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1. Identification**Product identifier**

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

Flux agent

Details of the supplier of the safety data sheet

Company name: Hottinger Brüel & Kjaer
Street: Im Tiefen See 45
Place: D-64293 Darmstadt
Telephone: +49 (0)6151 803-0
Internet: www.hbm.com
Responsible Department: support@hbm.com

Emergency telephone number: +49-30-18412-0**2. Hazard identification****Classification of the substance or mixture****Regulation (EC) No 1272/2008**

Flam. Liq. 2; H225
Eye Irrit. 2; H319
Skin Sens. 1; H317
STOT SE 3; H336

Full text of hazard statements: see SECTION 16.

Label elements**Regulation (EC) No 1272/2008****Signal word:** Danger**Pictograms:****Hazard statements**

H225 Highly flammable liquid and vapour.
H317 May cause an allergic skin reaction.
H319 Causes serious eye irritation.
H336 May cause drowsiness or dizziness.

Precautionary statements

P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P261 Avoid breathing dust/fume/gas/mist/vapours/spray.

Special labelling of certain mixtures

Restricted to professional users.

Labelling of packages where the contents do not exceed 125 ml**Signal word:** Danger**Pictograms:**

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Hazard statements

H317

Precautionary statements

P261

Other hazards

No information available.

3. Composition/information on ingredients**Mixtures****Hazardous components**

CAS No	Chemical name	Quantity
67-63-0	propan-2-ol; isopropyl alcohol; isopropanol	80 - 90 %
8050-09-7	rosin; colophony	10 - < 15 %
124-04-9	adipic acid	1 - < 5 %
123-99-9	Azelainsäure	1 - < 3 %

Full text of H statements: see section 16.

Specific Conc. Limits, M-factors and ATE

CAS No	EC No	Chemical name	Quantity
		Specific Conc. Limits, M-factors and ATE	
124-04-9	204-673-3	adipic acid	1 - < 5 %
		inhalation: LC50 = > 7,7 mg/l (dusts or mists); oral: LD50 = ca. 5700 mg/kg	
123-99-9	204-669-1	Azelainsäure	1 - < 3 %
		dermal: LD50 = > 10 mg/kg; oral: LD50 = >4.000 mg/kg	

Further Information

No information available.

4. First-aid measures**Description of first aid measures****General information**

Remove affected person from the danger area and lay down. If unconscious but breathing normally, place in recovery position and seek medical advice. First aider: Pay attention to self-protection!

After inhalation

When in doubt or if symptoms are observed, get medical advice.

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

In case of contact with eyes flush immediately with plenty of flowing water for 10 to 15 minutes holding eyelids apart and consult an ophthalmologist.

After ingestion

Rinse mouth immediately and drink plenty of water. Never give anything by mouth to an unconscious person or a person with cramps. Do NOT induce vomiting.

Most important symptoms and effects, whether acute or delayed

No information available.

Indication of immediate medical attention and special treatment needed

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No information available.

5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media

alcohol resistant foam, Water spray jet, Dry extinguishing powder

Unsuitable extinguishing media

Full water jet

Specific hazards arising from the hazardous product

Highly flammable.

Vapours can form explosive mixtures with air.

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

Special protective equipment and precautions for fire-fighters

Wear a self-contained breathing apparatus and chemical protective clothing.

Co-ordinate fire-fighting measures to the fire surroundings.

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

General advice

Remove all sources of ignition. Provide adequate ventilation. Do not breathe gas/fumes/vapour/spray. Avoid contact with skin, eyes and clothes. Use personal protection equipment. Use personal protection equipment. Do not allow to enter into surface water or drains. Treat the recovered material as prescribed in the section on waste disposal. Provide adequate ventilation.

Environmental precautions

Do not allow to enter into surface water or drains.

Do not allow uncontrolled discharge of product into the environment.

