<table>
<thead>
<tr>
<th></th>
<th>1.5 Vol %</th>
<th>12 Vol %</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>下限</strong></td>
<td>200 hPa</td>
<td></td>
</tr>
<tr>
<td><strong>上限</strong></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### 熱的性質

- **密度 約 20 °C**: 2.4 g/cm³
- **相対的密度**: 決まっていない。
- **蒸気密度**: 1.5 Vol %
- **気化速度**: 決まっていない。

#### 以下成分における消和性/との混和性

- **水**: 混ぜ合わせられない、ほとんど混ぜ合わされない。
安全データシート
JIS Z 7253:2012 による

商品名: M-BOND 610 ADHESIVE

10 安定性及び反応性

- 反応性: 追加的な関連情報は得られていません。
- 化学的安定性
- 熱分解/回収すべき条件: 規定どおりの使用では分解しない
- 危険反応の可能性: 危険な反応は起きていない
- 避けるべき条件: 追加的な関連情報は得られていません。
- 不適合物質: 追加的な関連情報は得られていません。
- 危険な分解生成物: 危険な分解プロダクトはいない

11 有害性情報

- 毒性学的影響に関する情報
- 急性毒性:
  - 分類上の LD/LC50 値:
    109-99-9 tetrahydrofuran
    □ LD50 2,500 mg/kg (rat)

- 初期刺激作用:
  - 皮膚において: 刺激作用はない
  - 眼において: 刺激作用
  - 感作作用: 感作作用はない

- 毒性に関する補足注意事項: 調合に関する EU の最新の一般分類ガイドラインの計算によれば、プロダクトでは以下の危険が見込まれた
  - 毒性が増
- 刺激的

- 次の種類の潜在的な効果に対する情報
- CMR-作用 (癌誘発、因子変異、そして進化危険作用)

12 環境影響情報

- 毒性:
  - 水生生物に対する毒性: 追加的な関連情報は得られていません。
  - 持続性及び分解性: 追加的な関連情報は得られていません。
安全データシート
JIS Z 7253:2012 による

商品名: M-BOND 610 ADHESIVE

環境システムにおける作用:
- 生体内蓄積能 追加的な関連情報は得られていません。
- 土壇内移動性 追加的な関連情報は得られていません。
- その他のエコロジーに関する注意事項:
  一般注意事項:
  水への危険度分類 I (ドイツの規定) (自己査定): 水に対する危険性はわずかにある
  薄めずに、あるいは大量に地下水、河川もしくは下水施設に流してはならない
  PBT (残留性、生物濃縮性、毒性物質) 及び vPvB (高残留性、高生物濃縮性物質) アセスメン
  PBT (残留性、生物濃縮性、毒性物質): 情報なし
  vPvB (高残留性、高生物濃縮性物質): 情報なし
  他の副作用 追加的な関連情報は得られていません。

13 廃棄上の注意

廃棄物処理方法
- 勧告: 家庭ごみはいずれも処分できない。下水処理施設に流してはならない
- 洗浄されていないパッケージ:
  - 勧告: 関係当局の規則に従って処分する

14 輸送上の注意

- UN 番号
  ADR, IMDG, IATA UN1133
- 国連出荷正式名
  ADR 1133 ADHESIVES
  IMDG, IATA ADHESIVES
- 輸送の危険性クラス
  ADR, IMDG, IATA

分類
- 3 可燃性液体成分
- 危険物ラベル
  3
- パッケージの分類
  ADR, IMDG, IATA II
- 環境危険:
  情報なし
- ユーザー用特別予防措置
  警告: 可燃性液体成分
- ケムラー番号:
  33
- EMS (電子メールサービスナンバー) 番号:
  F-E-S-D
- Stowage Category
  B
商品名: M-BOND 610 ADHESIVE

・マルボール条約（MARPOL73/78）付属書Ⅱ及びIBCコードに準じたバルク輸送
   情報なし

・輸送/その他の説明:
   • 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 "模範規制: UN 1133 ADHESIVES, 3, II"

15 適用法令

・該当純物質または混合物に対する安全、衛生及び環境規制・法律
  • 化審法
    • 既存化学物質
      109-99-9 tetrahydrofuran 5-53
      28064-14-4 EPOXY PHENOL NOVOLAC 7-1285
      78-93-3 METHYL ETHYL KETONE 2-542
    • 特定化学物質
      内容成分はリストアップされていない
    • 監視化学物質、旧第二種監視化学物質、旧第三種監視化学物質
      内容成分はリストアップされていない
    • 優先評価化学物質
      109-99-9 tetrahydrofuran
      78-93-3 METHYL ETHYL KETONE
    • 自物質
      内容成分はリストアップされていない
    • 既存化学物質安全性点検結果（分解性・蓄積性）
      109-99-9 tetrahydrofuran
      78-93-3 METHYL ETHYL KETONE
    • 既存化学物質安全性点検結果（毒性）
      内容成分はリストアップされていない
    • PRTR 制度 - 第一種指定化学物質
      内容成分はリストアップされていない
    • PRTR 制度 - 第二種指定化学物質
      内容成分はリストアップされていない

(9ページに続く)
商品名: M-BOND 610 ADHESIVE

<table>
<thead>
<tr>
<th>物質及び物取締法:劇物</th>
<th>78-93-3 METHYL ETHYL KETONE</th>
</tr>
</thead>
<tbody>
<tr>
<td>物質及び物取締法:有機シアン化合物から除かれるもの</td>
<td>内容成分はリストアップされていない</td>
</tr>
<tr>
<td>物質及び物取締法:毒物</td>
<td>内容成分はリストアップされていない</td>
</tr>
<tr>
<td>物質及び物取締法:特定毒物</td>
<td>内容成分はリストアップされていない</td>
</tr>
<tr>
<td>労働安全衛生法</td>
<td>危険物</td>
</tr>
<tr>
<td>爆発性の物 (施行令別表第1第1号)</td>
<td>内容成分はリストアップされていない</td>
</tr>
<tr>
<td>発火性の物 (施行令別表第1第2号)</td>
<td>内容成分はリストアップされていない</td>
</tr>
<tr>
<td>腐化性の物 (施行令別表第1第3号)</td>
<td>内容成分はリストアップされていない</td>
</tr>
<tr>
<td>引火性の物 (施行令別表第1第4号)</td>
<td>78-93-3 METHYL ETHYL KETONE</td>
</tr>
<tr>
<td>可燃性のガス (施行令別表第1第5号)</td>
<td>内容成分はリストアップされていない</td>
</tr>
<tr>
<td>特定化学物質等</td>
<td>第一類物質</td>
</tr>
<tr>
<td></td>
<td>内容成分はリストアップされていない</td>
</tr>
<tr>
<td>第二類物質</td>
<td>内容成分はリストアップされていない</td>
</tr>
<tr>
<td>第三類物質</td>
<td>内容成分はリストアップされていない</td>
</tr>
<tr>
<td>名称等を通知すべき有害物 (別表第9)</td>
<td>109-99-9 tetrahydrofuran 367</td>
</tr>
<tr>
<td></td>
<td>78-93-3 METHYL ETHYL KETONE 570</td>
</tr>
<tr>
<td>製造許可物質</td>
<td>内容成分はリストアップされていない</td>
</tr>
<tr>
<td>鉛中毒予防規則 (施行令別表第4)</td>
<td>内容成分はリストアップされていない</td>
</tr>
<tr>
<td>四アルキル鉛中毒予防規則 (施行令別表第5)</td>
<td>内容成分はリストアップされていない</td>
</tr>
<tr>
<td>有機溶剤中毒予防規則第 (施行令別表第6の2)</td>
<td>内容成分はリストアップされていない</td>
</tr>
<tr>
<td>第一種有機溶剤等</td>
<td>内容成分はリストアップされていない</td>
</tr>
<tr>
<td>商品名: M-BOND 610 ADHESIVE</td>
<td></td>
</tr>
<tr>
<td>-------------------------------</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>第二種有機溶剤等</th>
</tr>
</thead>
<tbody>
<tr>
<td>109-99-9 tetrahydrofuran</td>
</tr>
<tr>
<td>78-93-3 METHYL ETHYL KETONE</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>第三種有機溶剤等</th>
</tr>
</thead>
<tbody>
<tr>
<td>内容成分はリストアップされていない</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>強い変異原性が認められた化物質</th>
</tr>
</thead>
<tbody>
<tr>
<td>内容成分はリストアップされていない</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>消防法</th>
</tr>
</thead>
<tbody>
<tr>
<td>109-99-9 tetrahydrofuran</td>
</tr>
<tr>
<td>78-93-3 METHYL ETHYL KETONE</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>海洋汚染防止法</th>
</tr>
</thead>
<tbody>
<tr>
<td>109-99-9 tetrahydrofuran</td>
</tr>
<tr>
<td>78-93-3 METHYL ETHYL KETONE</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>特定物質等の規制等によるオゾン層の保護に関する法律</th>
</tr>
</thead>
<tbody>
<tr>
<td>特定物質代替物質</td>
</tr>
<tr>
<td>内容成分はリストアップされていない</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>特定物質</th>
</tr>
</thead>
<tbody>
<tr>
<td>内容成分はリストアップされていない</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>大気汚染防止法</th>
</tr>
</thead>
<tbody>
<tr>
<td>内容成分はリストアップされていない</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>水質汚濁防止法</th>
</tr>
</thead>
<tbody>
<tr>
<td>内容成分はリストアップされていない</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>指定物質</th>
</tr>
</thead>
<tbody>
<tr>
<td>内容成分はリストアップされていない</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>GHS ラベル要素</th>
</tr>
</thead>
<tbody>
<tr>
<td>本製品はGHS(化学品の分類および表示に関する世界調和システム)により分類及び表示されています。</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>危険図表</th>
</tr>
</thead>
<tbody>
<tr>
<td>GHS02 GHS07 GHS08</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>表示語危険</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>危険と定められた成分をラベル表示:</th>
</tr>
</thead>
<tbody>
<tr>
<td>tetrahydrofuran</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>危険文句</th>
</tr>
</thead>
<tbody>
<tr>
<td>引火性の高い液体及び蒸気</td>
</tr>
<tr>
<td>強い眼刺激</td>
</tr>
<tr>
<td>発がんのおそれの疑い</td>
</tr>
<tr>
<td>呼吸器への刺激のおそれ</td>
</tr>
</tbody>
</table>
### 商品名: M-BOND 610 ADHESIVE

<table>
<thead>
<tr>
<th>情報</th>
<th>内容</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>注意文句</strong></td>
<td>熱/火花/裸火/高温のもののような着火源から遠ざけること。 - 禁煙。防爆型の電気機器/換気装置/照明機器/機器を使用すること。皮膚（または髪）に付着した場合：直ちに汚染された衣類をすべて脱ぐこと。皮膚を流水/シャワーで洗うこと。\n</td>
</tr>
</tbody>
</table>

### 16 その他の情報
この情報は現在の我々の認識に基づいている。ただし、プロダクトの特性を保証するものではなく、また契約において法的根拠にはならない

| 緩和と二文字語: | ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)\n| | IMDG: International Maritime Code for Dangerous Goods\n| | IATA: International Air Transport Association\n| | EINECS: European Inventory of Existing Commercial Chemical Substances\n| | ELINCS: European List of Notified Chemical Substances\n| | CAS: Chemical Abstracts Service (division of the American Chemical Society)\n| | LC50: Lethal concentration, 50 percent\n| | LD50: Lethal dose, 50 percent\n| | PBT: Persistent, Bioaccumulative and Toxic\n| | vPvB: very Persistent and very Bioaccumulative\n| | PRTR/化管法: 化学物質排出把握管理促進法\n| | 引火性液体 区分2: Flammable liquids – Category 2\n| | 重篤な眼の損傷性/眼刺激性 区分2: Serious eye damage/eye irritation – Category 2\n| | 重篤な眼の損傷性/眼刺激性 区分2A: Serious eye damage/eye irritation – Category 2A\n| | 発がん性 区分2: Carcinogenicity – Category 2\n| | 特定標的臓器有害性(単回暴露) 区分3: Specific target organ toxicity (single exposure) – Category 3 |
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: 실험 실험 실험
- 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: sgkeck@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

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

(2쪽에계속)
물질안전보건자료
GHS에 따라

제품명: M-BOND 610 ADHESIVE

심한 눈 손상성/눈 자극성 - 구분 2  H319 눈에 심한 자극을 일으킴
특정표적장기 독성 - 1회 노출 - 구분 3 H335 혼탁 자극성을 일으킬 수 있음

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

신호어
- 위험
- 상표상에 명확히 위험성이 표시된 성분: tetrahydrofuran
- 예방조치
- 열스파크:화업.고열로부터 멀리하시오 - 금연
- 독발 방지용 전기환기·소형·장비를 사용하시오.
- 피부(또는 머리카락)에 묻으면 오염된 모든 의복은 벗거나 제거하시오. 피부를 물로 씻으시오/샤워 하십시오.
- 눈에 묻으면 몇 분간 물로 조심해서 씻으십시오. 가능하면 콘택트렌즈를 제거하시오. 계속 씻으시오. 
- 밀봉하여 저장하시오. (지방/지역/국가/국제 규정에 따라)에 내용물/용기를 폐기하시오.
- 기타 유해성
  - PBT(잔류성, 생물농축성, 독성 물질 및 vPvB(고 잔류성, 고 생물농축성 물질) 평가 결과
  - PBT(잔류성, 생물농축성, 독성 물질): 해당사항 없음.
  - vPvB(고 잔류성, 고 생물농축성 물질): 해당사항 없음.

