

FS01

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1. Identification

Product identifier

FS01

UFI: 1Y00-R0CD-500E-3M0U

Recommended use of the chemical and restrictions on use

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 phone number: +49-30-18412-0

2. Hazard(s) identification

Classification of the chemical

Regulation (EC) No. 1272/2008

Flammable liquids: Flam. Liq. 2

Serious eye damage/eye irritation: Eye Irrit. 2

Respiratory or skin sensitization: Skin Sens. 1

Specific target organ toxicity single exposure: STOT SE 3 (narcotic effects)

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 irritation

May cause drowsiness or dizziness

Precautionary statements

Keep away from heat/sparks/open flames/hot surfaces. - No smoking.

Avoid breathing dust/fume/gas/mist/vapors/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

Hazards not otherwise classified

No information available.

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

CAS No	Components	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 and EUH statements: see section 16.

Specific Conc. Limits, M-factors and ATE

CAS No	EC No	Components	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, both acute and delayed

No information available.

Indication of any 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 chemical

Highly flammable.

Vapors may 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/stream to protect personnel and to cool endangered containers. Suppress gases/vapors/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 measures

Remove all sources of ignition. Provide adequate ventilation. Do not breathe gas/fume/vapor/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 (PPE): 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.

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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: 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****Exposure limits**

CAS No.	Substance	ppm	mg/m ³	f/cc	Category	Origin
67-63-0	Isopropyl alcohol	400	980		TWA (8 h)	PEL
		400	980		TWA (8 h)	REL
		500	1225		STEL (15 min)	REL

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 vapor-air mixture.
Use explosion-proof electrical equipment.
Use only non-sparking tools.

Protective and hygiene measures

When using do not eat or drink.
Do not breathe gas/fume/vapor/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.

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Thickness of the glove material: $\geq 0,7\text{mm}$

Suitable gloves type NBR (Nitrile rubber)

Breakthrough time: $>480\text{ min}$

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.

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 vapors are heavier than air and can accumulate in high concentrations on the ground, in cavities, channels and cellars.

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

Physical state:	Liquid	
Color:	amber	
Odor:	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 vapor-air mixture.

Lower explosion limits:		not determined
Upper explosion 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

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Vapor pressure: (at 20 °C)	43 hPa
Vapor pressure: (at 50 °C)	not determined
Density (at 20 °C):	0,831 g/cm ³
Bulk density:	not determined
Water solubility:	not determined
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 %
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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.

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CAS No	Components				
	Exposure route	Dose	Species	Source	Method
124-04-9	adipic acid				
	oral	LD50 mg/kg	ca. 5700	Rat	
	inhalation (4 h) aerosol	LC50 mg/l	> 7,7	Rat	
123-99-9	Azelainsäure				
	oral	LD50 mg/kg	>4.000	Rat	Lit.
	dermal	LD50 mg/kg	> 10	Rat	

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.

Specific target organ toxicity (STOT) - single exposure

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

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.

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.

Other adverse effects

No information available.

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13. Disposal considerations

Waste treatment methods

Disposal recommendations

Dispose of waste according to applicable legislation.

14. Transport information

US DOT 49 CFR 172.101

UN/ID number: UN 1219
Proper shipping name: Isopropyl alcohol
Transport hazard class(es): 3
Packing group: II
 Hazard label: 3



Marine transport (IMDG)

UN number: UN 1219
UN 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
UN 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

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Environmental hazards

ENVIRONMENTALLY HAZARDOUS: No

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

No transport as bulk according to IBC Code.

15. Regulatory information**U.S. Regulations****National regulatory information**

SARA Section 304 CERCLA:

Adipic acid (124-04-9): Reportable quantity = 5,000 (2270) lbs. (kg)

SARA Section 311/312 Hazards:

Isopropyl alcohol (mfg-strong acid process) (67-63-0): Fire hazard, Immediate (acute) health hazard

rosin; colophony (8050-09-7): Immediate (acute) health hazard

Adipic acid (124-04-9): Immediate (acute) health hazard

Azelainsäure (123-99-9): Immediate (acute) health hazard

SARA Section 313 Toxic release inventory:

Isopropyl alcohol (mfg-strong acid process) (67-63-0): De minimis limit = 1.0 %, Reportable threshold = Standard

State Regulations**Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65, State of California)**

This product can not expose you to chemicals known to the State of California to cause cancer, birth defects or other reproductive harm.

16. Other information**Changes**

Revision date: 03/18/2021

Revision No: 1,4

This data sheet contains changes from the previous version in section(s): 3,8,15.

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 (full text)

H225	Highly flammable liquid and vapor
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.)