1. Identification

Product Identifier

EP 310 S - B

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

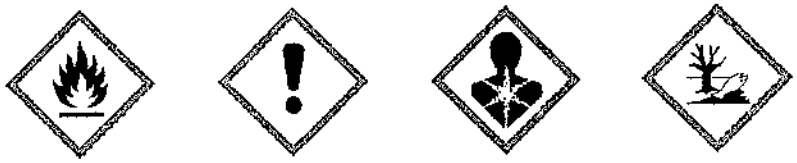
Classification of the chemical

Hazard categories:
Flammable liquid: Flam. Liq. 2
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

CAS No	Components	Quantity
	reaction product: epichlorhydrin novolak	50-100%
109-99-9	tetrahydrofuran	25 %
67-64-1	acetone; propan-2-one; propanone	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 (CO_2). 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

CAS No.	Substance	ppm	mg/m³	f/cc	Category	Origin
67-64-1	Acetone	1000	2400		TWA (8 h)	PEL
		250	590		TWA (8 h)	REL
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
67-64-1	ACETONE	Acetone	50 mg/L	urine	End of shift
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

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	

Vapor pressure: (at 20 °C)	200 hPa
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

CAS No	Components				
	Exposure routes	Method	Dose	Species	Source
67-64-1	acetone; propan-2-one; propanone				
	oral	LD50	5800 mg/kg	Rat	RTECS
	dermal	LD50	20000 mg/kg	Rabbit	IUCLID
	inhalative (4 h) vapour	LC50	76 mg/l	Rat	

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.

Contaminated packaging

Non-contaminated packages may be recycled. Handle contaminated packages in the same way as the substance itself.

14. Transport information

Marine transport (IMDG)

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

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:	I
Hazard label:	3

Limited quantity Passenger:	Forbidden
IATA-packing instructions - Passenger:	351
IATA-max. quantity - Passenger:	1 L
IATA-packing instructions - Cargo:	361
IATA-max. quantity - Cargo:	30 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)
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- (109-99-9): 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.

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.)