3 구성성분의 명칭 및 함유량

화학적 특성: 혼합물
설명: 무해한 첨가 물이 함유되어 아래에 열거된 물질로 만들어진 혼합물.

위험요소:
<table>
<thead>
<tr>
<th>번호</th>
<th>명칭</th>
<th>함유율</th>
</tr>
</thead>
<tbody>
<tr>
<td>109-99-9</td>
<td>tetrahydrofuran</td>
<td>&gt;50~≤100%</td>
</tr>
<tr>
<td>78-93-3</td>
<td>메틸 아미롯 헤들</td>
<td>&gt;2.5~≤10%</td>
</tr>
</tbody>
</table>

(3쪽에계속)
물질안전보건자료
GHS에 따라

제품명: M-BOND 610 ADHESIVE

4 용급조치 요령

· 용급조치요령 내용
· 일반적 정보:
  중독 증상은 몇 시간이 지나도 뒤에 발생할 수 있다. 따라서 사고가 발생한 후에도 48 시간동안은 의료진의 관찰을 받아야 한다.
· 흡입했을 때: 신선한 공기를 쉬고, 통증이 있을 때는 의료진의 도움을 구한다.
· 피부에 접촉했을 때: 일반적으로 이 제품은 피부에 자극적이지 않다.
· 눈에 들어갔을 때: 흐르는 물로 씻어내고, 증상이 지속될 경우에는 의사와 상담한다.
· 먹었을 때: 즉시 의사의 도움을 구한다.
· 기타 의사의 주의사항:
  · 가장 중요한 급한 안전 경고 및 연무로 인한 화재의 급한 안전 경고 및 연무로 인한 화재시 즉각적인 경고가 존재하지 않습니다.
  · 특례적인 의료처치 및 특별조치가 필요함을 시사하는 징후가 존재하지 않습니다.

5 폭발·화재시 대처방법

· 소화제
  · 적절한 소화제: 이산화탄소 소. 모래, 석회가루를 사용하고, 물을 사용하지 않는다.
  · 부적절한 소화제: 풍제품을
  · 본 화학물질이나 혼합물에서 발생하는 특별 유해성 추가적인 정보가 존재하지 않습니다.
· 소방관에 대한 권고사항
  · 화재 발생 시 대처방법 보호구 및 예방조치: 적절한 조치가 필요함.

6 누출 사고 시 대처방법

· 개인적 예방조치, 보호장비 및 용급처치 절차
  · 침장 비작용하고, 누방비의 사로의 격리 시킨다.
· 환경 관련 예방조치: 하수도망/해수면위의 물/지하수로도달하지 않도록한다.
· 밀폐 및 정화 방법과 소재:
  · 액체가 흘린 풍선물질(모래, 규조소, 산성결합물, 일반 결합물, 톨반)에 흡입되도록 한다.
  · 항목 13에 따라 오염된 물질을 쓰레기로 처분한다.
  · 충분한 환기가 되도록 한다.
  · 물이 나온 물은 세척제로 씻어내지 마십시오.
· 티 석션 참조
  · 안전한 장소에 대한 정보는 제7장 및 참고하시오.
  · 개인보호 장비에 대한 정보는 제8장 및 참고하시오.
  · 소방기체리에 대한 정보는 제13장 및 참고하시오.

7 취급 및 저장방법

· 취급:
  · 안전 취급을 위한 예방조치
    · 작업장에서 화학품이 용해되고/쓰기제거가 잘되게 주의한다.
    · 연무질이 형성되는 것을 피한다.
  · 화재 및 폭발 사고 예방대책에 관한 정보
    · 발화 요소는 멀리 떨어지게 함.
    · 밀균로부터 보호한다.
제품명: M-BOND 610 ADHESIVE

정전 기의 충전 으로부터 보호한다.

혼합위험성 등 안전 저장 조건

보관:
- 안전한 저장 방법: 차가운 장소 에 보관한다.
- 하나의 공동 보관 시설에 대한 보관 관련 정보: 필요없음
- 보관 조건에 관한 추가적인 정보: 웅기를 세지 않게 밀폐한 채 보관한다.
- 밀폐된 용기 속에 서늘하고 건조하게 보관한다.
- 열이나다방광선으로부터 보호한다.
- 구체적 최종 사용자 추가적인 정보가 존재하지 않습니다.

8 노출방지 및 개인보호구

- 첨단시설 디자인에 대한 추가정보: 더 이상의 자료는 없음. 항목 7를 참고하시오.
- 통제 변수

화학물질의 노출기준, 생물학적 노출기준 등:

<table>
<thead>
<tr>
<th>109-99-9 tetrahydrofuran</th>
</tr>
</thead>
<tbody>
<tr>
<td>TLV (KR)</td>
</tr>
<tr>
<td>단기간의값: 100 ppm</td>
</tr>
<tr>
<td>장기간의값: 50 ppm</td>
</tr>
<tr>
<td>발암성 2. Skin</td>
</tr>
<tr>
<td>IOELV (EU)</td>
</tr>
<tr>
<td>단기간의값: 300 mg/m³, 100 ppm</td>
</tr>
<tr>
<td>장기간의값: 150 mg/m³, 50 ppm</td>
</tr>
<tr>
<td>Skin</td>
</tr>
<tr>
<td>PEL (US)</td>
</tr>
<tr>
<td>장기간의값: 590 mg/m³, 200 ppm</td>
</tr>
<tr>
<td>REL (US)</td>
</tr>
<tr>
<td>단기간의값: 735 mg/m³, 250 ppm</td>
</tr>
<tr>
<td>장기간의값: 590 mg/m³, 200 ppm</td>
</tr>
<tr>
<td>TLV (US)</td>
</tr>
<tr>
<td>단기간의값: 295 mg/m³, 100 ppm</td>
</tr>
<tr>
<td>장기간의값: 147 mg/m³, 50 ppm</td>
</tr>
<tr>
<td>Skin</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>78-93-3 메틸 에틸 케톤</th>
</tr>
</thead>
<tbody>
<tr>
<td>TLV (KR)</td>
</tr>
<tr>
<td>단기간의값: 300 ppm</td>
</tr>
<tr>
<td>장기간의값: 200 ppm</td>
</tr>
<tr>
<td>IOELV (EU)</td>
</tr>
<tr>
<td>단기간의값: 900 mg/m³, 300 ppm</td>
</tr>
<tr>
<td>장기간의값: 600 mg/m³, 200 ppm</td>
</tr>
<tr>
<td>PEL (US)</td>
</tr>
<tr>
<td>장기간의값: 590 mg/m³, 200 ppm</td>
</tr>
<tr>
<td>REL (US)</td>
</tr>
<tr>
<td>단기간의값: 885 mg/m³, 300 ppm</td>
</tr>
<tr>
<td>장기간의값: 590 mg/m³, 200 ppm</td>
</tr>
<tr>
<td>TLV (US)</td>
</tr>
<tr>
<td>단기간의값: 885 mg/m³, 300 ppm</td>
</tr>
<tr>
<td>장기간의값: 590 mg/m³, 200 ppm</td>
</tr>
<tr>
<td>BEI</td>
</tr>
</tbody>
</table>

추가 정보: 제조일 당시에 유효한 목록을 기초로 사용했다.

노출 통제
개인 보호구

일반적보호조치 및 위생조치:
식료품, 음료 수와 사료로부터 멀리 떨어뜨려놓는다.
제품명: M-BOND 610 ADHESIVE

더러워지거나 온도가 뜨겁고 옷을 즉시 탈의한다.
흡식이 되어 작업이 끝날때마다 손을 씻는다.
눈과 피부와의 접촉은 피한다.

호흡기 보호:
단시간 또는 경미한 오염의 경우에는 호흡 보호기를 사용한다. 심각한 또는 장기간 노출 시에는 호흡보호장비를 사용한다.

손 보호:

보호용 장갑
장갑제작은 제품/원료/조제물도 투과시약시적이어야 한다.
테스트를 하지 않아도 제품/조제/화학 혼합 물에 적합한 장갑제작에 대한 추천이 없다.

물과 시각, 절투올과 저해를 고려해서 장갑 재료를 선택한다.
장갑의재료
직접적장갑의선정은재질차이뿐아니라품질차이도 고려하여 이루어져야 하고 제조업종에 따라 서로 다르게 선정되어야 한다. 제품은 다양한재료로부터의조제로 이루어지는 것이기 때문에, 장갑제작의안정성은사전에예측될수있는것이아니고, 반드시사용전에 (그안전성)체크되어야한다.

장갑재료의투과시간 정확한관통시간은보호장갑제조자에의하여인지되고, 준수되어야한다.

눈 보호:

.setAdapter

9 물리화학적 특성

· 기본 물리 및 화학적 특성에 대한 정보
· 일반정보
· 외형
  · 물리적 상태: 액체
  · 색: 색소가 없는
· 냄새: 에테르중류의
· 후각적 치: 알맞지 않다.
· pH: 알맞지 않다.
· 상태변환
  · 녹는점/어는점: 맞지 않는
  · 초기 녹는점과 끓는점 범위: 66 °C
· 인화점: -14 °C
· 인화성(고체, 기체): 해당사항 없음.
· 점화온도: 320 °C
· 분해 온도: 알맞지 않다.
제품명: M-BOND 610 ADHESIVE

---

### 5.

- **자기점화:** 이제품은 자연발화성이 없다.
- **폭발 위험:** 이제품은 폭발위험성이 없지만, 폭발가능성이 있는 증기화합물/공기화합물의 형성가능성이 있다.

#### 인화 또는 폭발 범위의 상한/하한
- **아래로:** 1.5 Vol %
- **위로:** 12 Vol %

#### 중기압의 경우
- **20 °C:** 200 hPa

#### 밀도의 경우
- **20 °C:** 2.4 g/cm³

- **밀도의 경우:** 알맞지 않다.
- **증기밀도의 경우:** 알맞지 않다.
- **증발 속도의 경우:** 알맞지 않다.
- **용해도의 경우:** 알맞지 않다.
- **용매내용물의 경우:** 알맞지 않다.
- **기타 정보의 경우:** 추가적인 정보가 존재하지 않습니다.

---

### 10 안정성 및 반응성

- **반응성 추가적인 정보가 존재하지 않습니다.**
- **화학적 안정성**
- **화학적 안정성 및 유해 반응의 가능성/피해가 있을 조건:** 규정에따라 사용할 경우 해체는 없다
- **유해반응 가능성 비합법반응으로는 알려지지 않았다.**
- **피해가 있을 조건 추가적인 정보가 존재하지 않습니다.**
- **혼합 급성 물질: 추가적인 정보가 존재하지 않습니다.**
- **유해분해물질: 위험성있는 분해물들은 알려지지 않았다.**

---

### 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)
- **일차적 자극 효과:** 무자극
- **피부 부식성 또는 자극성:** 무자극

(7쪽부터계속)
제품명: M-BOND 610 ADHESIVE

(6쪽부터계속)

- 심한 눈 손상 또는 자극성: 자극
- 감각화: 민감
- 자극적인 자극성
- 자극적 감각화
- 민감한 영향이 없다고 알려져 있다.
- 추가적인 특성에 관한 정보:
  - 이제품은 유럽 공동체의 공동분류의합법적인 절차에 근거하여 최근에 발효된 원고에서 아래의 위험들 의사안전관리에 대하여 제시하고 있다.
  - 건강영양관리
  - 자극적인
  - 다음과 같은 영향에 대한 정보:
  - 자극적 영향에 대한 정보
  - CMR-효과 (암유발, 돌연변이성 그리고 생식독성):
    - 발암성
    - 토양내 이동성
    - 수생독성
    - 환경에 미치는 영향
    - 독성
    - 지속성 및 분해성
    - 환경시스템에서의 행동:
    - 생물농축성
    - 반응성
    - 생물농축성
    - 토양내 이동성:
    - 추가적인 생태학 정보:
    - 일반 개정:
      - 수질오염등급 1 (자체등급분류): 약하게수질오염이된
      - 생물농축성
      - 독성
      - 수질오염등급
      - PBT(유해, 생물농축성, 독성 물질): 해당사항 없음.
      - vPvB(고 생물농축성 물질): 해당사항 없음.
      - 기타 부작용: 추가적인 정보가 존재하지 않습니다.

12 환경에 미치는 영향

- 독성
- 수생독성: 추가적인 정보가 존재하지 않습니다.
- 지속성 및 분해성: 추가적인 정보가 존재하지 않습니다.
- 환경시스템에서의 행동:
- 생물농축성: 추가적인 정보가 존재하지 않습니다.
- 토양내 이동성: 추가적인 정보가 존재하지 않습니다.
- 추가적인 생태학 정보:
- 일반 특성:
  - 수질오염등급 1 (자체등급분류): 약하게수질오염이된
  - 환경시스템에서의 행동:
  - 생물농축성: 추가적인 정보가 존재하지 않습니다.
  - 토양내 이동성: 추가적인 정보가 존재하지 않습니다.
  - 추가적인 생태학 정보:
  - 일반 특성:

13 폐기시 주의사항

- 폐기물 처리 방법:
  - 권고: 생활쓰레기와 함께 처리되어서는 안된다. 하수도망으로 유입되어서는 안된다.
- 비위생적 포장:
  - 권고: 당국의지침에일반위생적처리.

14 운송에 필요한 정보

- 유엔번호: UN1133
- UN 적정 선적명
- ADR
- IMDG, IATA
- ADHESIVES
- UN1133 ADHESIVES
제품명: M-BOND 610 ADHESIVE

교통 위험 클래스
- ADR, IMDG, IATA

등급
- 위험물 라벨: 3 발화성용액
- 용기등급: ADR, IMDG, IATA II

환경적 유해물질: 해당사항 없음.

