

**Safety Data Sheet**

according to Regulation (EC) No 1907/2006

**EP 310 S - A**

Revision date: 03.05.2017

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**SECTION 1: Identification of the substance/mixture and of the company/undertaking****1.1. Product identifier**

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**1.2. Relevant identified uses of the substance or mixture and uses advised against****Use of the substance/mixture**

Adhesives, sealants

**1.3. 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  
e-mail (Contact person): support@hbm.com  
Internet: www.hbm.com  
Responsible Department: Customer Care Center CCC +49 6151 803 0

**1.4. Emergency telephone number:**

+49(0)6131/19240

**SECTION 2: Hazards identification****2.1. Classification of the substance or mixture****Regulation (EC) No. 1272/2008**

Hazard categories:

Flammable liquid: Flam. Liq. 2

Serious eye damage/eye irritation: Eye Dam. 1

Respiratory or skin sensitisation: Resp. Sens. 1

Respiratory or skin sensitisation: Skin Sens. 1

Carcinogenicity: Carc. 2

Specific target organ toxicity - single exposure: STOT SE 3

Hazard Statements:

Highly flammable liquid and vapour.

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.

**2.2. Label elements****Regulation (EC) No. 1272/2008****Hazard components for labelling**

tetrahydrofuran

benzene-1,2,4,5-tetracarboxylic dianhydride, pyromellitic dianhydride

**Signal word:** Danger**Pictograms:****Hazard statements**

H225

Highly flammable liquid and vapour.

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H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H335	May cause respiratory irritation.
H351	Suspected of causing cancer.

#### Precautionary statements

P261	Avoid breathing dust/fume/gas/mist/vapours/spray.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P284	Wear respiratory protection.
P304+P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310	Immediately call a POISON CENTER/doctor.
P342+P311	If experiencing respiratory symptoms: Call a POISON CENTER/doctor.

#### Special labelling of certain mixtures

EUH019	May form explosive peroxides.
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### SECTION 3: Composition/information on ingredients

#### 3.2. Mixtures

##### Chemical characterization

Mixture related information

##### Hazardous components

CAS No	Chemical name			Quantity
	EC No	Index No	REACH No	
	Classification according to Regulation (EC) No. 1272/2008 [CLP]			
109-99-9	tetrahydrofuran			50-100%
	203-726-8	603-025-00-0		
	Flam. Liq. 2, Carc. 2, Eye Irrit. 2, STOT SE 3; H225 H319 H335 H351 EUH019			
89-32-7	benzene-1,2:4,5-tetracarboxylic dianhydride, pyromellitic dianhydride			2,5-10%
	201-898-9	607-098-00-X		
	Eye Dam. 1, Resp. Sens. 1, Skin Sens. 1; H318 H334 H317			

Full text of H and EUH statements: see section 16.

### SECTION 4: First aid measures

#### 4.1. 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

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**SECTION 5: Firefighting measures****5.1. Extinguishing media****Suitable extinguishing media**

Carbon dioxide (CO<sub>2</sub>). Extinguishing powder. Water spray.  
In case of major fire and large quantities: Water spray. alcohol resistant foam.

**Unsuitable extinguishing media**

High power water jet.

**5.2. Special hazards arising from the substance or mixture**

Combustible. Vapours may form explosive mixtures with air.

**5.3. Advice for firefighters**

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.

**SECTION 6: Accidental release measures****6.1. 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.

**6.2. Environmental precautions**

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

**6.3. 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.

**SECTION 7: Handling and storage****7.1. 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.

**7.2. 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.

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Do not store together with: Pyrophoric liquids and solids

### SECTION 8: Exposure controls/personal protection

#### 8.1. Control parameters

##### Occupational exposure limits

CAS No	Substance	ppm	mg/m <sup>3</sup>	fib/cm <sup>3</sup>	Category	Origin
109-99-9	Tetrahydrofuran	50	150		TWA (8 h)	
		100	300		STEL (15 min)	

##### Biological limit values

CAS No	Substance	Parameter	Value	Test material	Sampling time
109-99-9	Tetrahydrofuran	THF	2 mg/L	Urine	End of shift

#### 8.2. 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:  $\geq 0,4$  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

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### SECTION 9: Physical and chemical properties

#### 9.1. Information on basic physical and chemical properties

Physical state: liquid  
 Colour: colourless  
 Odour: 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

Vapour pressure: 200 hPa  
 (at 20 °C)

Density (at 20 °C): 0,9572 g/cm³

### SECTION 10: Stability and reactivity

#### 10.3. Possibility of hazardous reactions

Violent reaction with: Alkalis (alkalis), concentrated. Oxidizing agents, strong.

Reacts with : Alkali metals. Peroxides.

#### 10.4. Conditions to avoid

Keep away from heat.

Keep away from sources of ignition - No smoking.

#### 10.6. Hazardous decomposition products

Carbon monoxide Carbon dioxide.

### SECTION 11: Toxicological information

#### 11.1. Information on toxicological effects

##### Acute toxicity

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

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

##### Sensitising effects

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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.

### STOT-single exposure

May cause respiratory irritation. ( (tetrahydrofuran))

### 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).

## SECTION 12: Ecological information

### 12.6. Other adverse effects

Do not allow to enter into surface water or drains.

## SECTION 13: Disposal considerations

### 13.1. Waste treatment methods

#### Advice on disposal

Dispose of waste according to applicable legislation.

#### Waste disposal number of waste from residues/unused products

080409 WASTES FROM THE MANUFACTURE, FORMULATION, SUPPLY AND USE (MFSU) OF COATINGS (PAINTS, VARNISHES AND VITREOUS ENAMELS), ADHESIVES, SEALANTS AND PRINTING INKS; wastes from MFSU of adhesives and sealants (including waterproofing products); waste adhesives and sealants containing organic solvents or other hazardous substances  
Classified as hazardous waste.

#### Contaminated packaging

Non-contaminated packages may be recycled.

## SECTION 14: Transport information

### Land transport (ADR/RID)

#### 14.1. UN number:

UN 1133

#### 14.2. UN proper shipping name:

Adhesives  
tetrahydrofuran  
benzene-1,2:4,5-tetracarboxylic dianhydride, pyromellitic dianhydride

#### 14.3. Transport hazard class(es):

3

#### 14.4. Packing group:

I

Hazard label:

3



Classification code:

F1

Limited quantity:

500 mL

Transport category:

1

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Hazard No: 33  
Tunnel restriction code: D/E

### Inland waterways transport (ADN)

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



Classification code: F1  
Special Provisions: 640C  
Limited quantity: 5 L

### Marine transport (IMDG)

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



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

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

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



Special Provisions: A3  
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

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**SECTION 15: Regulatory information****15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture****EU regulatory information**

2010/75/EU (VOC): 90 %

**National regulatory information**

Water contaminating class (D): 1 - slightly water contaminating

**SECTION 16: Other information****Changes**

This data sheet contains changes from the previous version in section(s): 1,2,3,11,15.

**Relevant H and EUH statements (number and full text)**

H225	Highly flammable liquid and vapour.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H335	May cause respiratory irritation.
H351	Suspected of causing cancer.
EUH019	May form explosive peroxides.

**Further Information**

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.)*