1. Identification

Product identifier
EP 310 S - A

Details of the supplier of the safety data sheet

Company name: Hottinger Baldwin Messtechnik GmbH
Darmstadt
Street: Im Tiefen See 45
Place: 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
Serious eye damage/eye irritation: Eye Irrit. 2
Respiratory/skin sensitization: Resp. Sens. 1
Respiratory/skin sensitization: Skin Sens. 1
Carcinogenicity: Carc. 2
Specific target organ toxicity - single exposure: STOT SE 3

Hazard Statements:
Highly flammable liquid and vapor
May cause allergy or asthma symptoms or breathing difficulties if inhaled
May cause respiratory irritation
Causes serious eye irritation
May cause an allergic skin reaction
Suspected of causing cancer

Label elements
Signal word: Danger
Pictograms:

![Pictograms]

Hazard statements
Highly flammable liquid and vapor
May cause allergy or asthma symptoms or breathing difficulties if inhaled
May cause respiratory irritation
Causes serious eye irritation
May cause an allergic skin reaction
Suspected of causing cancer

Precautionary statements
Do not handle until all safety precautions have been read and understood.
Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
Keep container tightly closed.
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>109-99-9</td>
<td>tetrahydrofuran</td>
<td>50-100%</td>
</tr>
<tr>
<td>89-32-7</td>
<td>benzene-1,2,4,5-tetracarboxylic dianhydride, pyromellitic dianhydride</td>
<td>2.5-10%</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
Safety Data Sheet

according to 29 CFR 1910.1200(g)

Print date: 24.06.2015

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.
Keep 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>109-93-9</td>
<td>Tetrahydrofuran</td>
<td>200</td>
<td>592</td>
<td></td>
<td>TWA (8 h)</td>
<td>REL</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>735</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>109-93-9</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.
Safety Data Sheet

Do not breathe gas/fumes/vapour/spray.

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

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: ester

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
- Vapor pressure: 200 hPa
  (at 20 °C)
- Density (at 20 °C): 0.9572 g/cm³

10. Stability and reactivity

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

Information on toxicological effects

Acute toxicity

<table>
<thead>
<tr>
<th>CAS No</th>
<th>Component</th>
<th>Exposure routes</th>
<th>Method</th>
<th>Dose</th>
<th>Species</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>89-32-7</td>
<td>benzene-1,2:4,5-tetracarboxylic dianhydride, pyromellitic dianhydride</td>
<td>oral</td>
<td>LD50</td>
<td>2250 mg/kg</td>
<td>Rat</td>
<td>GESTIS</td>
</tr>
</tbody>
</table>

Irritation and corrosivity
May cause respiratory irritation.
Causes serious eye irritation.

Sensitizing effects
May cause sensitization by inhalation and 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

Other adverse effects
Do not allow to enter into surface water or drains.

13. Disposal considerations

Waste treatment methods
Advice on disposal
Dispose of waste according to applicable legislation.

Contaminated packaging
Non-contaminated packages may be recycled.

14. Transport information

Marine transport (IMDG)

UN number: UN 1133
UN proper shipping name: Adhesives
tetrahydrofuran
benzene-1,2:4,5-tetracarboxylic dianhydride, pyromellitic dianhydride
Transport hazard class(es): 3
Packing group: II
Hazard label: 

Limited quantity: 5 L
EmS: F-E, S-D

Air transport (ICAO)
- UN number: UN 1133
- UN proper shipping name: Adhesives
tetrahydrofuran
benzene-1,2,4,5-tetracarboxylic dianhydride, pyromellitic dianhydride

Transport hazard class(es): 3
Packing group: II
Hazard label: 3

Limited quantity Passenger: 1 L
IATA-packing instructions - Passenger: 353
IATA-max. quantity - Passenger: 5 L
IATA-packing instructions - Cargo: 364
IATA-max. quantity - Cargo: 60 L

15. Regulatory information

U.S. Regulations
National regulatory information
SARA Section 304 CERCLA:
- Furan, tetrahydro- (109-99-9): Reportable quantity = 1,000 (454) lbs. (kg)
SARA Section 311/312 Hazards:
- Furan, tetrahydro- (109-99-9): Fire hazard, Delayed (chronic) health hazard, Immediate (acute) health hazard
- Benzol-1,2;4,5-tetracarboxylicdianhydrid Pyromellitisäuredianhydrid (89-32-7): 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.

16. 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.)