이용자 특별 예방조치
- 위험 코드: 경고: 발화성용액 33
- EMS-번호: F-E,S-D
- Stowage Category: B

MARPOL73/78(선박으로부터의 해양오염방지협약) 부속서2 및 IBC Code(국제선적화물코드)에 따른 벌크(bulk) 운송
해당사항 없음.

운송/추가 정보:
- ADR
  - 한정 수량 (LQ): 5L
  - 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 "모범 규제": UN 1133 ADHESIVES, 3, II

15 법적 규제현황

산업안전보건법에 의한 규제:

제조 등 금지물질:
- 어떠한내용물도목록화되어있지않다

허가대상물질:
- 어떠한내용물도목록화되어있지않다

관리대상유해물질:
- 109-99-9 tetrahydrofuran
제품명: M-BOND 610 ADHESIVE

<table>
<thead>
<tr>
<th>원자식</th>
<th>유해인자</th>
<th>GHS 코드</th>
</tr>
</thead>
<tbody>
<tr>
<td>78-93-3</td>
<td>메틸 에틸 케톤</td>
<td></td>
</tr>
<tr>
<td>109-99-9</td>
<td>tetrahydrofuran</td>
<td>1A95</td>
</tr>
<tr>
<td>78-93-3</td>
<td>메틸 에틸 케톤</td>
<td>1A29</td>
</tr>
<tr>
<td>109-99-9</td>
<td>tetrahydrofuran</td>
<td>1A87</td>
</tr>
<tr>
<td>78-93-3</td>
<td>메틸 에틸 케톤</td>
<td>1A32</td>
</tr>
</tbody>
</table>

- 위험물안전관리법
  - 위험물 안전관리법 (위험물 및 지정수량) 제 4: 200 리터

- 화학물질관리법
  - 사고대비물질
  - 금지물질
  - 제한물질

- 위험물안전관리법
  - 통제 또는 신고 면제대상 화학물질

- 화학물질관리법의 지정
  - 표 1: 화학물질관리법(제 4 조 관련)
  - 표 2: 화학물질관리법(제 4 조 관련)

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

제품명: M-BOND 610 ADHESIVE

그림문자

GHS02  GHS07  GHS08

신호어 위험

상표상의명확히위험성이표시된성분
tetrahydrofuran

유해위험문구
고인화성 액체 및 증기
눈에 심한 자극을 일으킴
알을 입으킬 것으로 의심됨
호흡 자극성을 일으킬 수 있음

예방조치 문구
열·스파크·화염·고열로부터 멀리하시오. 금연
폭발 방지용 전기·조명·장비를 사용하시오.
피부(또는 머리카락)에 묻으면 오염된 모든 의복은 벗거나 제거하시오.
화학물질 안전성 평가: 화학물질 안전성 평가가 수행되지 않음

16 그 밖의 참고사항
이보고는 우리지식에대한오늘날의상태에대하여평가하고있다. 하지만이보고서는생산특성에관한보
종은기술하지않았으며계약적인법률관계에기반을두고있지도않다

최초 작성일자: 2020.08.03
개정 횟수 및 최종 개정일자: 1 / 2020.08.03

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
1 Pengenalan bahan kimia berbahaya dan pembekal

- Pengenal pasti produk
  - Nama dagang: M-BOND 610 ADHESIVE
  - Nombor artikel: 50410-30A
  - Kegunaan yang disarankan bagi bahan dan sekatan penggunaan: Tiadak maklumat lanjut yang diperoleh.
  - Penggunaan bahan/sediaan: Bahan kimia makmal

- Perincian pembekal risalah data keselamatan
  - Pengilang/Pembekal: Electron Microscopy Sciences
    1560 Industry Road
    USA-Hatfield, PA 19440
    Tel: 215-412-8400  Fax: 215-412-8450
    email: sgkeck@aol.com
    www.emsdiasum.com

  - Maklumat lanjut dapat diperoleh daripada: Product safety department

  - Nombor telefon kecemasan: ChemTrec 1-800-424-9300 Contract CCN7661
    1-703-527-3887

2 Pengenalan bahaya

- Pengelasan bahan atau campuran
  - Nyalaan
    Cec. M. Bkr 2  H225  Cecair dan wap amat mudah terbakar.

  - Bahaya kesihtatan
    Kars. 2  H351  Disyaki menyebabkan kanser.

  - Kreng. Mata 2 H319  Menyebabkan kerengsaan mata yang serius.
  - STOT SE 3  H335  Boleh menyebabkan kerengsaan pernafasan.

- Melabelkan unsur
  - Unsur label GHS: Produk ini dikelaskan dan dilabelkan menurut Sistem Terharmoni Global (GHS).
  - Piktogram bahaya
    GHS02  GHS07  GHS08

  - Kata isyarat: Bahaya

(Bersambung ke halaman 2)
Nama dagang: M-BOND 610 ADHESIVE

- Komponen pelabelan yang menentukan bahaya:
  - tetrahidrofuran

- Pernyataan Bahaya
  - Cecair dan wap amat mudah terbakar.
  - Menyebabkan kerengsaan mata yang serius.
  - Disyakih menyebabkan kanser.
  - Boleh menyebabkan kerengsaan pernafasan.

- Pernyataan Berjaga-jaga
  - Jauhkan daripada haba/percikan api/nyalaan terbuka/permukaan panas – Dilarang merokok.
  - Gunakan kelengkapan elektrik/pengalihudaraan/pencahayaan yang tahan letupan.
  - JIKA TERKENA MATA: Bilas berhati-hati dengan air selama beberapa minit. Tergantung keadaan lampau, jika ada dan dapat dilakukan dengan mudah. Teruskan membilas.
  - Simpan di tempat berkunci.
  - Lupuskan kandungan/bekas menurut peraturan tempatan/wilayah/kebangsaan/antarabangsa.

- Bahaya lain
  - Keputusan penilaian PBT dan vPvB
    - PBT: Tidak berkenaan
    - vPvB: Tidak berkenaan

3 Komposisi dan maklumat mengenai ramuan bahan kimia berbahaya

- Ciri kimia: Campuran
- Keterangan: Campuran bahan disenaraikan di bawah bersama dengan bahan tambah tidak berbahaya.

- Komponen berbahaya :

<table>
<thead>
<tr>
<th>Komponen</th>
<th>No. Bahan</th>
<th>Bobot dalam %</th>
</tr>
</thead>
<tbody>
<tr>
<td>tetrahidrofuran</td>
<td>109-99-9</td>
<td>&gt;50% ≤100%</td>
</tr>
<tr>
<td>butanon</td>
<td>78-93-3</td>
<td>&gt;2.5% ≤10%</td>
</tr>
</tbody>
</table>

4 Langkah-langkah pertolongan cemas

- Keterangan langkah pertolongan cemas

- Maklumat am:
  - Gejala keracunan boleh berlaku selepas beberapa jam, maka rawatan perubatan hendaklah diberikan sekuang-kurangnya 48 jam selepas kemaangan.
  - Jika tersedut: Berikan udara bersih, hubungi doktor jika terdapat aduan.
  - Jika terkena kulit: Biasanya produk tidak merengsakan kulit.
  - Jika terkena mata: Bilas mata sambil membukanya di bawah air yang mengalir selama beberapa minit. Jika gejala berterusan, hubungi doktor.
  - Jika tertelan: Segera hubungi doctor.
  - Maklumat untuk doktor:

Gejala dan kesan paling penting, akut dan lewat Tiadak maklumat lanjut yang diperoleh.
Nama dagang: M-BOND 610 ADHESIVE

Arahan bagi apa-apa rawatan perubatan dan rawatan khas yang diperlukan
Tiadak maklumat lanjut yang diperoleh.

8 Langkah-langkah pemadaman kebakaran

· Bahan pemadam api
· Agen pemadam yang sesuai: CO2, pasir, serbuk pemadam kebakaran. Jangan gunakan air.
· Agen pemadam yang tidak sesuai untuk tujuan keselamatan: Air dalam pancutan penuh
· Bahaya khusus yang timbul daripada bahan atau campuran Tiadak maklumat lanjut yang diperoleh.
· Panduan kepada pemadam kebakaran
· Kelengkapan perlindungan: Tiada langkah khusus diperlukan.

9 Langkah-langkah pelepasan tidak sengaja

· Langkah perlindungan diri, kelengkapan pelindung dan prosedur kecemasan
Pakai kelengkapan perlindungan. Jauhkan mereka yang tidak dilindung dari kawasan tercemar.
· Langkah perlindungan alam sekitar:
Jangan biarkan memasuki pembentung/air permukaan atau tanah.
· Kaedah dan bahan untuk pembendungan dan pembersihan:
Serap dengan bahan cecair pengikat (pasir, diatomit, pengikat asid, pengikat semesta, habuk papan)
Lupuskan bahan tercemar sebagai sisa mengikut perkara 13.
Pastikan pengalihudaraan mencukupi.
Jangan jirus dengan air atau agen pencuci akues.
· Rujukan ke bahagian lain
Lihat Bahagian 7 untuk maklumat pengendalian yang selamat.
Lihat Bahagian 8 untuk maklumat kelengkapan perlindungan diri.
Lihat Bahagian 13 untuk maklumat pelupusan.

10 Pengendalian dan penyimpanan

· Pengendalian:
· Langkah perlindungan untuk pengendalian selamat
Pastikan pengalihudaraan/ekzos yang mencukupi di tempat kerja.
Elakkan pembentukan aerosol.
· Maklumat kebakaran dan perlindungan daripada letupan:
Jauhkan dari punca pencucuhan - Dilarang merokok.
Lindungi daripada haba.
Lindungi daripada cas-cas elektrostatik.
· Keadaan untuk penyimpanan selamat, termasuk apa-apa ketakserasian
· Penyimpanan:
· Keperluan yang mesti dipenuhi oleh bilik stor dan ruang simpanan. Simpan di tempat sejuk.
· Maklumat penyimpanan di dalam satu tempat penyimpanan yang biasa: Tidak diperlukan.
· Maklumat lanjut tentang syarat penyimpanan:
Pastikan bekas sentiasa bertutup rapat.
Simpan di tempat yang sejuk dan kering di dalam bekas bertutup rapat.
Lindungi daripada haba dan pancaran terus cahaya matahari.
Nama dagang: M-BOND 610 ADHESIVE

- Kegunaan akhir yang khusus: Tiadak maklumat lanjut yang diperoleh.

8 Kawalan pendedahan dan perlindungan diri

- Maklumat tambahan tentang reka bentuk kemudahan teknikal: Tiadak maklumat lanjut, lihat perkara 7.
- Parameter kawalan
- Ramuan dengan nilai had yang memerlukan pemantauan di tempat kerja:
  - 109-99-9 tetrahidrofuran
    - PEL Nilai jangka panjang: 590 mg/m³, 200 ppm

- Kawalan pendedahan
- Kelengkapan perlindungan diri:
- Langkah perlindungan dan kebersihan am:
  - Jauhkan daripada makanan, minuman dan makanan haiwan.
  - Segera tanggalkan semua pakaian yang tercemar dan kotor.
  - Basuh tangan sebelum berhenti rehat dan apabila kerja selesai.
  - Elakkan daripada terkena mata.
  - Elakkan daripada terkena mata dan kulit.
- Perlindungan pernafasan:
  - Jika berlaku pendedahan sekejap atau sedikit pencemaran, gunakan alat penapis pernafasan. Jika berlaku pendedahan yang intensif atau berpanjangan, gunakan alat pernafasan perlindungan serba lengkap.
- Perlindungan tangan:
  - Sarung tangan pelindung.
  - Bahan sarung tangan hendaklah telus dan kalis terhadap produk/bahan/sediaan.
  - Oleh sebab tiada ujian yang dijalankan, maka tiada syor bagi bahan sarung tangan yang boleh diberikan untuk produk/sediaan/campuran kimia.
  - Pemilihan bahan sarung tangan berdasarkan waktu penembusan, kadar pembauran dan degradasi.
  - Bahan sarung tangan
    - Pemilihan sarung tangan yang sesuai bukan hanya bergantung pada bahannya, tetapi juga tanda kualiti lainnya serta perbezaaninya daripada satu pengeluar dengan pengeluar yang lain. Memandangkan produk merupakan suatu sediaan daripada beberapa bahan, ketahanan bahan sarung tangan tidak boleh dipastikan terlebih dahulu, oleh itu sarung tangan hendaklah diperiksa sebelum digunakan.
  - Jangka masa penyerapan bahan sarung tangan
    - Waktu kemunculan yang tepat hendaklah diperoleh pengeluar sarung tangan pelindung dan hendaklah dipatuhi.
- Perlindungan mata:
  - Gogal bertutup rapat
Nama dagang: M-BOND 610 ADHESIVE

9 Sifat fizikal dan kimia

· Maklumat tentang ciri fizik dan kimia
  · Maklumat Am
  · Rupa:
    Bentuk: Cecair
    Warna: Tidak berwarna
  · Bau:
    Seperti eter
  · Ambang bau
    Tidak ditentukan.
  · Nilai pH:
    Tidak ditentukan.
  · Perubahan pada keadaan
    Takat lebur/takat beku:
    Tidak ditentukan.
    Takat didih awal dan julat didih
    66 °C
  · Takat kilat:
    -14 °C
  · Kemudahbakaran (pepejal, gas):
    Tidak berkenaan
  · Suhu pencucuhan:
    320 °C
  · Suhu penguraian:
    Tidak ditentukan.
  · Suhu pengautocucuhan
    Produk tidak tercucuh sendiri
  · Bahaya letupan:
    Produk tidak mudah meletup. Walau bagaimanapun, pembentukan campuran udara/wap mungkin berlaku.
  · Had letupan:
    Bawah: 1.5 Vol %
    Atas: 12 Vol %
  · Tekanan wap pada 20 °C:
    200 hPa
  · Ketumpatan pada 20 °C:
    2.4 g/cm³
  · Ketumpatan bandingan
    Tidak ditentukan.
  · Ketumpatan wap
    Tidak ditentukan.
  · Kadar penyedahan
    Tidak ditentukan.
  · Keterlarutan dalam / Keterlarutcampuran dengan
    Air:
    Tidak terlarut campur atau sukar bercampur.
  · Pekali sekatan: n-oktanol/air
    Tidak ditentukan.
  · Kelikatan:
    Dinamik:
    Tidak ditentukan.
    Kinematik:
    Tidak ditentukan.
  · Kandungan pelarut:
    Pelarut organik:
    70.1 %
  · Kandungan pepejal:
    0.0 %
  · Maklumat lain
    Tiadak maklumat lanjut yang diperoleh.

