Safety Data Sheet
Hottinger Baldwin Messtechnik GmbH

Print date: 24.08.2016
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1. Identification

Product identifier
EP 310 S - B

Details of the supplier of the safety data sheet
Company name: Hottinger Baldwin Messtechnik GmbH
Im Tiefen See 45
D-64293 Darmstadt
Telephone: +49 (0)6151 803-0
E-mail: info@de.hbm.com
Internet: www.hbm.com
Responsible Department: Customer Care Center CCC +49 6151 803 0
Emergency phone number: +49(0)6131/19240

2. Hazard(s) Identification

Classification of the chemical
Hazard categories:
Flammable liquid: Flam. Liq. 2
Skin corrosion/irritation: Skin Irrit. 2
Serious eye damage/eye irritation: Eye Irrit. 2
Respiratory/skin sensitization: Skin Sens. 1
Carcinogenicity: Carc. 2
Specific target organ toxicity - single exposure: STOT SE 3
Hazardous to the aquatic environment: Aquatic Chronic 2

Hazard Statements:
Highly flammable liquid and vapor
Causes skin irritation
May cause an allergic skin reaction
Causes serious eye irritation
May cause respiratory irritation
Suspected of causing cancer
Toxic to aquatic life with long lasting effects

Label elements
Signal word: Danger
Pictograms: flame; exclamation mark; health hazard; environment

Hazard statements
Highly flammable liquid and vapor
Causes skin irritation
May cause an allergic skin reaction
Causes serious eye irritation
May cause respiratory irritation
Suspected of causing cancer
Toxic to aquatic life with long lasting effects
Precautionary statements
Use only outdoors or in a well-ventilated area.
Avoid release to the environment.

Special labelling of certain mixtures
May form explosive peroxides.

3. Composition/Information on ingredients

Mixtures
Chemical characterization
Mixture related information

Hazardous components

<table>
<thead>
<tr>
<th>CAS No</th>
<th>Components</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>reaction product: epichlorhydrin novolak</td>
<td>50-100%</td>
</tr>
<tr>
<td>109-99-9</td>
<td>tetrahydrofuran</td>
<td>25 %</td>
</tr>
<tr>
<td>67-64-1</td>
<td>acetone; propan-2-one, propanone</td>
<td>10 %</td>
</tr>
</tbody>
</table>

4. First-aid measures

Description of first aid measures

After inhalation
Provide fresh air. In case of respiratory tract irritation, consult a physician.

After contact with skin
After contact with skin, wash immediately with plenty of water and soap.
Remove contaminated, saturated clothing immediately.
In case of skin irritation, consult a physician.

After contact with eyes
If product gets into the eye, keep eyelid open and rinse immediately with large quantities of water, for at least 5 minutes. Subsequently consult an ophthalmologist.

After Ingestion
If accidentally swallowed rinse the mouth with plenty of water (only if the person is conscious) and obtain immediate medical attention.
Do NOT induce vomiting. Aspiration hazard

5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media
Carbon dioxide (CO2). Extinguishing powder. Water spray.
In case of major fire and large quantities: Water spray. Alcohol resistant foam.

Unsuitable extinguishing media
High power water jet.

Specific hazards arising from the chemical
Combustible. Vapours may form explosive mixtures with air.

Special protective equipment and precautions for fire-fighters
Wear a self-contained breathing apparatus and chemical protective clothing.

Additional information
Use water spray jet to protect personnel and to cool endangered containers. Suppress gases/vapours/mists with water spray jet.
Collect contaminated fire extinguishing water separately. Do not allow entering drains or surface water.
6. Accidental release measures

Personal precautions, protective equipment and emergency procedures
Wear personal protection equipment. Remove all sources of ignition. Provide adequate ventilation. Do not breathe gas/fumes/vapour/spray. Avoid contact with skin, eyes and clothes.

Environmental precautions
Do not allow to enter into surface water or drains. Explosion hazard.

Methods and material for containment and cleaning up
Absorb with liquid-binding material (e.g. sand, diatomaceous earth, acid- or universal binding agents). Keep away from sources of ignition. - No smoking. Treat the recovered material as prescribed in the section on waste disposal. Provide adequate ventilation.

