
Safety Data Sheet

SECTION 1: Identification of the Substance/Mixture and of the Company.

1.1 Product Identification:

Product Name : Furfural
CAS Number : 98-01-1
Molecular Formula : C₅H₄O₂
EC Number : 202-627-7
CAT Number : KEMICAS - relevant catalogue numbers
Reach Number : A registration number is not available for this substance as the substance or its use are exempted from registration according to Article 2 REACH Regulation (EC) No 907/2006, the annual tonnage does not require a registration, or the registration is envisaged for a later registration deadline.

1.2 Relevant identified uses of the substance or mixture and uses advised against

Application of the Substance : Laboratory chemicals, not for food and drug

1.3 Details of the supplier of the safety data sheet

Manufacturer/Supplier : KEMICAS
Email : info@kemicas.com

1.4: Emergency Telephone number

Emergency Number : +31(0)853012877

Section 2: Hazards Identification

2.1 Classification of the substance or mixture according to Regulation (EG 1272/2008)

Flammable liquid, Category 3, H226
Acute toxicity, Oral, Category 3, H301
Acute toxicity (Dermal), Category 4 H312
Serious eye damage/eye irritation, Category 2 H319
Acute toxicity, Inhalation (Category 2), H330
Specific target organ toxicity - single exposure, Category 3, H335
Carcinogenicity, Category 2 H351
Hazardous to the aquatic environment, Category 3, H412

For the full text of H-sentences mentioned, see Section 16

For the full text of R-sentences mentioned, see Section 16

2.2 GHS Label

GHS-Labeling Labelling (REGULATION (EC) No 1272/2008)

Hazard pictograms



Signal word:

DANGER

Hazard Statements:

H226	Flammable liquid and vapour.
H301	Toxic if swallowed.
H312	Harmful contact with skin.
H315	Causes skin irritation.
H319	Causes serious eye irritation.
H330	Fatal if inhaled.
H335	May cause respiratory irritation.
H351	Suspected of causing cancer.
H412	Harmful to aquatic life with long lasting effects.

Precautionary Statements:

P281	Use personal protective equipment as required.
P302 + P352	IF ON SKIN: Wash with plenty of soap and water.
P304 + P340	IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing

Hazard Pictograms:



Signal word:

DANGER

Section 3: Composition / Information on Ingredients.

3.1 Substance

Component	CAS-No.	Concentration	Classification REGULATION (EC) No (1272/2008)
Furfural	98-01-1	C ₅ H ₄ O ₂ According to the grade	Flam. Liq. 3, H226 Acute Tox. Oral 3, H301 Acute Tox. 4 Dermal, H312 Skin Corr. 2, H315 Eye Irrit. 2, H319 Acute Tox. 1, H330 STOT SE 3, H335 Carc. 2, H351 Aquatic Chronic 3, H412

Section 4: First Aid Measures

4.1 Description of first aid measures

General Advice

First-aid personnel: ensure self-protection!

After inhalation: Fresh air. If breathing stops immediately apply mechanical ventilation, if necessary oxygen mask. Immediately call in physician.

After contact with skin: Wash off with plenty of water. Remove contaminated clothing.

After contact with eyes: Rinse out with plenty of water for at least 10 minutes with the eyelid held wide open.

Immediately call in physician

After ingestion: Never give anything by mouth to an unconscious person. Make the victim drink plenty of water, do not induce vomiting. Call in physician.

4.2 Most Important symptoms and effects, both acute and delayed

Refer to labelling (see section 2.2) and/or in section 11.

4.3 Indication of any immediate medical attention and special treatment needed

No data available.

Section 5: Firefighting Measures.

5.1 Extinguishing media

Suitable Extinguishing Media

Quick-acting ABC powder extinguisher. Class B foam extinguisher.

Unsuitable Extinguishing Media

Do not use water. Use carbon dioxide or dry chemical.

5.2 Special hazards arising from substance or mixture

Combustible. Vapours heavier than air. Forms explosive mixtures with air at ambient temperatures.

Development of hazardous combustion gases or vapours possible in the event of fire.

5.3 Advice for firefighters

Do not stay in dangerous zone without self-contained breathing apparatus. In order to avoid contact with skin, keep a safety distance and wear suitable protective clothing.

5.4 Further information

No data available

Section 6: Accidental Release Measures.