10 Kestabilan dan kereaktifan

· Kereaktifan
    Tiadak maklumat lanjut yang diperoleh.
Nama dagang: M-BOND 610 ADHESIVE

- Kestabilan kimia
  - Penguraian terma/keadaan yang perlu dielakukan: Tiada penguraian jika digunakan mengikut spesifikasi.
  - Kemungkinan tindak balas berbahaya: Tiada tindak balas berbahaya yang diketahui.
  - Keadaan yang perlu dielakukan: Tiadak maklumat lanjut yang diperoleh.
  - Bahan tidak serasi: Tiadak maklumat lanjut yang diperoleh.
  - Produk penguraian yang berbahaya: Tiada produk penguraian berbahaya yang diketahui.

11 Maklumat toksikologi

- Maklumat tentang kesan toksikologi
- Ketoksikan akut:
  - Nilai LD/LC50 yang berkaitan untuk pengelasan:
    | 109-99-9 tetrahidrofuran |
    | Oral  | LD50 | 2,500 mg/kg (rat) |
- Kesaran kerengsaan primer:
  - Kakisan atau kerengsaan kulit: Tiada kesan merengsa.
  - Kerosakan atau kerengsaan mata yang serius: Keseruan merengsa.
  - Pemekaaan pernafasan / kulit: Tiada kesan pemekaaan yang diketahui.
- Maklumat tambahan toksikologi:
  Produk menunjukkan bahaya berikut mengikut kaedah pengiraan Garis Panduan Pengelasan Am EU bagi Sediaan seperti yang dikeluarkan dalam versi terbaru:
    Memudarakan
    Perengsa
  - Maklumat bagi kumpulan berikut tentang kesan yang mungkin timbul:
    - Kesaran CMR (karsinogen, mutagen dan gangguan kesuburan)
      Kars. 2

12 Maklumat ekologi

- Ketoksikan
- Ketoksikan akuatik: Tiadak maklumat lanjut yang diperoleh.
- Keterusan dan keterdegradasikan: Tiadak maklumat lanjut yang diperoleh.
- Kelakuan dalam sistem alam sekitar:
  - Potensi bioakumulatif: Tiadak maklumat lanjut yang diperoleh.
  - Mobiliti di dalam tanah: Tiadak maklumat lanjut yang diperoleh.
- Maklumat tambahan ekologi:
- Nota am:
  Bahaya air kelas 1 (Peraturan Jerman) (Penilaian kendiri): sedikit berbahaya kepada air
  Jangan biarkan produk yang tidak dicairkan atau dalam kuantiti yang banyak memasuki air tanah, saluran
  air atau sistem pembetungan.
- Keputusan penilaian PBT dan vPvB
  - PBT: Tidak berkenaan
  - vPvB: Tidak berkenaan
  - Kesaran buruk yang lain: Tiadak maklumat lanjut yang diperoleh.
### 13 Maklumat pelupusan

- **Kaedah rawatan sisa**
  - **Syor:**
    Tidak boleh dilupuskan bersama dengan sampah isi rumah. Jangan biarkan produk memasuki sistem pembentungan.

- **Pembungkusan yang tidak bersih:**
  - **Syor:** Pelupusan mestilah dijalankan menurut peraturan peraturan rasmi

### 14 Maklumat pengangkutan

| · Nombor UN | UN1133 |
| · Nama penghantaran UN yang betul | 1133 ADHESIVES |
| · ADR, IMDG, IATA | ADHESIVES |
| · Kumpulan pembungkusan | II |
| · ADR, IMDG, IATA | |
| · Hazard persekitaran: | Tidak berkenaan |
| · Langkah perlindungan khas untuk pengguna | Amaran: Cecair mudah terbakar. |
| · Kod bahaya (Kemler): | 33 |
| · Nombor EMS: | F-E,S-D |
| · Stowage Category | B |
| · Pengangkutan dalam pukal menurut Lampiran II MARPOL73/78 dan Kod IBC | Tidak berkenaan |

| · Pengangkutan/Maklumat Tambahan: |
| · ADR | Code: E2 |
| · Excepted quantities (EQ) | Maximum net quantity per inner packaging: 30 ml |
| | Maximum net quantity per outer packaging: 500 ml |
| · IMDG | 1L |
| · Limited quantities (LQ) | |

(Bersambung ke halaman 8)
Nama dagang: M-BOND 610 ADHESIVE

(Sambungan halaman 7)

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

- "**Peraturan Model**" UN:
  - UN 1133 ADHESIVES, 3, II

15 **Maklumat pengawalseliaan**

- Peraturan/undang-undang keselamatan, kesehatan dan persekitaran khusus untuk bahan atau campuran tersebut

<table>
<thead>
<tr>
<th>Senarai Rujukan Bahan Berbahaya Alam Sekitar</th>
</tr>
</thead>
<tbody>
<tr>
<td>109-99-9 tetrahidrofuran</td>
</tr>
<tr>
<td>78-93-3 butanon</td>
</tr>
</tbody>
</table>

- **Unsur label GHS** Produk ini dikelaskan dan dilabelkan menurut Sistem Terharmoni Global (GHS).

- **Piktogram hazard**
  - GHS02
  - GHS07
  - GHS08

- **Perkataan isyarat** Bahaya

- **Komponen pelabelan yang menentukan bahaya:**
  - tetrahidrofuran

- **Pernyataan hazard**
  - Cecair dan wap amat mudah terbakar.
  - Menyebabkan kerengsaan mata yang serius.
  - Disyaki menyebabkan kancer.
  - Boleh menyebabkan kerengsaan pernafasan.

- **Pernyataan langkah perlindungan**
  - Jauhkan daripada haba/percikan api/nyalaan terbuka/permukaan panas – Dilarang merokok.
  - Gunakan kelengkapan elektrik/pengalihudaraan/pencahayaan yang tahan letupan.
  - JIKA TERKENA MATA: Bilas berhati-hati dengan air selama beberapa minit. Tunggalkan kanta lekap, jika ada dan dapat dilakukan dengan mudah. Teruskan membilas.
  - Simpan di tempat berkunci.
  - Lupuskan kandungan/bekas menurut peraturan tempatan/wilayah/kebangsaan/antarabangsa.

- **Penilaian keselamatan bahan kimia:** Penilaian Keselamatan Bahan Kimia belum dilakukan.

16 **Maklumat lain**

Maklumat ini berdasarkan maklumat kami yang terkini. Walau bagaimanapun, ini tidak akan menjadi jaminan bagi apa-apa ciri produk yang khusus dan tidak akan mewujudkan hubungan kontraktual yang sah dari segi undang-undang.

- **Singkatan dan akronim:**
  - ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
<table>
<thead>
<tr>
<th>Nama dagang: M-BOND 610 ADHESIVE</th>
</tr>
</thead>
</table>

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: Persistent, Bioaccumulative and Toxic  
vPvB: very Persistent and very Bioaccumulative  
Cec. M. Bkr 2: Cecair mudah terbakar – Kategori 2  
Kreng. Mata 2: Kerosakan mata atau kerengsaan mata yang serius – Kategori 2  
Kars. 2: Kekarsinogenan – Kategori 2  
STOT SE 3: Ketoksikan organ sasaran khusus (pendedahan tunggal) – Kategori 3
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.

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

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.

  GHS07

  Eye Irrit. 2 H319 Provoca irritação ocular grave.
  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)
Nome comercial: M-BOND 610 ADHESIVE

Pictogramas de perigo

- Palavra-sinal Perigo
- Componentes determinantes para os perigos constantes do rótulo: tetrahidrofurano
- Advertências de perigo
  H225 Líquido e vapor facilmente inflamáveis.
  H319 Provoca irritação ocular grave.
  H351 Suspeito de provocar cancro.
  H335 Pode provocar irritação das vias respiratórias.
- Recomendações de prudência
  P210 Manter afastado do calor, superfícies quentes, faíscas, chamas abertas e outras fontes de ignição. Não fumar.
  P241 Utilizar equipamento [elétrico/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 [ou tomar um duche].
  P405 Armazenar em local fechado à chave.
  P501 Eliminar o conteúdo/recipiente de acordo com a legislação local/regional/nacional/internacional.

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

SECÇÃO 3: Composição/informação sobre os componentes

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

<table>
<thead>
<tr>
<th>CAS</th>
<th>EINECS</th>
<th>Substância</th>
<th>Flam. Liq.</th>
<th>Carc.</th>
<th>Eye Irrit.</th>
<th>STOT SE</th>
<th>STOT SE</th>
</tr>
</thead>
<tbody>
<tr>
<td>109-99-9</td>
<td>203-726-8</td>
<td>tetrahidrofurano</td>
<td>H225;</td>
<td></td>
<td>3 + 1</td>
<td>3</td>
<td>&gt;50- ≤100%</td>
</tr>
<tr>
<td>78-93-3</td>
<td>201-159-0</td>
<td>butanona</td>
<td>H225; Eye Irrit.</td>
<td>3</td>
<td>19; 3</td>
<td>3</td>
<td>&gt;2,5- ≤10%</td>
</tr>
</tbody>
</table>

- Avisos adicionais: O texto das indicações de perigo aqui incluído poderá ser consultado no capítulo 16.
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: Entrada de ar fresco; em caso de queixas consultar o médico.
· Em caso de contacto com a pele: Em geral o produto não é irritante para a pele.
· Em caso de contacto com os olhos: Enxaguar os olhos durante alguns minutos sob água corrente, mantendo as pálpebras abertas. Em caso de persistência dos sintomas, consultar o médico.
· Em caso de inalação: 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 acidentais

· 6.1 Precauções individuais, equipamento de proteção e procedimentos de emergência
  Usar equipamento de protecção. Manter as pessoas desprotegidas afastadas.
· 6.2 Precauções a nível ambiental:
  Evitar que penetre na canalização / águas superficiais / águas subterrâneas.
· 6.3 Métodos e materiais de confinamento e limpeza:
  Recolher com produtos que absorvam líquidos (areia, seixos, absorventes universais, serradura ).
  Eliminar residualmente as substâncias contaminadas como um resíduo segundo o Ponto 13.
  Assegurar uma ventilação adequada.
  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.
  Evitar a formação de aerossóis.
Nome comercial: M-BOND 610 ADHESIVE

· 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/Proteção 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 tetrahidrofurano
  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 com valores-limite biológicos:

  109-99-9 tetrahidrofurano
  IBE 2 mg/L
  Amostra: urina
  Momento da amostragem: Fim do turno
  Indicador biológico: Tetrahidrofurano

  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 proteção individual:

· Medidas gerais de protecção e higiene:
  Manter afastado de alimentos, bebidas e forragens.
  Despir imediatamente a roupa contaminada e embebeda.
  Lavar as mãos antes das pausas e no fim do trabalho.

( continuação da página 5 )
Nome comercial: M-BOND 610 ADHESIVE

Evitar o contacto com os olhos.
Evitar o contacto com os olhos e com a pele.

**Proteção 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.

**Proteção das mãos:**
Luvas de proteção

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, consequentemente, 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**

<table>
<thead>
<tr>
<th>Propriedade</th>
<th>Valor</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Aspeto</strong></td>
<td>Líquido</td>
</tr>
<tr>
<td><strong>Forma</strong></td>
<td>Incolor</td>
</tr>
<tr>
<td><strong>Cor</strong></td>
<td>tipo éter</td>
</tr>
<tr>
<td><strong>Odor</strong></td>
<td>Não determinado.</td>
</tr>
<tr>
<td><strong>Limiar olfactivo</strong></td>
<td>Não determinado.</td>
</tr>
<tr>
<td><strong>valor pH</strong></td>
<td>Não determinado.</td>
</tr>
</tbody>
</table>

**Mudança do estado:**
- **Ponto de fusão/ponto de congelação:** Não determinado.
- **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 determinado.
Nome comercial: M-BOND 610 ADHESIVE

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

- **Propriedades explosivas:** O produto não é explosivo. Contudo, é possível a formação de misturas explosivas ar/vapor.

- **Limites de explosão:**
  - Inferior: 1,5 Vol %
  - Superior: 12 Vol %

- **Pressão de vapor em 20 °C:** 200 hPa

- **Densidade em 20 °C:** 2,4 g/cm³
  - Densidade relativa: Não determinado.
  - Densidade de vapor: Não determinado.
  - Taxa de evaporação: Não determinado.

- **Solubilidade em / miscibilidade com água:** Pouco misturável.

- **Coeficiente de partição: n-octanol/água:** Não determinado.

- **Viscosidade:**
  - Dinâmico: Não determinado.
  - Cinemático: Não determinado.

- **Percentagem de solvente:**
  - Solventes orgânicos: 70,1 %
  - VOC (UE): 70,09 %

- **Percentagem de substâncias sólidas:** 0,0 %

**SECÇÃO 10: Estabilidade e reatividade**

- **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 reações 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:** Com base nos dados disponíveis, os critérios de classificação não são preenchidos.