Methods and material for containment and cleaning up

Other information

Take up mechanically, placing in appropriate containers for disposal. Absorb with liquid-binding material (sand, diatomaceous earth, acid- or universal binding agents).

Reference to other sections

Safe handling: see section 7

Personal protection equipment: see section 8

Disposal: see section 13

7. Handling and storage

Precautions for safe handling

Advice on safe handling

If local exhaust ventilation is not possible or not sufficient, the entire working area should be ventilated by technical means.

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

Advice on protection against fire and explosion

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. In case of insufficient ventilation and/or through use, explosive/highly flammable mixtures may develop.

Further information on handling

Wear personal protection equipment (refer to section 8). Do not empty into drains. When using do not eat, drink, smoke, sniff.

Conditions for safe storage, including any incompatibilities

Requirements for storage rooms and vessels

Keep container tightly closed and in a well-ventilated place.
Do not allow to enter into surface water or drains.
Do not allow uncontrolled discharge of product into the environment.

Hints on joint storage

Do not store together with: Oxidising agent, strong , Combustible substances of acute toxicity, category 1 and 2 / very toxic substances Non-combustible substances of acute toxicity, category 1 and 2 / very toxic substances

Further information on storage conditions

Keep container tightly closed in a cool, well-ventilated place.

8. Exposure controls/Personal protection

Control parameters

Additional advice on limit values

No information available.

Exposure controls



Appropriate engineering controls

If handled uncovered, arrangements with local exhaust ventilation should be used if possible.
In use, may form flammable/explosive vapour-air mixture.
Use explosion-proof electrical equipment.
Use non-sparking tools.

Protective and hygiene measures

When using do not eat or drink.
Do not breathe gas/fumes/vapour/spray.
After contact with skin, take off immediately all contaminated clothing, and wash immediately with plenty of water and soap.
Wear suitable protective clothing, gloves and eye/face protection.
Draw up and observe skin protection programme.

Eye/face protection

Wear eye/face protection.

Hand protection

When handling with chemical substances, protective gloves must be worn with the CE-label including the four control digits. EN ISO 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.
Thickness of the glove material: $\geq 0,7\text{mm}$
Suitable gloves type NBR (Nitrile rubber)
Breakthrough time: $\geq 480\text{ min}$
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.

Skin protection

Used working clothes should not be worn outside the work area.
Separate storage of work clothes.

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Wear anti-static footwear and clothing

Respiratory protection

If technical exhaust or ventilation measures are not possible or insufficient, respiratory protection must be worn., Filtering device (full mask or mouthpiece) with filter: A

Environmental exposure controls

Do not allow to enter into surface water or drains.

The vapour of the product is heavier than air and may accumulate below ground level, in pits, channels and basements in higher concentration.

9. Physical and chemical properties**Information on basic physical and chemical properties**

Physical state:	Liquid	
Colour:	amber	
Odour:	not relevant	
pH-Value:		not determined

Changes in the physical state

Melting point/freezing point:	not determined
Boiling point or initial boiling point and boiling range:	82,4 °C
Sublimation point:	not determined
Softening point:	not determined
Pour point:	not determined
not determined:	
Flash point:	12 °C
Sustaining combustion:	No data available

Flammability

Solid/liquid:	not determined
Gas:	not determined

Explosive properties

In use, may form flammable/explosive vapour-air mixture.

Lower explosive limits:	not determined
Upper explosive limits:	not determined
Auto-ignition temperature:	420 °C

Self-ignition temperature

Solid:	not determined
Gas:	not determined
Decomposition temperature:	not determined

Oxidizing properties

not determined

Vapour pressure:	43 hPa
(at 20 °C)	
Vapour pressure:	not determined
(at 50 °C)	
Density (at 20 °C):	0,831 g/cm³
Bulk density:	not determined
Water solubility:	not determined

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Solubility in other solvents

not determined

Partition coefficient n-octanol/water:

not determined

Viscosity / dynamic:

not determined

Viscosity / kinematic:

not determined

Flow time:

not determined

Relative vapour density:

not determined

Evaporation rate:

not determined

Solvent separation test:

not determined

Solvent content:

80,10 %

Other information

Solid content:

19,90 %

10. Stability and reactivity**Reactivity**

No information available.

