# Safety Data Sheet

## EP 310 S - A



## 1. Identification

**Product identifier**

EP 310 S - A

**Recommended use of the chemical and restrictions on use**

**Use of the substance/mixture**

Adhesives, sealants

**Details of the supplier of the safety data sheet**

| | |
|---|---|
| Company name: | Hottinger Baldwin Messtechnik GmbH<br>Darmstadt |
| Street: | Im Tiefen See 45 |
| Place: | D-64293 Darmstadt |
| Telephone: | +49 (0)6151 803-0 |
| e-mail: | info@de.hbm.com |
| e-mail (Contact person): | support@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**

**Regulation (EC) No. 1272/2008**

Hazard categories:
Flammable liquids: Flam. Liq. 2
Serious eye damage/eye irritation: Eye Dam. 1
Respiratory or skin sensitization: Resp. Sens. 1
Respiratory or skin sensitization: Skin Sens. 1
Carcinogenicity: Carc. 2
Specific target organ toxicity single exposure: STOT SE 3
Hazard Statements:
Highly flammable liquid and vapor
Causes serious eye damage
May cause allergy or asthma symptoms or breathing difficulties if inhaled
May cause an allergic skin reaction
Suspected of causing cancer
May cause respiratory irritation

**Label elements**

**Regulation (EC) No. 1272/2008**

**Signal word:** Danger

**Pictograms:**

**Hazard statements**

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

**Precautionary statements**

Avoid breathing dust/fume/gas/mist/vapors/spray.
Wear protective gloves/protective clothing/eye protection/face protection.
Wear respiratory protection.
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.
Immediately call a poison center/doctor.
If experiencing respiratory symptoms: Call a poison center/doctor.

## 3. Composition/information on ingredients

**Mixtures**

**Chemical characterization**

Mixture related information

**Hazardous components**

| CAS No | Components | Quantity |
|---|---|---|
| 109-99-9 | tetrahydrofuran | 50-100% |
| 89-32-7 | benzene-1,2:4,5-tetracarboxylic dianhydride, pyromellitic dianhydride | 2.5-10% |

## 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 eyes and skin.
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**

| CAS No. | Substance | ppm | mg/m³ | f/cc | Category | Origin |
|---|---|---|---|---|---|---|
| 109-99-9 | Tetrahydrofuran | 200 | 590 | | TWA (8 h) | PEL |
| | | 200 | 590 | | TWA (8 h) | REL |
| | | 50 | | | TWA (8 h) | ACGIH-2016 |
| | | 250 | 735 | | STEL (15 min) | REL |
| | | 100 | | | STEL (15 min) | ACGIH-2016 |

**Biological Exposure Indices (BEI-ACGIH)**

| CAS No. | Substance | Determinant | Value | Test material | Sampling time |
|---|---|---|---|---|---|
| 109-99-9 | TETRAHYDROFURAN | Tetrahydrofuran | 2 mg/L | urine | End of shift |

**Exposure controls**




**Appropriate engineering controls**

If handled uncovered, arrangements with local exhaust ventilation have to be used.
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 eyes and skin.

**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. DIN EN 374
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).
Thickness of glove material: >= 0,4 mm

**Skin protection**

Wear suitable protective clothing.

**Respiratory protection**

Provide adequate ventilation as well as local exhaustion at critical locations.
Filtering device (full mask or mouthpiece) with filter: A

## 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: (at 20 °C) | 200 hPa |
| 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.

**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**

Based on available data, the classification criteria are not met.

| CAS No | Components | | | | |
|---|---|---|---|---|---|
| | Exposure route | Dose | Species | Source | Method |
| 89-32-7 | benzene-1,2:4,5-tetracarboxylic dianhydride, pyromellitic dianhydride | | | | |
| | oral | LD50 2250 mg/kg | Rat | GESTIS | |

**Irritation and corrosivity**

Causes serious eye damage
Skin corrosion/irritation: Based on available data, the classification criteria are not met.
May cause respiratory irritation.
Causes serious eye irritation.

**Sensitizing effects**

May cause an allergic skin reaction
May cause allergy or asthma symptoms or breathing difficulties if inhaled
May cause sensitization by inhalation and skin contact.

**Carcinogenic/mutagenic/toxic effects for reproduction**

Suspected of causing cancer
Germ cell mutagenicity: Based on available data, the classification criteria are not met.
Reproductive toxicity: Based on available data, the classification criteria are not met.

**Specific target organ toxicity (STOT) - single exposure**

May cause respiratory irritation ( (tetrahydrofuran))

**Specific target organ toxicity (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.

**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<br>tetrahydrofuran<br>benzene-1,2:4,5-tetracarboxylic dianhydride, pyromellitic dianhydride |
| **Transport hazard class(es):** | 3 |
| **Packing group:** | II |
| Hazard label: | 3 |


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

**Air transport (ICAO-TI/IATA-DGR)**

| | |
|---|---|
| **UN number:** | UN 1133 |
| **UN proper shipping name:** | Adhesives<br>tetrahydrofuran<br>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
benzene-1,2:4,5-tetracarboxylic dianhydride, pyromellitic dianhydride (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

**Changes**

| | |
|---|---|
| Revision date: | 03.05.2017 |
| Revision No: | 1,01 |

This data sheet contains changes from the previous version in section(s): 1,3,11.

**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.)*