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

<table>
<thead>
<tr>
<th>109-99-9 tetrahidrofurano</th>
</tr>
</thead>
<tbody>
<tr>
<td>por via oral</td>
</tr>
<tr>
<td>LD50 2.500 mg/kg (rat)</td>
</tr>
</tbody>
</table>
Ficha de dados de segurança  
em conformidade com 1907/2006/CE, Artigo 31°  
data da impressão 03.08.2020  
Revisão: 03.08.2020  

Nome comercial: M-BOND 610 ADHESIVE

<table>
<thead>
<tr>
<th><strong>Efeito de irritabilidade primário:</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Corrosão/irritação cutânea</strong></td>
</tr>
<tr>
<td>Com base nos dados disponíveis, os critérios de classificação não são preenchidos.</td>
</tr>
<tr>
<td><strong>Lesões oculares graves/irritação ocular</strong></td>
</tr>
<tr>
<td>Provoca irritação ocular grave.</td>
</tr>
<tr>
<td><strong>Sensibilização respiratória ou cutânea</strong></td>
</tr>
<tr>
<td>Com base nos dados disponíveis, os critérios de classificação não são preenchidos.</td>
</tr>
<tr>
<td><strong>Efeitos CMR (carcinogenicidade, mutagenicidade e efeitos tóxicos na reprodução)</strong></td>
</tr>
<tr>
<td><strong>Mutagenicidade em células germinativas</strong></td>
</tr>
<tr>
<td>Com base nos dados disponíveis, os critérios de classificação não são preenchidos.</td>
</tr>
<tr>
<td><strong>Carcinogenicidade</strong></td>
</tr>
<tr>
<td>Suspeito de provocar cancro.</td>
</tr>
<tr>
<td><strong>Toxicidade reprodutiva</strong></td>
</tr>
<tr>
<td>Com base nos dados disponíveis, os critérios de classificação não são preenchidos.</td>
</tr>
<tr>
<td><strong>Toxicidade para órgãos-alvo específicos (STOT) - exposição única</strong></td>
</tr>
<tr>
<td>Pode provocar irritação das vias respiratórias.</td>
</tr>
<tr>
<td><strong>Toxicidade para órgãos-alvo específicos (STOT) - exposição repetida</strong></td>
</tr>
<tr>
<td>Com base nos dados disponíveis, os critérios de classificação não são preenchidos.</td>
</tr>
<tr>
<td><strong>Perigo de aspiração</strong></td>
</tr>
<tr>
<td>Com base nos dados disponíveis, os critérios de classificação não são preenchidos.</td>
</tr>
</tbody>
</table>

**SECÇÃO 12: Informação ecológica**

<table>
<thead>
<tr>
<th><strong>12.1 Toxicidade</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Toxicidade aquática:</strong> Não existe mais nenhuma informação relevante disponível.</td>
</tr>
<tr>
<td><strong>12.2 Persistência e degradabilidade</strong></td>
</tr>
<tr>
<td>Não existe mais nenhuma informação relevante disponível.</td>
</tr>
<tr>
<td><strong>12.3 Potencial de bioacumulação</strong></td>
</tr>
<tr>
<td>Não existe mais nenhuma informação relevante disponível.</td>
</tr>
<tr>
<td><strong>12.4 Mobilidade no solo</strong></td>
</tr>
<tr>
<td>Não existe mais nenhuma informação relevante disponível.</td>
</tr>
<tr>
<td><strong>Outras indicações ecológicas:</strong></td>
</tr>
<tr>
<td><strong>Indicações gerais:</strong></td>
</tr>
<tr>
<td>Classe de perigo para a água 1 (D) (auto-classificação): pouco perigoso para a água</td>
</tr>
<tr>
<td>Não deixar chegar substâncias concentradas, ou seja quantidades grandes, às águas subterrâneas, aos cursos de água ou à canalização.</td>
</tr>
<tr>
<td><strong>12.5 Resultados da avaliação PBT e mPmB</strong></td>
</tr>
<tr>
<td><strong>PBT:</strong> Não aplicável.</td>
</tr>
<tr>
<td><strong>mPmB:</strong> Não aplicável.</td>
</tr>
<tr>
<td><strong>12.6 Outros efeitos adversos</strong></td>
</tr>
<tr>
<td>Não existe mais nenhuma informação relevante disponível.</td>
</tr>
</tbody>
</table>

**SECÇÃO 13: Considerações relativas à eliminação**

<table>
<thead>
<tr>
<th><strong>13.1 Métodos de tratamento de resíduos</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Recomendação:</strong></td>
</tr>
<tr>
<td>Não se pode eliminar juntamente com o lixo doméstico. Não permita que chegue à canalização.</td>
</tr>
<tr>
<td><strong>Embalagens contaminadas:</strong></td>
</tr>
<tr>
<td><strong>Recomendação:</strong> Eliminação residual conforme o regulamento dos serviços públicos.</td>
</tr>
</tbody>
</table>
**SEÇÃO 14: Informações relativas ao transporte**

- **14.1 Número ONU**
  - ADR, IMDG, IATA
  - UN1133

- **14.2 Designação oficial de transporte da ONU**
  - ADR
  - IMDG, IATA
  - 1133 ADESIVOS
  - ADHESIVES

- **14.3 Classes de perigo para efeitos de transporte**
  - ADR, IMDG, IATA
  - Classe: 3 (Líquidos inflamáveis)
  - Rótulo: 3

- **14.4 Grupo de embalagem**
  - ADR, IMDG, IATA
  - II

- **14.5 Perigos para o ambiente:**
  - Não aplicável.

- **14.6 Precauções especiais para o utilizador**
  - Atenção: Líquidos inflamáveis
  - Número de identificação de perigo (Nº 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
    - Código: E2
  - Quantidades exceptuadas (EQ)
    - Quantidade líquida máxima por embalagem interior: 30 ml
    - Quantidade líquida máxima por embalagem exterior: 500 ml

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

- **UN "Model Regulation":**
  - UN 1133 ADESIVOS, 3, II
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” P5c LÍQUIDOS INFLAMÁVEIS
- Quantidades-limiar (em toneladas), para a aplicação de requisitos de nível inferior 5.000 t
- Quantidades-limiar (em toneladas), para a aplicação de requisitos de nível superior 50.000 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
  Eye Irrit. 2: Lesões oculares graves/irritação ocular – Categoria 2
  Carc. 2: Carcinogenicidade – Categoria 2
  STOT SE 3: Toxicidade para órgãos-alvo específicos (exposição única) – Categoria 3
1 Идентификация химической продукции и сведения о производителе или поставщике

· Идентификатор продукта
· Торговое наименование: M-BOND 610 ADHESIVE
· Артикульный номер: 50410-30A
· Соответствующие установленные применения вещества или смеси и не рекомендуемые области использования
  Отсутствуют 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: sgkeck@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
· 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).

2 Идентификация опасности (опасностей)

· Классификация вещества или смеси
  пламя
  Воспламеняющаяся жидкость 2 H225 Легко воспламеняющаяся жидкость и пар.
  опасность для здоровья
  Канцерогенность 2 H351 Предположительно вызывает рак.
  Раздражение глаз 2A H319 Вызывает серьезное раздражение глаз.
  ОСТМ - однократно 3 H355 Может вызывать раздражение дыхательных путей.
  Острая токсичность 5 H303 Может нанести вред при проглатывании.
· 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).

(Продолжение на странице 2)


Паспорт безопасности
в соответствии с ГОСТ 30333-2007

Дата печати: 03.08.2020
Дата редактирования: 03.08.2020

Торговое наименование: M-BOND 610 ADHESIVE

(Продолжение страницы 1)

- Пиктограммы, обозначающие опасности

GHS02  GHS07  GHS08

- Сигнальное слово Опасно

- Компоненты этикетки, указывающие на опасность:
tetrahydrofuran

- Предупреждения об опасности
Легко воспламеняющаяся жидкость и пар.
Может нанести вред при проглатывании.
Возможна раздражение дыхательных путей.

- Меры предосторожности
Беречь от тепла/и/скр/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 РВТ (устойчивое биоаккумулирующее токсическое вещество) и vPvB (очень устойчивое биоаккумулирующее вещество)
- РВТ: Неприменимо.
- vPvB: Неприменимо.

3 Состав (информация о компонентах)

- Химическая характеристика: Смеси
- Описание: Смесь из веществ, перечисленных ниже, с неопасными добавками.

- Содержащиеся опасные вещества:

<table>
<thead>
<tr>
<th>109-99-9 tetrahydrofuran</th>
<th>&gt;50-% ≤100%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Воспламеняющаяся жидкость 2, H225;</td>
<td>Канцерогенность 2, H351;</td>
</tr>
<tr>
<td>Раздражение глаз 2A, H319;</td>
<td>СТОМ - однократно 3, H335; Острая токсичность 5, H303</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>78-93-3 METHYL ETHYL KETONE</th>
<th>&gt;2,5-% ≤10%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Воспламеняющаяся жидкость 2, H225;</td>
<td>Раздражение глаз 2A, H319;</td>
</tr>
<tr>
<td>СТОМ - однократно 3, H336; Острая токсичность 5, H303; Острая токсичность 5, H313</td>
<td></td>
</tr>
</tbody>
</table>

(Продолжение на странице 3)
4 Меры 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, при недомоганиях обратиться к врачу.
- После контакта с кожей: Как правило, продукт не оказывает раздражающего воздействия на кожу.
- После контакта с глазами: Промойте открытый глаз под проточной водой в течение нескольких минут. При сохранении симптомов обратитесь к врачу.
- Повреждения 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 и средства обеспечения пожаровзрывобезопасности

- Средства пожаротушения
- Надлежащие средства тушения:
  CO2, песок, порошковое средство для тушения. Применение воды не допускается.
- Средства тушения, являющиеся непригодными из соображений безопасности:
  Полноструйная вода
- Особые опасности, создаваемые веществом или смесь
  Отсутствует какая-либо соответствующая информация.
- Рекомендации для пожарных
  Защитное оснащение: Нет необходимости в каких-либо специальных мерах.

6 Меры по предотвращению и ликвидации аварийных и чрезвычайных ситуаций и их последствий

- 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:
  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 средь, опилок).
  Утилизировать заражённый материал как отходы в соответствии с Пунктом 13.
  Обеспечить достаточную вентиляцию.
**Торговое наименование:** M-BOND 610 ADHESIVE

Не смывать посредством воды или водянистых чистящих средств.

**Ссылки на другие разделы**
- Информация по безопасному обращению - в Главе 7.
- Информация по индивидуальному защите - в Главе 8.
- Информация по утилизации - в Главе 13.

### 7 Правила хранения химической продукции и обращения с ней при погрузочно-разгрузочных работах

- **Обращение с веществом:**
  - Меры предосторожности по безопасному обращению
    Обеспечить хорошую вентиляцию / вытяжку на рабочем месте.
    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 зарядления.
  - **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 применимость)**
    Отсутствует какая-либо соответствующая информация.

### 8 Средства контроля за опасным воздействием и средства индивидуальной 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 ПДК с.с.: 100 мг/м³
    n;
    78-93-3 METHYL ETHYL KETONE
    PDK ПДК с.с.: 200 мг/м³
    ПДК м.р.: 400 мг/м³
    n;

- **Дополнительные указания:**
  В качестве основы послужили списки, являвшиеся на момент составления актуальными.

(Продолжение на странице 5)
Торговое наименование: M-BOND 610 ADHESIVE

(Продолжение страницы 4)

· 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 предными веществами одежду.
   Мыть руки перед перерывами и по окончании работы.
   Избегать контакта с глазами.
   Избегать контакта с глазами и с кожей.
· 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.
Ни каких 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 Физико-химические свойства

· Информация по основным физическим и химическим свойствам
· Общая информация
· Внешний вид:
   Форма: Жидкость
   Цвет: Бесцветное

(Продолжение на странице 6)
### Торговое наименование: M-BOND 610 ADHESIVE

<table>
<thead>
<tr>
<th>Свойство</th>
<th>Описание</th>
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</thead>
<tbody>
<tr>
<td><strong>Запах:</strong></td>
<td>Эфироподобно</td>
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<td><strong>Порог запаха:</strong></td>
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<tr>
<td><strong>Значение рН:</strong></td>
<td>Не определено</td>
</tr>
<tr>
<td><strong>Изменение состояния</strong></td>
<td></td>
</tr>
<tr>
<td>Точка плавления / интервал температур</td>
<td>Не определено</td>
</tr>
<tr>
<td>плавления:</td>
<td></td>
</tr>
<tr>
<td>Точка кипения / интервал температур кипения:</td>
<td>66 °C</td>
</tr>
<tr>
<td><strong>Температурная точка вспышки:</strong></td>
<td>-14 °C</td>
</tr>
<tr>
<td>**Воспламеняемость (твёрдое, газообразное</td>
<td>Неприменимо.</td>
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<tr>
<td>вещество):</td>
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</tr>
<tr>
<td><strong>Температура воспламенения:</strong></td>
<td>320 °C</td>
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<tr>
<td><strong>Температура распада:</strong></td>
<td>Не определено</td>
</tr>
<tr>
<td><strong>Самовоспламеняемость:</strong></td>
<td>Продукт не является самовоспламеняемым.</td>
</tr>
<tr>
<td><strong>Взрывоопасность:</strong></td>
<td>Продукт не является взрывоопасным, однако</td>
</tr>
<tr>
<td></td>
<td>возможно образование взрывоопасных смесей</td>
</tr>
<tr>
<td></td>
<td>пара / воздух.</td>
</tr>
<tr>
<td><strong>Границы взрываемости:</strong></td>
<td></td>
</tr>
<tr>
<td>Нижняя:</td>
<td>1,5 пол. %</td>
</tr>
<tr>
<td>Верхняя:</td>
<td>12 пол. %</td>
</tr>
<tr>
<td><strong>Давление пара при 20 °C:</strong></td>
<td>200 га Па</td>
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<tr>
<td><strong>Плотность при 20 °C:</strong></td>
<td>2,4 г/см³</td>
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<tr>
<td><strong>Относительная плотность</strong></td>
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</tr>
<tr>
<td><strong>Плотность пара</strong></td>
<td>Не определено</td>
</tr>
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<td><strong>Скорость испарения</strong></td>
<td>Не определено</td>
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<td><strong>Растворимость в / Смешиваемость с водой:</strong></td>
<td>Несмешиваемо или трудно смешиваемо.</td>
</tr>
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<td>**Коэффициент распределения (n-октанол /</td>
<td>Не определено</td>
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<tr>
<td>вода):</td>
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<tr>
<td><strong>Вязкость:</strong></td>
<td></td>
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<tr>
<td>Динамическая:</td>
<td>Не определено</td>
</tr>
<tr>
<td>Кинематическая:</td>
<td>Не определено</td>
</tr>
<tr>
<td><strong>Содержание растворителя:</strong></td>
<td></td>
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</tr>
<tr>
<td>VOC (EC)</td>
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<tr>
<td><strong>Содержание твёрдых тел:</strong></td>
<td>0,0 %</td>
</tr>
<tr>
<td><strong>Другая информация</strong></td>
<td>Отсутствует какая-либо соответствующая</td>
</tr>
<tr>
<td></td>
<td>информация.</td>
</tr>
</tbody>
</table>
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: Незвестно ни о каких опасных продуктах распада.

