



Safety Data Sheet

SDS-0016

according to 29 CFR 1910.1200(g)

EP 310 S - A

Print date: 24.06.2015

Page 1 of 6

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:

flame; exclamation mark; health hazard

**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.

**Safety Data Sheet**

according to 29 CFR 1910.1200(g)

EP 310 S - A

Print date: 24.06.2015

Page 2 of 6

Take precautionary measures against static discharge.
Keep cool.

Special labelling of certain mixtures
May form explosive peroxides.

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



Safety Data Sheet

according to 29 CFR 1910.1200(g)

EP 310 S - A

Print date: 24.06.2015

Page 3 of 6

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**

CAS No.	Substance	ppm	mg/m ³	f/cc	Category	Origin
109-99-9	Tetrahydrofuran	200	590		TWA (8 h)	PEL
		200	590		TWA (8 h)	REL
		250	735		STEL (15 min)	REL

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.



Safety Data Sheet

according to 29 CFR 1910.1200(g)

EP 310 S - A

Print date: 24.06.2015

Page 4 of 6

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.

Eyeface 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.



Safety Data Sheet

according to 29 CFR 1910.1200(g)

EP 310 S - A

Print date: 24.06.2015

Page 5 of 6

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**

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

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:

3





Safety Data Sheet

according to 29 CFR 1910.1200(g)

EP 310 S - A

Print date: 24.06.2015

Page 6 of 6

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



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-tetracarbonsäuredianhydrid Pyromellitsäuredianhydrid (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.)