

Safety Data Sheet

according to 29 CFR 1910.1200(g)

NATURAL 5-METHYL FURFURAL 50% IN FURFURAL

Revision date: 02/27/2025

Product code: 270220US

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1. Identification

Product identifier

NATURAL 5-METHYL FURFURAL 50% IN FURFURAL

Recommended use of the chemical and restrictions on use

Use of the substance/mixture

Manufacturing of: - Air care products - Perfumes, fragrances - Pharmaceuticals - Cosmetics, personal care products - Flavouring Substances - Other

Details of the supplier of the safety data sheet

Company name:	Axxence Aromatic GmbH		
Street:	Tackenweide 28		
Place:	D-46446 Emmerich am Rhein		
Telephone:	+ 49 2822 68561 0	Telefax:	+ 49 2822 68561 39
E-mail:	info@axxence.com		
Contact person:	Safety Team	Telephone:	+ 49 2822 68561 0
E-mail:	safety-documentation@axxence.com		
Internet:	www.axxence.de		
Responsible Department:	Safety Management		

Emergency phone number: +49 2822 68561 99

2. Hazard(s) identification

Classification of the chemical

29 CFR Part 1910.1200

Flammable liquids: Flam. Liq. 3
 Acute toxicity: Acute Tox. 2 (inhalation)
 Acute toxicity: Acute Tox. 3 (oral)
 Acute toxicity: Acute Tox. 4 (dermal)
 Skin corrosion/irritation: Skin Irrit. 2
 Serious eye damage/eye irritation: Eye Irrit. 2A
 Carcinogenicity: Carc. 2
 Specific target organ toxicity single exposure: STOT SE 3 (respiratory tract irritation)

Label elements

29 CFR Part 1910.1200

Signal word: Danger

Pictograms:



Hazard statements

Flammable liquid and vapor
 Toxic if swallowed
 Harmful in contact with skin
 Causes skin irritation and serious eye irritation
 Fatal if inhaled
 May cause respiratory irritation
 Suspected of causing cancer

Precautionary statements

Obtain special instructions before use.
 Do not handle until all safety precautions have been read and understood.

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Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
 Keep container tightly closed.
 Ground/bond container and receiving equipment.
 Use explosion-proof electrical/ventilating/lighting equipment.
 Use only non-sparking tools.
 Take precautionary measures against static discharge.
 Do not breathe dust/fume/gas/mist/vapors/spray.
 Do not eat, drink or smoke when using this product.
 Use only outdoors or in a well-ventilated area.
 Wear protective gloves/protective clothing/eye protection/face protection.
 Wear respiratory protection.
 If swallowed: Immediately call a poison center/doctor.
 Rinse mouth.
 If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
 Call a poison center/doctor if you feel unwell.
 Take off contaminated clothing and wash it before reuse.
 If inhaled: Remove person to fresh air and keep comfortable for breathing.
 Immediately call a poison center/doctor.
 If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.
 Continue rinsing.
 If eye irritation persists: Get medical advice/attention.
 If exposed or concerned: Get medical advice/attention.
 In case of fire: Use sand, extinguishing powder or alcohol-resistant foam to extinguish.
 Keep container tightly closed.
 Store in a well-ventilated place. Keep cool.
 Store locked up.
 Dispose of contents/container to an appropriate recycling or disposal facility.

3. Composition/information on ingredients

Mixtures

Relevant ingredients

CAS No	Components	Quantity
98-01-1	FURFURAL	45-50 %
620-02-0	NATURAL 5-METHYL FURFURAL	50-55 %

4. First-aid measures

Description of first aid measures

General information

First aider: Pay attention to self-protection! Remove affected person from the danger area and lay down.

After inhalation

Provide fresh air. No mouth-to-mouth or mouth-to-nose resuscitation. Use Ambu bag or ventilator. Call a physician immediately.

After contact with skin

After contact with skin, wash immediately with plenty of water and soap. Take off immediately all contaminated clothing and wash it before reuse. Medical treatment necessary.

After contact with eyes

After contact with the eyes, rinse with water with the eyelids open for a sufficient length of time, then consult an ophthalmologist immediately.

After ingestion

Rinse mouth immediately and drink 1 glass of water. Induce vomiting when the affected person is not unconscious. Call a physician immediately.

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Most important symptoms and effects, both acute and delayed

No information available.

Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media

Water spray jet, Carbon dioxide (CO₂), Foam, Extinguishing powder.

Specific hazards arising from the chemical

Flammable. Vapors may form explosive mixtures with air.

Special protective equipment and precautions for fire-fighters

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

Additional information

Use water spray jet 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 advice

Remove all sources of ignition. Do not breathe gas/fume/vapor/spray. Avoid contact with skin, eyes and clothes. Use personal protection equipment.

Environmental precautions

Do not allow uncontrolled discharge of product into the environment. Explosion risk.

Methods and material for containment and cleaning up

For cleaning up

Absorb with liquid-binding material (sand, diatomaceous earth, acid- or universal binding agents). Treat the recovered material as prescribed in the section on waste disposal.