6.1 Personal precautions, protective equipment and emergency procedures

Do not inhale vapours/aerosols. Avoid substance contact. Ensure supply of fresh air in enclosed rooms.

For personal protection, see section 8.

6.2 Environmental precautions

Do not allow to enter sewerage system.

6.3 Methods and materials for containment and cleaning up

Absorb on vermiculite, sand or a pillow from Chemical Spill Centre.

6.4 Reference to other sections

No information available

Section 7: Handling and Storage.

7.1 Precautions for safe handling

Keep away from sources of ignition. Take measures to prevent electrostatic charging. Work under hood. Do not inhale substance. For precautions, refer to section 2.2

7.2 Conditions for safe storage, including any incompatibilities

Closed in a well-ventilated place. Recommended storage temperature see product label.

7.3 Specific end use(s)

Apart from the uses mentioned in section 1.2, no other specific uses are stipulated.

Section 8: Exposure Controls - Personal Protection.

8.1 Control parameters

No data available

8.2 Exposure controls

Engineering Measures

Protective clothing should be selected specifically for the working place, depending on concentration and quantity of the hazardous substances handled. The resistance of the protective clothing to chemicals should be ascertained with the respective supplier.

Individual Protection Measures

Immediately change contaminated clothing. Apply skin- protective barrier cream. Wash hands and face after working with substance. Under no circumstances eat or drink at workplace. Work under hood. Do not inhale substance.

Respiratory Protections

Required when vapours/aerosols are generated. The entrepreneur has to ensure that maintenance, cleaning and testing of respiratory protective devices are carried out according to the instructions of the producer.

These measures have to be properly documented.

Eye Protection

Required. Wear goggles.

Hand Protection

Required. Wear gloves

Body Protection

Required.

Environmental Exposure Controls

Do not allow to enter sewerage system, risk of explosion!

Section 9: Physical and Chemical Properties.

9.1 Information on basis physical

Appearance and Changes in Physical State

Form: Liquid

Color: Colorless to light yellow

Odour: Almond odourless

Melting point: -36.5 °C

Boiling point: 161.8 °C

Flash point: 61.7 °C

Ignition temperature: 315-393 °C

Mol. Weight: 96.09 g/mol

Density: 1160 kg/m³

pH value: 3.5-4.5

Solubility in water: Moderately Soluble

Relative density of saturated gas/air mixture : 1.16

Explosion limits: lower 2.1 vol% / upper 19.3 vol%

Further information: explosion limits – I

9.2 Other data

No further relevant information available.

Section 10: Stability and Reactivity.

10.1 Reactivity

See section 10.3

10.2 Chemical stability

No further relevant information available.

10.3 Possibility of hazardous reactions

Exposable with air in a vaporous/gaseous state when heated

10.4 Conditions to avoid

No further relevant information available.

10.5 Incompatible materials

No further relevant information available.

10.6 Hazardous decomposition products

No further relevant information available.

Section 11: Toxicological Information.

11.1 Information on toxicological effects

Acute oral toxicity	: LD50 orl. rat 108 mg/kg bodyweight
Acute inhalation toxicity	: LC50 inhalation rat (mg/l) 0.54 - 1.63 mg/l
Acute dermal toxicity	: LD50 dermal rat > 2000 mg/kg bodyweight
Skin irritation	: Causes skin irritation.
Eye irritation	: Causes serious eye irritation.
Sensitisation	: No further relevant information available.
Germ cell mutagenicity	: No further relevant information available.
Carcinogenicity	: Suspected of causing cancer.
Reproductive toxicity	: No further relevant information available.
Teratogenicity	: No further relevant information available.
Specific target organ toxicity - single exposure	: May cause respiratory irritation.
Specific target organ toxicity - repeated exposure	: No further relevant information available.
Aspiration hazard	: No further relevant information available.

11.2 Further information

Handle in accordance with good industrial hygiene and safety practice.

Section 12: Ecological Information.

12.1 Toxicity

No further relevant information available.

12.2 Persistence and degradability

No further relevant information available.

12.3 Bio accumulative potential

No further relevant information available.

12.4 Mobility in soil

No further relevant information available.

12.5 Results of PBT and vPvB assessment

No further relevant information available.

12.6 Other adverse effects

Do not allow to enter waters, wastewater, or soil!

Section 13: Disposal Considerations.