Chemical stability

The substance is chemically stable under recommended conditions of storage, use and temperature.

Possibility of hazardous reactions

No hazardous reaction when handled and stored according to provisions.

Conditions to avoid

No information available.

Incompatible materials

No information available.

Hazardous decomposition products

No information available.

Further information

No information available.

11. Toxicological information**Information on toxicological effects****Acute toxicity**

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

CAS No	Chemical name				
	Route of exposure	Dose	Species	Source	Method
124-04-9	adipic acid				
	oral	LD50 mg/kg	ca. 5700	Rat	
	inhalation (4 h) dust/mist	LC50 mg/l	> 7,7	Rat	
123-99-9	Azelaensäure				
	oral	LD50 mg/kg	>4.000	Rat	Lit.
	dermal	LD50 mg/kg	> 10	Rat	

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Irritation and corrosivity

Causes serious eye irritation.

Skin corrosion/irritation: Based on available data, the classification criteria are not met.

Sensitizing effects

May cause an allergic skin reaction. (rosin; colophony)

Carcinogenic/mutagenic/toxic effects for reproduction

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

STOT-single exposure

May cause drowsiness or dizziness. (propan-2-ol; isopropyl alcohol; isopropanol)

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.

Specific effects in experiment on an animal

No information available.

Additional information on tests

No information available.

Practical experience

No information available.

Information on other hazards**Other information**

No information available.

Further information

No information available.

12. Ecological information**Persistence and degradability**

No information available.

Bioaccumulative potential

No information available.

Mobility in soil

No information available.

Endocrine disrupting properties

This product does not contain a substance that has endocrine disrupting properties with respect to non-target organisms as no components meets the criteria.

Other adverse effects

No information available.

13. Disposal considerations**Waste treatment methods****Disposal recommendations**

Dispose of waste according to applicable legislation.

14. Transport information**Canadian TDG****UN number or ID number:**

UN 1219

Proper shipping name:

Isopropyl alcohol

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Hazard classes: 3
Packing group: II
 Hazard label: 3
 Limited quantity: 1L

**Marine transport (IMDG)**

UN number: UN 1219
United Nations proper shipping name: ISOPROPANOL (ISOPROPYL ALCOHOL)
Transport hazard class(es): 3
Packing group: II
 Hazard label: 3



Special Provisions: -
 Limited quantity: 1 L
 Excepted quantity: E2
 EmS: F-E, S-D

Air transport (ICAO-TI/IATA-DGR)

UN number: UN 1219
United Nations proper shipping name: Isopropanol
Transport hazard class(es): 3
Packing group: II
 Hazard label: 3



Special Provisions: A180
 Limited quantity Passenger: 1 L
 Passenger LQ: Y341
 Excepted quantity: E2
 IATA-packing instructions - Passenger: 353
 IATA-max. quantity - Passenger: 5 L
 IATA-packing instructions - Cargo: 364
 IATA-max. quantity - Cargo: 60 L

Environmental hazards

ENVIRONMENTALLY HAZARDOUS: No

15. Regulatory information**Canadian regulations****16. Other information**

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Classification for mixtures and used evaluation method according to GHS

Classification	Classification procedure
Flam. Liq. 2; H225	On basis of test data
Eye Irrit. 2; H319	Calculation method
Skin Sens. 1; H317	Calculation method
STOT SE 3; H336	Calculation method

Relevant H statements (number and full text)

H225	Highly flammable liquid and vapour.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H336	May cause drowsiness or dizziness.

(The data for the hazardous ingredients were taken respectively from the last version of the sub-contractor's safety data sheet.)