11 Информация о токсичности

- Информация по токсикологическому воздействию
- Острая токсичность:
- Значения LD/LC50 (летальной дозы/концентрации), необходимые для классификации:

| 109-99-9 tetrahydrofuran | Oral (through mouth) LD50 | 2,500 mg/kg (rat) |

- Первоначальное раздражающее воздействие:
  - на кожу: Нет раздражающего воздействия.
  - на глаза: Раздражающее воздействие.
- Сенсибилизация: Неизвестно о наличии сенсибилизирующего воздействия.
- Дополнительные токсикологические указания:
  На основании расчетного метода Всеобщей Классификационной Директивы ЕС для Препаратов в её последней (актуальной) редакции продукт представляет следующие виды опасности:
  Вредно для здоровья
  Раздражающее
  Информация по следующим группам потенциальных воздействий:
  - Канцерогенное, изменяющее наследственность и вызывающее бесплодие действие
  Канцерогенность 2

12 Информация о воздействии на окружающую среду

- Токсичность
- Акватоксичность: Отсутствует какая-либо соответствующая информация.
- Стоимость 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.
- 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.
  - Результаты оценки PBT (устойчивое биоаккумулятивное токсическое вещество) и vPvB (очень устойчивое биоаккумулятивное вещество)
    PBT: Неприменимо.
### 13 Рекомендации по удалению отходов (остатков)

- **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 при перевозках (транспортировании)

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

- **Собственное транспортное наименование ООН**
  - ADR: 1133 КЛЕИ
  - IMDG, IATA: ADHESIVES

- **Классов опасности транспорта**
  - ADR, IMDG, IATA

  - **Класс**
    - 3 Легковоспламеняющиеся жидкости

  - **Етикетка для опасного содержимого**
    - 3

  - **Группа упаковки**
    - ADR, IMDG, IATA: II

  - **Экологические риски:**
    - Неприменимо.

  - **Особые меры предосторожности для пользователей**
    - Осторожно: Легковоспламеняющиеся жидкости

  - **Идентификационный номер опасности (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.
Паспорт безопасности
в соответствии с ГОСТ 30333-2007

Дата печати: 03.08.2020
Дата редактирования: 03.08.2020

Торговое наименование: M-BOND 610 ADHESIVE

(Продолжение страницы 8)

· Транспорт / дополнительная информация:
  · ADR
    · Ограниченные объёмы (LQ) 5L
      Код: E2
      Максимальное количество нетто на внутреннюю тару: 30 мл
      Максимальное количество нетто на наружную тару: 500 мл
  · Транспортная категория 2, Код ограничения проезда через туннели D/E
  · IMDG
    · Limited quantities (LQ) 1L
      Code: E2
      Maximum net quantity per inner packaging: 30 мл
      Maximum net quantity per outer packaging: 500 мл
    · Exlected quantities (EQ)

· UN "Model Regulation": UN 1133 КЛЕИ, 3, II

15 Информация о национальном и международном законодательстве

· 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

· Сигнальное слово Опасно

· Компоненты этикетки, указывающие на опасность: tetrahydrofuran
· Предупреждения об опасности
  Легко воспламеняющаяся жидкость и пар.
  Может нанести вред при проглатывании.
  Взывает серьезное раздражение глаз.
  Предположительно вызывает рак.
  Может вызывать раздражение дыхательных путей.
· 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.

(Продолжение на странице 10)
Торговое наименование: M-BOND 610 ADHESIVE

(Продолжение страницы 9)

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

· Оценка химической безопасности: Оценка химической безопасности не проведена.

16 Дополнительная 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.

· Соответствующие данные

H225 Легко воспламеняющаяся жидкость и пар.
H303 Может нанести вред при проглатывании.
H313 Может нанести вред при контакте с кожей.
H319 Взывает 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 5: Acute toxicity – Category 5
Раздражение глаз 2A: Serious eye damage/eye irritation – Category 2A
Канцерогенность 2: Carcinogenicity – Category 2
CTOM - однократно 3: Specific target organ toxicity (single exposure) – Category 3
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.

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: sgkck@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) nº 1272/2008

- Flam. Liq. 2 H225 Líquido y vapores muy inflamables.
- Carc. 2 H351 Se sospecha que provoca cáncer.
- Eye Irrit. 2 H319 Provoca irritación ocular grave.
- STOT SE 3 H335 Puede irritar las vías respiratorias.
**Nombre comercial: M-BOND 610 ADHESIVE**

( se continua en página 1 )

**2.2 Elementos de la etiqueta**

- **Etiquetado con arreglo al Reglamento (CE) nº 1272/2008**
  El producto se ha clasificado y etiquetado de conformidad con el reglamento CLP.

- **Pictogramas de peligro**

  ![Pictogramas](GHS02 GHS07 GHS08)

- **Palabra de advertencia**: Peligro

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

- **Indicaciones de peligro**
  H225 Líquido y vapores muy inflamables.
  H319 Provoca irritación ocular grave.
  H351 Se sospecha que provoca cáncer.
  H335 Puede irritar las vías respiratorias.

- **Consejos de prudencia**
  P210 Mantener alejado del calor, de superficies calientes, de chispas, de llamas abiertas y de cualquier otra fuente de ignición. No fumar.
  P241 Utilizar material [eléctrico/ de ventilación/iluminación] antideflagrante.
  P303+P361+P353 EN CASO DE CONTACTO CON LA PIEL (o el pelo): Quitar inmediatamente toda la ropa contaminada. Enjuagar la piel con agua [o ducharse].
  P305+P351+P338 EN CASO DE CONTACTO CON LOS OJOS: Enjuagar con agua cuidadosamente durante varios minutos. Quitar las lentes de contacto cuando estén presentes y pueda hacerse con facilidad. Proseguir con el lavado.
  P405 Guardar bajo llave.
  P501 Eliminar el contenido o el recipiente conforme a la reglamentación local/regional/nacional/internacional.

**2.3 Otros peligros**

- **Resultados de la valoración PBT y mPmB**
  - **PBT**: No aplicable.
  - **mPmB**: No aplicable.

---

**SECCIÓN 3: Composición/información sobre los componentes**

**3.2 Caracterización química: Mezclas**

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

**Componentes peligrosos:**

<table>
<thead>
<tr>
<th>CAS: 109-99-9</th>
<th>EINECS: 203-726-8</th>
<th>tetrahidrofurano</th>
<th>Flam. Liq. 2, H225; Carc. 2; H351; Eye Irrit. 2; H319; STOT SE 3, H335</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>&gt;50- ≤100%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>CAS: 78-93-3</th>
<th>EINECS: 201-159-0</th>
<th>butanona</th>
<th>Flam. Liq. 2, H225; Eye Irrit. 2; H319; STOT SE 3, H336</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>&gt;2,5- ≤10%</td>
</tr>
</tbody>
</table>

( se continua en página 3 )
Nombre comercial: M-BOND 610 ADHESIVE

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

SECCIÓN 4: Primeros auxilios

4.1 Descripción de los primeros auxilios
Instrucciones generales:
Los síntomas de intoxicación pueden presentarse después de muchas horas, por lo que se requiere una supervisión médica durante un mínimo de 48 horas después del accidente.
En caso de inhalación del producto: Suministrar aire fresco. En caso de trastornos, consultar al médico.
En caso de contacto con la piel: Por regla general, el producto no irrita la piel.
En caso de con los ojos: Limpiar los ojos abiertos durante varios minutos con agua corriente. En caso de 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:
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 item 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.

( se continua en página 4 )
SECCIÓN 7: Manipulación y almacenamiento

· 7.1 Precauciones para una manipulación segura
  Asegurar suficiente ventilación /aspiración en el puesto de trabajo.
  Evitar la formación de aerosoles.
  · Prevenção 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:

<table>
<thead>
<tr>
<th>Compuesto</th>
<th>Parámetros límite admisibles</th>
<th>Vía de exposición</th>
</tr>
</thead>
<tbody>
<tr>
<td>109-99-9 tetrahidrofurano</td>
<td>LEP Valor de corta duración: 300 mg/m³, 100 ppm</td>
<td>vía dérmica, VLI, VLB</td>
</tr>
<tr>
<td></td>
<td>LEP Valor de larga duración: 150 mg/m³, 50 ppm</td>
<td></td>
</tr>
<tr>
<td>78-93-3 butanona</td>
<td>LEP Valor de corta duración: 900 mg/m³, 300 ppm</td>
<td>VLB, VLI</td>
</tr>
<tr>
<td></td>
<td>Valor de larga duración: 600 mg/m³, 200 ppm</td>
<td></td>
</tr>
</tbody>
</table>

· Componentes con valores límite biológicos:

<table>
<thead>
<tr>
<th>Compuesto</th>
<th>Parámetros biológicos</th>
<th>Vía de exposición</th>
</tr>
</thead>
<tbody>
<tr>
<td>109-99-9 tetrahidrofurano</td>
<td>VLB 2 mg/l</td>
<td>orina</td>
</tr>
<tr>
<td></td>
<td>Muestra: orina</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Momento de Muestero: Final de la jornada laboral</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Indicador Biológico: Tetrahidrofurano</td>
<td></td>
</tr>
<tr>
<td>78-93-3 butanona</td>
<td>VLB 2 mg/l</td>
<td>orina</td>
</tr>
<tr>
<td></td>
<td>Muestra: orina</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Momento de Muestero: Final de la jornada laboral</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Indicador Biológico: Metiletilcetona</td>
<td></td>
</tr>
</tbody>
</table>

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

( se continua en página 5 )
· **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.
    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 / substancia / preparado. Ante la ausencia de tests específicos, no se puede recomendar ningún material específico para guantes de protección contra el producto / preparado / mezcla de substancias químicas. Seleción 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 avaluada 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**

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**SECCIÓN 9: Propiedades físicas y químicas**

· **9.1 Información sobre propiedades físicas y químicas básicas**
  · **Datos generales**
    · **Aspecto:**
      - **Forma:** Líquido
      - **Color:** Incoloro
    · **Olor:** Etéreo
    · **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.
- **Temperatura de ignición:** 320 °C
- **Temperatura de descomposición:** No determinado.
- **Temperatura de auto-inflamación:** El producto no es autoinflamable.
- **Propiedades explosivas:** El producto no es explosivo; sin embargo, pueden formarse mezclas explosivas de vapor / aire.

### Límites de explosión
- **Inferior:** 1,5 Vol %
- **Superior:** 12 Vol %

### Presión de vapor a 20 °C:
- 200 hPa

### Densidad a 20 °C:
- 2,4 g/cm³
- **Densidad relativa:** No determinado.
- **Densidad de vapor:** No determinado.
- **Tasa de evaporación:** No determinado.

### Solubilidad en / miscibilidad con agua:
- Poco o no mezclable.

### Coeficiente 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.

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## 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.
Nombre comercial: M-BOND 610 ADHESIVE

- **10.6 Productos de descomposición peligrosos**: No se conocen productos de descomposición peligrosos.