7. Handling and storage

Precautions for safe handling
Advice on safe handling
If handled uncovered, arrangements with local exhaust ventilation have to be used.
Do not breathe gas/fumes/vapour/spray.
Keep container tightly closed.
Avoid contact with skin and eyes.
Do not allow to enter into surface water or drains.

Advice on protection against fire and explosion
Keep away from sources of ignition. - No smoking.
Take precautionary measures against static discharges.
Keep container tightly closed and in a well-ventilated place.

Conditions for safe storage, including any incompatibilities
Requirements for storage rooms and vessels
Keep container tightly closed.
Store in a place accessible by authorized persons only.
Keep container in a well-ventilated place.
Keep away from sources of ignition. - No smoking.

Advice on storage compatibility
Keep away from food, drink and animal feedingstuffs.
Do not store together with: Pyrophoric liquids and solids

8. Exposure controls/personal protection

Control parameters
Exposure limits

<table>
<thead>
<tr>
<th>CAS No.</th>
<th>Substance</th>
<th>ppm</th>
<th>mg/m³</th>
<th>f/cc</th>
<th>Category</th>
<th>Origin</th>
</tr>
</thead>
<tbody>
<tr>
<td>67-64-1</td>
<td>Acetone</td>
<td>1000</td>
<td>2400</td>
<td></td>
<td>TWA (8 h)</td>
<td>PEL</td>
</tr>
<tr>
<td></td>
<td></td>
<td>250</td>
<td>590</td>
<td></td>
<td>TWA (8 h)</td>
<td>REL</td>
</tr>
<tr>
<td>109-99-9</td>
<td>Tetrahydrofuran</td>
<td>200</td>
<td>560</td>
<td></td>
<td>TWA (8 h)</td>
<td>PEL</td>
</tr>
<tr>
<td></td>
<td></td>
<td>200</td>
<td>590</td>
<td></td>
<td>TWA (8 h)</td>
<td>REL</td>
</tr>
<tr>
<td></td>
<td></td>
<td>250</td>
<td>755</td>
<td></td>
<td>STEL (15 min)</td>
<td>REL</td>
</tr>
</tbody>
</table>
Biological Exposure Indices (BEI-ACGIH)

<table>
<thead>
<tr>
<th>CAS No.</th>
<th>Substance</th>
<th>Determinant</th>
<th>Value</th>
<th>Test material</th>
<th>Sampling time</th>
</tr>
</thead>
<tbody>
<tr>
<td>67-64-1</td>
<td>ACETONE</td>
<td>Acetone</td>
<td>50 mg/L</td>
<td>urine</td>
<td>End of shift</td>
</tr>
<tr>
<td>109-99-9</td>
<td>TETRAHYDROFURAN</td>
<td>Tetrahydrofuran</td>
<td>2 mg/L</td>
<td>urine</td>
<td>End of shift</td>
</tr>
</tbody>
</table>

Exposure controls

Appropriate engineering controls
If handled uncovered, arrangements with local exhaust ventilation have to be used.
Do not breathe gas/fumes/vapours/spray.

Protective and hygiene measures
Protect skin by using skin protective cream.
Remove contaminated, saturated clothing immediately.
After work, wash hands and face.
When using do not eat or drink.

Eye/face protection
Tightly sealed safety glasses.

Hand protection
When handling with chemical substances, protective gloves must be worn with the CE-label including
the four control digits.
The quality of the protective gloves resistant to chemicals must be chosen as a function of the specific
working place concentration and quantity of hazardous substances.
For special purposes, it is recommended to check the resistance to chemicals of the protective gloves
mentioned above together with the supplier of these gloves.

Wear suitable protective clothing and gloves.
Suitable gloves type: NBR (Nitrile rubber).

Skin protection
Wear suitable protective clothing.

Respiratory protection
Recommendation: Use appropriate respiratory protection.
If technical exhaust or ventilation measures are not possible or insufficient, respiratory protection must
be worn.

9. Physical and chemical properties

Information on basic physical and chemical properties

Physical state: liquid
Color: colourless
Odor: Ether

Test method

Changes in the physical state
Initial boiling point and boiling range: 65 °C
Flash point: -21 °C

Explosive properties
May form explosive peroxides.