Other information

Absorb with liquid-binding material (sand, diatomaceous earth, acid- or universal binding agents). Treat the recovered material as prescribed in the section on waste disposal.

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 handled uncovered, arrangements with local exhaust ventilation have to be used. Do not breathe gas/fume/vapor/spray.

Advice on protection against fire and explosion

Keep away from sources of ignition - No smoking. Take precautionary measures against static discharges. Vapors may form explosive mixtures with air.

Advice on general occupational hygiene

Remove contaminated, saturated clothing immediately. Draw up and observe skin protection programme. Wash hands and face before breaks and after work and take a shower if necessary. When using do not eat, drink, smoke, sniff. Take off contaminated clothing. Wash hands before breaks and after work. When using do

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not eat, drink, smoke, sniff.

Conditions for safe storage, including any incompatibilities

Requirements for storage rooms and vessels

Keep container tightly closed. Keep locked up. Store in a place accessible by authorized persons only. Provide adequate ventilation as well as local exhaust at critical locations. Keep in a cool, well-ventilated place. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

Hints on joint storage

Do not store together with: Oxidizing agent. Pyrophoric or self-heating substances.

8. Exposure controls/personal protection

Control parameters

Exposure limits

CAS No	Substance	ppm	mg/m ³	Category	Origin
98-01-1	Furfural	5	20	TWA (8 h)	PEL
		0.2	0.8	TWA (8 h)	ACGIH-2024

Biological Exposure Indices (BEI-ACGIH)

CAS No	Substance	Determinant	Value	Test material	Sampling time
98-01-1	Furfural	Furoic acid (with hydrolysis)	200 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/fume/vapor/spray.

Individual protection measures, such as personal protective equipment

Eye/face protection

Suitable eye protection: goggles.

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.

Suitable gloves type: Butyl caoutchouc (butyl rubber)

Skin protection

Use of protective clothing.

Respiratory protection

In case of inadequate ventilation wear respiratory protection.

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9. Physical and chemical properties

Information on basic physical and chemical properties

Physical state:	Liquid	
Color:		
		Test method
Melting point/freezing point:	not determined	
Boiling point or initial boiling point and boiling range:	169,3 °C	
Flammability:	not determined	
Lower explosion limits:	not determined	
Upper explosion limits:	not determined	
Flash point:	60 °C	
Auto-ignition temperature:	not determined	
Decomposition temperature:	not determined	
pH-Value:	not determined	
Viscosity / kinematic:	not determined	ISO 3105
Water solubility: (at 20 °C)	33 g/l	
Solubility in other solvents not determined		
Partition coefficient n-octanol/water:	0,67	
Vapor pressure:	not determined	
Density (at 20 °C):	1,13 g/cm ³	
Relative vapour density: (at 20 °C)	>1	
Particle characteristics:	not applicable	

Other information

Information with regard to physical hazard classes

Explosive properties

The product is not: Explosive. not explosive according to EU A.14

Oxidizing properties

The product is not: oxidising.

Other safety characteristics

Evaporation rate:	not determined
Solid content:	not determined

10. Stability and reactivity

Reactivity

Flammable.

Chemical stability

The product is stable under storage at normal ambient temperatures.

Possibility of hazardous reactions

No known hazardous reactions.

Conditions to avoid

Keep away from sources of heat (e.g. hot surfaces), sparks and open flames. Vapors may form explosive mixtures with air.

Incompatible materials

No information available.

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Hazardous decomposition products

No known hazardous decomposition products.

11. Toxicological information

Information on toxicological effects

Acute toxicity

Fatal if inhaled

Toxic if swallowed

Harmful in contact with skin

ATEmix calculated

ATE (oral) 200,4 mg/kg; ATE (dermal) 1240 mg/kg; ATE (inhalation vapour) 2,000 mg/l; ATE (inhalation dust/mist) 0,1000 mg/l

CAS No	Components				
	Exposure route	Dose	Species	Source	Method
98-01-1	FURFURAL				
	oral	LD50 105 mg/kg	Rat		
	dermal	LD50 620 mg/kg	Rabbit		
	inhalation (4 h) vapour	LC50 1 mg/l	Rat		
	inhalation dust/mist	ATE 0,05 mg/l			
620-02-0	NATURAL 5-METHYL FURFURAL				
	oral	LD50 2200 mg/kg	Rat		

Irritation and corrosivity

Skin corrosion/irritation: Causes skin irritation

Serious eye damage/eye irritation: Causes serious eye irritation

Sensitizing effects

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

Carcinogenic/mutagenic/toxic effects for reproduction

Suspected of causing cancer (FURFURAL)

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.

Specific target organ toxicity (STOT) - single exposure

May cause respiratory irritation (FURFURAL)

Specific target organ toxicity (STOT) - repeated exposure

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

Carcinogenicity (OSHA): No ingredient of this mixture is listed.

Carcinogenicity (IARC): Furfural (CAS 98-01-1) is listed in group 3.

Carcinogenicity (NTP): No ingredient of this mixture is listed.

Aspiration hazard

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

Information on other hazards

Endocrine disrupting properties

No information available.