**SECCIÓN 11: Información toxicológica**

- **11.1 Información sobre los efectos toxicológicos**
  - **Toxicidad aguda**: A la vista de los datos disponibles, no se cumplen los criterios de clasificación.
  - **Valores LD/LC50 (dosis letal /dosis letal = 50%) relevantes para la clasificación**:
    - 109-99-9 tetrahidrofurano
      - Oral LD50 2.500 mg/kg (rat)
    - **Efecto estimulante primario**:
      - Corrosión o irritación cutáneas
        - A la vista de los datos disponibles, no se cumplen los criterios de clasificación.
    - **Lesiones o irritación ocular graves**
      - Provoca irritación ocular grave.
    - **Sensibilización respiratoria o cutánea**
      - A la vista de los datos disponibles, no se cumplen los criterios de clasificación.
    - **Efectos CMR (carcinogenicidad, mutagenicidad y toxicidad para la reproducción)**
      - **Mutagenicidad en células germinales**
        - A la vista de los datos disponibles, no se cumplen los criterios de clasificación.
    - **Carcinogenicidad**
      - 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.
- **Indicaciones medioambientales adicionales**:
  - **Indicaciones generales**:
    - Nivel de riesgo para el agua 1 (autoclasificación): escasamente peligroso para el agua
    - En estado no diluido o no neutralizado, no dejar que se infiltre en aguas subterráneas, aguas superficiales o en alcantarillados.
- **12.5 Resultados de la valoración PBT y mPmB**
  - **PBT**: No aplicable.
  - **mPmB**: No aplicable.
- **12.6 Otros efectos adversos**
  - No existen más datos relevantes disponibles.
SECCIÓN 13: Consideraciones relativas a la eliminación

- 13.1 Métodos para el tratamiento de residuos
  - Recomendación: No debe desecharse con la basura doméstica. No debe llegar al alcantarillado.

- Embalajes sin limpiar:
  - Recomendación: Eliminar conforme a las disposiciones oficiales.

SECCIÓN 14: Información relativa al transporte

- **14.1 Número ONU**
  - UN1133

- **14.2 Designación oficial de transporte de las Naciones Unidas**
  - UN1133 ADHESIVOS

- **14.3 Clase(es) de peligro para el transporte**
  - ADR, IMDG, IATA

  ![Clase 3 Líquidos inflamables]

- **Clase**
  - 3 Líquidos inflamables

- **Etiqueta**
  - 3

- **14.4 Grupo de embalaje**
  - ADR, IMDG, IATA
  - II

- **14.5 Peligros para el medio ambiente:**
  - No aplicable.

- **14.6 Precauciones particulares para los usuarios**
  - Atención: Líquidos inflamables

- **Número de identificación de peligro (Número Kemler):**
  - 33

- **Número EMS:**
  - F-E,S-D

- **Stowage Category**
  - B

- **14.7 Transporte a granel con arreglo al anexo II del Convenio MARPOL y el Código IBC**
  - No aplicable.

- **Transporte/datos adicionales:**

  - **ADR**
    - Cantidades limitadas (LQ): 5L
    - Cantidades exceptuadas (EQ): Código: E2
      - Cantidad neta máxima por envase interior: 30 ml
      - Cantidad neta máxima por embalaje exterior: 500 ml

  - **Categoría de transporte**
    - 2

  - **Código de restricción del túnel**
    - D/E

( se continúa en página 9 )
**Nombre comercial:** M-BOND 610 ADHESIVE

- **IMDG**
  - Limited quantities (LQ)
  - Excepted quantities (EQ)
- **Codigo:** E2
  - Maximum net quantity per inner packaging: 30 ml
  - Maximum net quantity per outer packaging: 500 ml
- *"Reglamentación Modelo" de la UNECE:* UN 1133 ADHESIVOS, 3, II

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**SECCIÓN 15: Información reglamentaria**

- 15.1 Reglamentación y legislación en materia de seguridad, salud y medio ambiente específicas para la sustancia o la mezcla
  - Directiva 2012/18/UE
  - Sustancias peligrosas nominadas - ANEXO I: ninguno de los componentes está incluido en una lista
  - Categoría Seveso: P5c, LÍQUIDOS INFLAMABLES
  - Cantidad umbral (toneladas) a efectos de aplicación de los requisitos de nivel inferior: 5.000 t
  - Cantidad umbral (toneladas) a efectos de aplicación de los requisitos de nivel superior: 50.000 t
  - REGLAMENTO (CE) nº 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.

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**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
  - Eye Irrit. 2: Lesiones oculares graves o irritación ocular – Categoría 2
  - Carc. 2: Carcinogenicidad – Categoría 2
  - STOT SE 3: Toxicidad específica en determinados órganos (exposición única) – Categoría 3
1 การประกาศสารเกี่ยวกับสารผสม และผู้ผลิต

- 1.1 ลักษณะเฉพาะของผลิตภัณฑ์
- ชื่อทางการค้า: M-BOND 610 ADHESIVE
- เลขที่รายชื่อ: 50410-30A

- 1.2 สารหรือสารผสมที่เกี่ยวข้องที่ระบุให้ใช้ และที่ไม่ควรให้ใช้: ไม่มีข้อมูลที่เกี่ยวข้องเอาเข้ามากนั้น
- การควบคุมการใช้สาร: การทำ เคยมีกันหนาเรื่องลดลง

- 1.3 รายละเอียดของผู้จัดหาข้อมูลด้านความปลอดภัย
- ผู้ผลิต/ผู้จัดหา:
  Electron Microscopy Sciences
  1560 Industry Road
  USA-Hatfield, PA 19440
  Tel: 215-412-8400  Fax: 215-412-8450
  email: sgkeck@aol.com
  www.emsdiasum.com

- ข้อมูลรายละเอียดเพิ่มเติมที่ได้จาก: Product safety department
- 1.4 หมายเลขโทรศัพท์ฉุกเฉิน:
  ChemTrec 1-800-424-9300 Contract CCN7661
  1-703-527-3887

2 การประกาศความเป็นอันตราย

- 2.1 การจำแนกประเภทของสารหรือสารผสม
- การจำแนกประเภทตามข้อบังคับ (อีซี): เลขที่ 1272/2008

- เปลาไฟ
  Flam. Liq. 2 H225 ของเหลวและไอที่ไวไฟสูง

- สิ่งอันตรายต่อสุขภาพ
  Carc. 2 H351 ส่งเสียหายจำเป็นต้องคำแนะนำการเก็บเกี่ยว

- Eye Irrit. 2 H319 เป็นสาเหตุให้เกิดการระคายเคืองที่ตา
  STOT SE 3 H335 อาจเป็นสาเหตุให้เกิดการระคายเคืองต่อระบบหายใจ

- 2.2 องค์ประกอบของสาร
- ฉลากตามระเบียบ (EC): เลขที่ 1272/2008 ผลิตภัณฑ์ได้รับการจัดประเภทและติดฉลากตามข้อบังคับของ CLP
  ภาพสัญลักษณ์สีที่เป็นอันตราย
    GHS02  GHS07  GHS08

- สัญญาณคำ อันตราย
**M-BOND 610 ADHESIVE**

- **EINECS:** 203-726-8
- **CAS:** 109-99-9
- **Formula:** tetrahydrofuran
- **P305+P361+P353:** Wear rubber gloves/protective clothing/eye protection/face protection. Avoid contact with skin/eyes/nose/mouth.
- **P303+P351+P338:** Keep away from clothing/eyes/faces. In case of contact, wash immediately with plenty of water.
- **P210:** Protective gloves and eye protection are recommended for handling this material.
- **P305+P351+P338:** Eyes: May cause severe eye irritation. Keep container properly sealed.
- **P210:** Protective gloves and eye protection are recommended for handling this material.
- **P501:** Wash contaminated clothing before reuse.
- **P241:** Use dust/mist suppression equipment to prevent release of dust/fume to air.
- **P501:** Wash contaminated clothing before reuse.
- **P405:** Take off contaminated clothing and wash immediately with soap and water.
- **P210:** Protective gloves and eye protection are recommended for handling this material.

**3.2.3 Other Information**
- **PBT:** Substance likely to cause long-term adverse health effects. It is not listed in Annex III, Subdivision B of the Criteria Document for PBT Screening.
- **vPvB:** Substance likely to cause long-term adverse effects on aquatic life. It is not listed in Annex III, Subdivision B of the Criteria Document for vPvB Screening.
- **vP:** Substance likely to cause long-term adverse effects on aquatic life. It is not listed in Annex III, Subdivision B of the Criteria Document for vP Screening.

**4.2.1 Other Information**
- **PBT:** Substance likely to cause long-term adverse health effects. It is not listed in Annex III, Subdivision B of the Criteria Document for PBT Screening.
- **vPvB:** Substance likely to cause long-term adverse effects on aquatic life. It is not listed in Annex III, Subdivision B of the Criteria Document for vPvB Screening.
- **vP:** Substance likely to cause long-term adverse effects on aquatic life. It is not listed in Annex III, Subdivision B of the Criteria Document for vP Screening.

**CAS:** 109-99-9
**EINECS:** 203-726-8
**Formula:** tetrahydrofuran
- **Flam. Liq. 2, H225:** Flammable liquid and vapour.
- **Carc. 2, H351:** Carcinogenic to humans.
- **Eye Irrit. 2, H319; STOT SE 3, H336:** Eye irritation, severe effects; Serious eye damage.
- **Flam. Liq. 2, H225:** Flammable liquid and vapour.
- **Carc. 2, H351:** Carcinogenic to humans.
- **Eye Irrit. 2, H319; STOT SE 3, H336:** Eye irritation, severe effects; Serious eye damage.
- **CAS:** 78-93-3
**EINECS:** 201-159-0
**Formula:** methyl ethyl ketone
- **Flam. Liq. 2, H225:** Flammable liquid and vapour.
- **Carc. 2, H351:** Carcinogenic to humans.
- **Eye Irrit. 2, H319; STOT SE 3, H336:** Eye irritation, severe effects; Serious eye damage.

**4.2.2 Other Information**
- **PBT:** Substance likely to cause long-term adverse health effects. It is not listed in Annex III, Subdivision B of the Criteria Document for PBT Screening.
- **vPvB:** Substance likely to cause long-term adverse effects on aquatic life. It is not listed in Annex III, Subdivision B of the Criteria Document for vPvB Screening.
- **vP:** Substance likely to cause long-term adverse effects on aquatic life. It is not listed in Annex III, Subdivision B of the Criteria Document for vP Screening.

**CAS:** 78-93-3
**EINECS:** 201-159-0
**Formula:** methyl ethyl ketone
- **Flam. Liq. 2, H225:** Flammable liquid and vapour.
- **Carc. 2, H351:** Carcinogenic to humans.
- **Eye Irrit. 2, H319; STOT SE 3, H336:** Eye irritation, severe effects; Serious eye damage.

**4.2.2 Other Information**
- **PBT:** Substance likely to cause long-term adverse health effects. It is not listed in Annex III, Subdivision B of the Criteria Document for PBT Screening.
- **vPvB:** Substance likely to cause long-term adverse effects on aquatic life. It is not listed in Annex III, Subdivision B of the Criteria Document for vPvB Screening.
- **vP:** Substance likely to cause long-term adverse effects on aquatic life. It is not listed in Annex III, Subdivision B of the Criteria Document for vP Screening.
แผ่นข้อมูลความปลอดภัย ตาม GHS

ชื่อทางการค้า M-BOND 610 ADHESIVE

การปรับปรุงใหม่ : 2020.08.03

5 มาตรการป้องกันไฟ

- 5.1 สารที่ใช้ดับเพลิง
- สารดับเพลิงที่เหมาะสม
- สารดับเพลิงที่ไม่ควรใช้ดับเพลิง:
- คาร์บอนไดออกไซด์
- น้ำฉีดพ่นเป็นลำ

6 มาตรการจัดการเมื่อมีการหกฉีดออกจากภาชนะบรรจุ

- 6.1 การป้องกันส่วนบุคคล อุปกรณ์ป้องกัน
- สารที่ใช้ดับเพลิง:
- สารดับเพลิง:

7 การขนถ่าย เคลื่อนย้าย ใช้งาน และเก็บรักษา

- 7.1 การป้องกันส่วนบุคคล
- การขนถ่าย:
- การเก็บรักษา:
- การสิ้นสุดการใช้งาน:

8 ข้อมูลเพิ่มเติม

- 8.1 ข้อมูลเพิ่มเติมเรื่องการขนถ่าย:
- ข้อมูลเพิ่มเติมเรื่องการเก็บรักษา:
- ข้อมูลเพิ่มเติมเรื่องการสิ้นสุดการใช้งาน:
8 การควบคุมการรับสัมผัสและการป้องกันส่วนบุคคล

- ข้อมูลรายละเอียดเสริมสำหรับการออกแบบสิ่งอำนวยความสะดวก
  ความปลอดภัย ตาม GHS

<table>
<thead>
<tr>
<th>ชื่อทางการค้า</th>
<th>M-BOND 610 ADHESIVE</th>
</tr>
</thead>
</table>

8.1 การควบคุมตัวแปร

- ส่วนผสมพร้อมค่าขอบเขตที่ต้องเฝ้าดูในสถานที่ปฏิบัติงาน

<table>
<thead>
<tr>
<th>109-99-9 tetrahydrofuran</th>
</tr>
</thead>
<tbody>
<tr>
<td>PEL (US)  ค่าระยะยาว: 590 mg/m³, 200 ppm</td>
</tr>
<tr>
<td>REL (US)  ค่าระยะสั้น: 735 mg/m³, 250 ppm</td>
</tr>
<tr>
<td>$\text{TLV} (\text{US})$  ค่าระยะยาว: 295 mg/m³, 100 ppm</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Skin</th>
</tr>
</thead>
<tbody>
<tr>
<td>$\text{TLV} (\text{US})$  ค่าระยะยาว: 147 mg/m³, 50 ppm</td>
</tr>
</tbody>
</table>

78-93-3 เมทิลเอทิลคีโทน

<table>
<thead>
<tr>
<th>78-93-3 เมทิลเอทิลคีโทน</th>
</tr>
</thead>
<tbody>
<tr>
<td>PEL (US)  ค่าระยะยาว: 590 mg/m³, 200 ppm</td>
</tr>
<tr>
<td>REL (US)  ค่าระยะสั้น: 885 mg/m³, 300 ppm</td>
</tr>
<tr>
<td>$\text{TLV} (\text{US})$  ค่าระยะยาว: 590 mg/m³, 200 ppm</td>
</tr>
</tbody>
</table>