Lower explosion limits: 1.5 vol. %
Upper explosion limits: 12 vol. %
Ignition temperature: 230 °C
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according to 29 CFR 1910.1200(g)

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Vapor pressure: 200 hPa
(at 20 °C)
Density (at 20 °C): 1,04561 g/cm³

10. Stability and reactivity

Possibility of hazardous reactions
Violent reaction with: Alkalis (alkalis), concentrated. Oxidizing agents, strong.
Reacts with: Alkali metals. Peroxides.

Conditions to avoid
Keep away from heat.
Keep away from sources of ignition. - No smoking.

Hazardous decomposition products
Carbon monoxide. Carbon dioxide.

11. Toxicological information

Information on toxicological effects

Acute toxicity

<table>
<thead>
<tr>
<th>CAS No</th>
<th>Components</th>
<th>Exposure routes</th>
<th>Method</th>
<th>Dose</th>
<th>Species</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>67-64-1</td>
<td>Acetone; propan-2-one; propanone</td>
<td>oral</td>
<td>LD50</td>
<td>5800 mg/kg</td>
<td>Rat</td>
<td>RTECS</td>
</tr>
<tr>
<td></td>
<td></td>
<td>dermal</td>
<td>LD50</td>
<td>23000 mg/kg</td>
<td>Rabbit</td>
<td>IUCLID</td>
</tr>
<tr>
<td></td>
<td></td>
<td>inhalative (4 h) vapour</td>
<td>LC50</td>
<td>76 mg/l</td>
<td>Rat</td>
<td></td>
</tr>
</tbody>
</table>

Irritation and corrosivity
Irritant effect on the skin:
Prolonged or repeated contact with skin or mucous membrane result in irritation symptoms such as redness, blistering, dermatitis, etc.

Irritant effect on the eye: Irritant.

Sensitizing effects
May cause sensitisation by skin contact.

Additional information on tests
The classification was carried out according to the calculation method of the Preparations Directive (1999/45/EC).

12. Ecological Information

Ecotoxicity
Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Further Information
Do not allow to enter into surface water or drains.

13. Disposal considerations

Waste treatment methods

Advice on disposal
Do not allow to enter into surface water or drains. Dispose of waste according to applicable legislation.
### 14. Transport information

**Marine transport (IMDG)**

- **UN number:** UN 1133
- **UN proper shipping name:** Adhesives tetrahydrofuran
- **Transport hazard class(es):** 3
- **Packing group:** 1
- **Hazard label:**

```
\[\text{flammable} \]
```

- **Limited quantity:** 500 ml
- **EmS:** F-E, S-D

**Air transport (ICAO)**

- **UN number:** UN 1133
- **UN proper shipping name:** Adhesives tetrahydrofuran
- **Transport hazard class(es):** 3
- **Packing group:** 1
- **Hazard label:**

```
\[\text{flammable} \]
```

- **Limited quantity Passenger:** Forbidden
- **IATA-packing Instructions - Passenger:** 351
- **IATA-max. quantity - Passenger:** 1 L
- **IATA-packing instructions - Cargo:** 351
- **IATA-max. quantity - Cargo:** 30 L

### 15. Regulatory information

#### U.S. Regulations

**National regulatory information**

- **SARA Section 304 CERCLA:**
  - Furan, tetrahydro- (109-95-9): Reportable quantity = 1,000 (454) lbs. (kg)
  - Acetone (67-64-1): Reportable quantity = 5,000 (2270) lbs. (kg)

- **SARA Section 311/312 Hazards:**
  - Reaktionsprodukt: Epichlorhydrin Novolak (-): Immediate (acute) health hazard
  - Furan, tetrahydro- (109-95-9): Fire hazard, Delayed (chronic) health hazard, Immediate (acute) health hazard
  - Acetone (67-64-1): Fire hazard, Immediate (acute) health hazard

**State Regulations**

- **Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65, State of California)**
  - This product contains no chemicals known to the State of California to cause cancer, birth defects or other reproductive harm.
18. Other information

Revision date: 21.05.2015
Revision No: 3.02

Other data

The information is based on present levels of our knowledge. It does not, however, give assurances of product properties and establishes no contract legal rights.

(The data for the hazardous ingredients were taken respectively from the last version of the sub-contractor's safety data sheet.)