Other information

The mixture is classified as hazardous according to regulation (EC) No 1272/2008 [CLP]. Specific hazards arising from the chemical!

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12. Ecological information

Persistence and degradability

The product has not been tested.

Bioaccumulative potential

The product has not been tested.

Mobility in soil

The product has not been tested.

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.

Further information

Do not allow to enter into surface water or drains. Do not allow to enter into soil/subsoil.

13. Disposal considerations

Waste treatment methods

Disposal recommendations

Do not allow to enter into surface water or drains. Do not allow to enter into soil/subsoil. Dispose of waste according to applicable legislation.

Contaminated packaging

Hazardous waste according to Directive 2008/98/EC (waste framework directive). Handle contaminated packages in the same way as the substance itself.

14. Transport information

U.S. DOT 49 CFR 172.101

UN number or ID number:

UN 2929

Proper shipping name:

TOXIC LIQUIDS, FLAMMABLE, ORGANIC, N.O.S.

Transport hazard class(es):

6.1

Packing group:

II

Hazard label:

6.1, 3



Marine transport (IMDG)

UN number or ID number:

UN 2929

UN proper shipping name:

TOXIC LIQUID, FLAMMABLE, ORGANIC, N.O.S.

Transport hazard class(es):

6.1

Packing group:

II

Hazard label:

6.1+3



Special Provisions:

274

Limited quantity:

100 mL

Excepted quantity:

E4

EmS:

F-E, S-D

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Air transport (ICAO-TI/IATA-DGR)

UN number or ID number:

UN 2929

UN proper shipping name:

TOXIC LIQUID, FLAMMABLE, ORGANIC, N.O.S.

Transport hazard class(es):

6.1

Packing group:

II

Hazard label:

6.1+3



Special Provisions:

A4 A137

Limited quantity Passenger:

1 L

Passenger LQ:

Y641

Excepted quantity:

E4

IATA-packing instructions - Passenger:

654

IATA-max. quantity - Passenger:

5 L

IATA-packing instructions - Cargo:

662

IATA-max. quantity - Cargo:

60 L

Environmental hazards

ENVIRONMENTALLY HAZARDOUS: No

Special precautions for user

Warning: Combustible liquid. Acute Toxicity.

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

not applicable

15. Regulatory information

U.S. Regulations

National regulatory information

SARA Section 304 CERCLA:

Furfural (98-01-1): Reportable quantity = 5,000 (2270) lbs. (kg)

SARA Section 311/312 Hazards:

Furfural (98-01-1): Fire hazard, Delayed (chronic) health hazard, Immediate (acute) health hazard

NATURAL 5-METHYL FURFURAL (620-02-0): Fire hazard

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

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Abbreviations and acronyms

ADR: Accord européen sur le transport des marchandises dangereuses par Route
(European Agreement concerning the International Carriage of Dangerous Goods by Road)
IMDG: International Maritime Code for Dangerous Goods
IATA: International Air Transport Association
GHS: Globally Harmonized System of Classification and Labelling of Chemicals
EINECS: European Inventory of Existing Commercial Chemical Substances
ELINCS: European List of Notified Chemical Substances
CAS: Chemical Abstracts Service
LC50: Lethal concentration, 50%
LD50: Lethal dose, 50%
CLP: Classification, labelling and Packaging
REACH: Registration, Evaluation and Authorization of Chemicals
GHS: Globally Harmonised System of Classification, Labelling and Packaging of Chemicals
UN: United Nations
DNEL: Derived No Effect Level
DMEL: Derived Minimal Effect Level
PNEC: Predicted No Effect Concentration
ATE: Acute toxicity estimate
LL50: Lethal loading, 50%
EL50: Effect loading, 50%
EC50: Effective Concentration 50%
ErC50: Effective Concentration 50%, growth rate
NOEC: No Observed Effect Concentration
BCF: Bio-concentration factor
PBT: persistent, bioaccumulative, toxic
vPvB: very persistent, very bioaccumulative
RID: Regulations concerning the international carriage of dangerous goods by rail
ADN: European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
(Accord européen relatif au transport international des marchandises dangereuses par voies de navigation intérieures)
EmS: Emergency Schedules
MFAG: Medical First Aid Guide
ICAO: International Civil Aviation Organization
MARPOL: International Convention for the Prevention of Marine Pollution from Ships
IBC: Intermediate Bulk Container
VOC: Volatile Organic Compounds
SVHC: Substance of Very High Concern
For abbreviations and acronyms, see table at <http://abbrev.esdscom.eu>
For abbreviations and acronyms, see: ECHA Guidance on information requirements and chemical safety assessment, chapter R.20 (Table of terms and abbreviations).
EC/EEC: European Community/European Economic Community
EU: European Union
M-factor: Multiplication factor
IATA: International Air Transport Association
DGR: Dangerous Goods Regulations
ICAO: International Civil Aviation Organization
TI: Technical Instructions
VOC: volatile organic compound

Other data

The information is based on the present level of our knowledge. It does not, however, give assurance of product properties and establishes no contract legal rights. The receiver of our product is singularly responsible for adhering to existing laws and regulations.

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