BEI

- ข้อมูลรายละเอียดเสริม รายการถูกต้องระหว่างที่จัดทำโดยอาศัยการใช้งานเป็นหลัก

8.2 การควบคุมสัมผัส

- อุปกรณ์ป้องกันส่วนบุคคล
  มาตรการการป้องกันส่วนบุคคลที่ต้องใช้

เก็บให้ห่างจากสิ่งของที่เป็นอาหารเครื่องดื่มและอาหารสัตว์

- เมื่อสัมผัส

หลีกเลี่ยงการสัมผัสภายนอก

- วัสดุที่ใช้ทำถุงมือ

- การป้องกันมือ

ถุงมือป้องกัน

วัสดุที่ใช้ทำถุงมือจะต้องไม่ให้มีอากาศผ่านเข้าออกและทนทานต่อผลิตภัณฑ์/สาร/การผลิต

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- วัสดุที่ใช้ทำถุงมือ
## 9 คุณสมบัติทางกายภาพและทางเคมี

<table>
<thead>
<tr>
<th>ข้อมูลคุณสมบัติทางกายภาพและเคมี</th>
<th>ผลิตภัณฑ์จะไม่เป็นสารระเบิดอย่างไรก็ตามอาจเป็นไปได้ที่การผสมของอากาศ/ไอจะทำให้เกิดการระเบิด</th>
<th>ผลิตภัณฑ์ไม่ให้เกิดการระเบิดอย่างไรก็ตามอาจเป็นไปได้ที่การผสมของอากาศ/ไอจะทำให้เกิดการระเบิด</th>
<th>ผลิตภัณฑ์ไม่ให้เกิดการระเบิดอย่างไรก็ตามอาจเป็นไปได้ที่การผสมของอากาศ/ไอจะทำให้เกิดการระเบิด</th>
</tr>
</thead>
<tbody>
<tr>
<td>จุดเดือด/ขอบเขตการเดือด</td>
<td>66 °C</td>
<td>ไม่ได้กำหนด</td>
<td>ไม่ได้กำหนด</td>
</tr>
<tr>
<td>จุดวาบไฟ</td>
<td>-14 °C</td>
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<td>ไม่ได้กำหนด</td>
</tr>
<tr>
<td>ลำเลียง</td>
<td>ไม่ได้กำหนด</td>
<td>ไม่ได้กำหนด</td>
<td>ไม่ได้กำหนด</td>
</tr>
<tr>
<td>อุณหภูมิจุดระเบิด</td>
<td>320 °C</td>
<td>ไม่ได้กำหนด</td>
<td>ไม่ได้กำหนด</td>
</tr>
<tr>
<td>อุณหภูมิที่อันตรายต่อการระเบิด</td>
<td>ไม่ได้กำหนด</td>
<td>ไม่ได้กำหนด</td>
<td>ไม่ได้กำหนด</td>
</tr>
<tr>
<td>จุดระเบิด/ขอบเขตการระเบิด</td>
<td>ไม่ได้กำหนด</td>
<td>ไม่ได้กำหนด</td>
<td>ไม่ได้กำหนด</td>
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<tr>
<td>ความหนาแน่นของไอ</td>
<td>ไม่ได้กำหนด</td>
<td>ไม่ได้กำหนด</td>
<td>ไม่ได้กำหนด</td>
</tr>
<tr>
<td>ความหนาแน่นสัมพัทธ์</td>
<td>ไม่ได้กำหนด</td>
<td>ไม่ได้กำหนด</td>
<td>ไม่ได้กำหนด</td>
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<tr>
<td>อัตราการระเหย</td>
<td>ไม่ได้กำหนด</td>
<td>ไม่ได้กำหนด</td>
<td>ไม่ได้กำหนด</td>
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<tr>
<td>ความสามารถในการละลายในน้ำ</td>
<td>ไม่สามารถละลายได้</td>
<td>ไม่สามารถละลายได้</td>
<td>ไม่สามารถละลายได้</td>
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<td>ไม่สามารถละลายได้</td>
<td>ไม่สามารถละลายได้</td>
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<tr>
<td>ความหนืด</td>
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<td>ไม่ได้กำหนด</td>
<td>ไม่ได้กำหนด</td>
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<tr>
<td>อัตราการระเหย</td>
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<td>ไม่ได้กำหนด</td>
<td>ไม่ได้กำหนด</td>
</tr>
<tr>
<td>จุดหลอมเหลว/ขอบเขตการหลอมละลาย</td>
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<td>ไม่ได้กำหนด</td>
<td>ไม่ได้กำหนด</td>
</tr>
<tr>
<td>อุณหภูมิจุดระเบิด</td>
<td>320 °C</td>
<td>ไม่ได้กำหนด</td>
<td>ไม่ได้กำหนด</td>
</tr>
<tr>
<td>อุณหภูมิที่อันตรายต่อการระเบิด</td>
<td>ไม่ได้กำหนด</td>
<td>ไม่ได้กำหนด</td>
<td>ไม่ได้กำหนด</td>
</tr>
<tr>
<td>จุดระเบิด/ขอบเขตการระเบิด</td>
<td>ไม่ได้กำหนด</td>
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<td>ไม่ได้กำหนด</td>
</tr>
<tr>
<td>ความหนาแน่นของไอ</td>
<td>ไม่ได้กำหนด</td>
<td>ไม่ได้กำหนด</td>
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<td>ไม่ได้กำหนด</td>
<td>ไม่ได้กำหนด</td>
<td>ไม่ได้กำหนด</td>
</tr>
<tr>
<td>คุณสมบัติทางกายภาพและทางเคมี</td>
<td>produkt</td>
<td>produkt</td>
<td>produkt</td>
</tr>
</tbody>
</table>

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**M-BOND 610 ADHESIVE**

- **การป้องกันตา**
  - แว่นตาที่ข้อมบดสนิท

**ข้อห้ามสุทธิทางกายภาพและทางเคมี**

- **การป้องกันตา**
  - แว่นตาที่ข้อมบดสนิท
ชื่อทางการค้า M-BOND 610 ADHESIVE

<table>
<thead>
<tr>
<th>การละลายด้วยฮีเตอร์</th>
<th>70.1 %</th>
</tr>
</thead>
<tbody>
<tr>
<td>VOCEC</td>
<td>70.09 %</td>
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</table>

ส่วนประกอบที่เป็นของแข็ง

9.2 ข้อมูลอื่น ๆ

10 ความเสถียรและการเกิดปฏิกิริยา

10.1 ปฏิกิริยา ไม่มีปฏิกิริยาที่เกี่ยวข้องกับน้ำ

10.2 ปฏิกิริยาทางฟี้ฟอง ไม่มีปฏิกิริยาที่เกี่ยวข้องกับน้ำ

10.3 ปฏิกิริยาทางเคมี ไม่มีปฏิกิริยาที่เกี่ยวข้องกับน้ำ

11 ข้อมูลด้านพิษวิทยา

11.1 ข้อมูลเกี่ยวกับผลกระทบทางพิษวิทยา

- ความเป็นพิษ ไม่มี

- ความเป็นพิษที่เกี่ยวกับน้ำ ไม่มี

- ความเสถียรในการใช้ ไม่มี

11.2 การสะสมทางชีวภาพที่อาจเกิดขึ้น

- ไม่มี

12 ข้อมูลด้านนิเวศวิทยา

12.1 ความเป็นพิษ ไม่มี

- ความเสถียรในน้ำ ไม่มี

12.2 ความสามารถในการย่อยสลาย ไม่มี

- การสะสมในน้ำ ไม่มี

หมายเหตุทั่วไป

- ไม่สามารถใช้ได้ ไม่สามารถใช้ได้
# แผนข้อมูลความปลอดภัย ตาม GHS

## ชื่อทางการค้า M-BOND 610 ADHESIVE

- 12.6 ผลข้างเคียงอื่นๆ ไม่มีข้อมูลที่เกี่ยวข้องกับเหตุผลใดๆ

## 13 ข้อติดข้องในการกำจัด

- 13.1 วิธีการกำจัดของเสีย
- คำแนะนำ ต้องไม่ทิ้งไปพร้อมกับขยะจากบ้านเรือนอย่างปล่อยให้ผลิตภัณฑ์เข้าถึงระบบระบายน้ำเสีย
- ภาชนะบรรจุที่ยังไม่ได้ล้างที่ใช้แล้วไม่สามารถใช้ได้ในระบบทางการประปาบ้าน

## 14 ข้อมูลการขนส่ง

<table>
<thead>
<tr>
<th>14.1 เลขที่ UN</th>
<th>ADR, IMDG, IATA</th>
<th>UN1133</th>
</tr>
</thead>
<tbody>
<tr>
<td>14.2 ชื่อการจัดส่งสินค้าที่เหมาะสมของ UN</td>
<td>ADR, IMDG, IATA</td>
<td>1133 ADHESIVES</td>
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<td>14.3 ชั้นเรียนอันตรายจากการขนส่ง</td>
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<td>ประเภทของเหลวติดไฟได้</td>
<td>3</td>
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<td>ฉลากสิ่งที่เป็นอันตราย</td>
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<tr>
<td>รหัสความอันตราย</td>
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<tr>
<td>หมายเลข EMS</td>
<td>F-E,S-D</td>
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<td>Stowage Category</td>
<td>B</td>
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<td>14.4 กลุ่มของเวลาภัยเมาะ</td>
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<td>14.5 ลักษณะที่เป็นอันตรายต่อสภาพแวดล้อม</td>
<td>ไม่สามารถใช้ได้</td>
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<tr>
<td>14.6 การป้องกันที่พิเศษสำหรับผู้ใช้</td>
<td>เคาะเตือน !: ของเหลวติดไฟได้</td>
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<tr>
<td>รหัสความอันตราย</td>
<td>33</td>
<td></td>
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<tr>
<td>หมายเลข EMS</td>
<td>F-E,S-D</td>
<td></td>
</tr>
<tr>
<td>14.7 การขนส่งที่ผ่านมาโดยusal 2 ของ MARPOL73/78 และรหัส IBC</td>
<td>ไม่สามารถใช้ได้</td>
<td></td>
</tr>
</tbody>
</table>

## การขนส่ง/ข้อมูล дополнительно

- 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
- รหัสควบคุมการผ่านอุโมงค์ D/E
แผนฉุกเฉินความปลอดภัย ตาม GHS

ชื่อทางการค้า M-BOND 610 ADHESIVE

- IMDG
- Limited quantities (LQ) 1L
- Exempted quantities (EQ) Code: E2
  Maximum net quantity per inner packaging: 30 ml
  Maximum net quantity per outer packaging: 500 ml
- “กฎระเบียบแห่ง” ของ UN UN 1133 ADHESIVES, 3, II

15 ข้อมูลคำนวณภัยบางกลุ่ม

- 15.1 ความปลอดภัย สุขภาพและระเบียบ/กฎหมายสัตว์เลี้ยงโดยเฉพาะของสารหรือสารผสม
  - ภูมิพื้นที่ชั้นที่วัตถุอันตราย
  - กรมวิชาการเกษตร ไม่มีส่วนผสมใดอยู่ในการบรรจุ
  - กรมประมง ไม่มีส่วนผสมใดอยู่ในการบรรจุ
  - กรมปศุสัตว์ ไม่มีส่วนผสมใดอยู่ในการบรรจุ
  - อาหารและยา ไม่มีส่วนผสมใดอยู่ในการบรรจุ
  - กรมโรงงานอุตสาหกรรม 78-93-3 นีโอเอทานอล
  - กรมธุรกิจพลังงาน ไม่มีส่วนผสมใดอยู่ในการบรรจุ

- 15.2 การประเมินความปลอดภัยของสารเคมี: ไม่ได้ดำเนินการตามการประเมินความปลอดภัยของสารเคมี

16 ข้อมูลอื่นๆ

ข้อมูลรายละเอียดเกี่ยวกับการรับรู้ของเรามีหลักอย่างไรก็ตามข้อมูลนี้ไม่ใช่การรับรองจากเอกสาร
บันทึกและบันทึกเฉพาะของผลิตภัณฑ์และไม่สามารถยืนยันการเป็นไปตามกฎหมายที่เกี่ยวข้องกับสัญญา

- กลุ่ม H225 ของเหลวและไอที่ไวไฟสูง
- กลุ่ม H319 เป็นสาเหตุให้เกิดการระคายเคืองอย่างร้ายแรงที่เดา
- กลุ่ม H335 อาจเป็นสาเหตุให้เกิดการระคายเคืองต่อระบบหายใจ
- กลุ่ม H336 อาจเป็นสาเหตุให้เกิดซึมหรือหนักโดยวัตถุเคราะห์
- กลุ่ม H351 สงสัยว่าจะเป็นสาเหตุการเกิดมะเร็ง

คํายาและชื่อวิทยาศาสตร์
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

(ต่อหน้า 9)
แผนข้อมูลความปลอดภัย ตาม GHS

ชื่อทางการค้า M-BOND 610 ADHESIVE

<table>
<thead>
<tr>
<th>LD50: Lethal dose, 50 percent</th>
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<tbody>
<tr>
<td>PBT: Persistent, Bioaccumulative and Toxic</td>
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<tr>
<td>vPvB: very Persistent and very Bioaccumulative</td>
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<tr>
<td>Flam. Liq. 2: Flammable liquids – Category 2</td>
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<tr>
<td>Eye Irrit. 2: Serious eye damage/eye irritation – Category 2</td>
</tr>
<tr>
<td>Carc. 2: Carcinogenicity – Category 2</td>
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<tr>
<td>STOT SE 3: Specific target organ toxicity (single exposure) – Category 3</td>
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