Product : Chemicals must be disposed of in compliance with the respective national regulations.

Packaging : KEMICAS product packaging must be disposed of in compliance with the country-specific regulations or must be passed to a packaging return system.

Section 14: Transport Information.

Land Transport (ADR/RID)

- 14.1 UN number : UN 1199
- 14.2 Proper shipping name : Furaldehydes
- 14.3 Class : 6.1 (3)
- 14.4 Packing : Group II
- 14.5 Environmentally hazardous : No
- 14.6 Special precautions for user : No
- 14.7 Tunnel restriction code : (D/E)

Inland waterway transport (ADN)

Not relevant

Air Transport (IATA)

- 14.1 UN number : UN 1199
- 14.2 Proper shipping name : Furaldehydes
- 14.3 Class : 6.1 (3)
- 14.4 Packing : Group II
- 14.5 Environmentally hazardous : No
- 14.6 Special precautions for user : No

Sea Transport (IMDG)

- 14.1 UN number : UN 1199
- 14.2 Proper shipping name : Furaldehydes

- 14.3 Class : 6.1 (3)
- 14.4 Packing : Group II
- 14.5 Environmentally hazardous : No
- 14.6 Special precautions for user : No
- 14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code: Not relevant

Section 15: Regulatory Information.

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

For this product, an assessment was not carry out.

15.2 Chemical Safety Assessment

For this product, an assessment was not carry out.

Section 16: Other Information.

The information and recommendations in this SDS are to the best of KEMICAS knowledge, information and belief. KEMICAS cannot be held responsible for any damage resulting from any possible error in this publication.

Full text of H-Statements and R-phrases referred to under sections 2 and 3.

Acute Tox. 2 (Inhalation)	Acute toxicity (inhal.), Category 2
Acute Tox. 3 (Oral)	Acute toxicity (oral), Category 3
Acute Tox. 4 (Dermal)	Acute toxicity (dermal), Category 4
Aquatic Chronic 3	Hazardous to the aquatic environment — Chronic Hazard, Category
Carc. 2	Carcinogenicity, Category 2
Eye Irrit. 2	Serious eye damage/eye irritation, Category 2
Flam. Liq. 3	Flammable liquids, Category 3
Skin Irrit. 2	Skin corrosion/irritation, Category 2
STOT SE 3	Specific target organ toxicity — Single exposure, Category 3, Respiratory tract irritation, Narcosis
H226	Flammable liquid and vapour.
H301	Toxic if swallowed
H312	Harmful in contact with skin.
H315	Causes severe skin burns and eye damage.
H319	Causes serious eye irritation.

H330	Fatal if inhaled.
H335	May cause respiratory irritation.
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H412	Harmful to aquatic life with long lasting effects.

Exposure Scenario 1 (Industrial Use)

1. Industrial use Reagent for analysis, (Chemical production)

Sectors of end-use

SU 3 : Industrial uses: Uses of substances as such or in preparations at industrial sites

SU 9 : Manufacture of fine chemicals

SU10 : Formulation [mixing] of preparations and/ or re-packaging (excluding alloys)

Chemical product category

PC19 : Removed from PC list and relocated in the technical function list (Table R.12- 15)24.

PC21 : Laboratory chemicals

Process categories

PROC 1 : Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions.

PROC 2 : Chemical production or refinery in closed

PROC 2 : Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions

PROC 3 : Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition

PROC 4 : Chemical production where opportunity for exposure arises

PROC 5 Mixing or blending in batch processes

PROC 8a : Transfer of substance or mixture (charging and discharging) at non- dedicated facilities 26

PROC 8b : Transfer of substance or mixture (charging and discharging) at dedicated facilities26

PROC 9 : Transfer of substance or mixture into small containers (dedicated filling line, weighing)

PROC10 : Roller application or brushing

PROC15 : Use as laboratory reagent

Environmental Release Categories

ERC 1 : Manufacture of the substance

ERC 2 : Formulation into mixture

ERC 4 : Use of non-reactive processing aid at industrial site (no inclusion into or onto article)

ERC 6a : Use of intermediate

ERC 6b : Use of reactive processing aid at industrial site (no inclusion into or onto article)

Exposure Scenario 2 (Professional Use)

1. Industrial use Reagent for analysis, (Chemical production)

Sectors of end-use

SU22 : Professional uses: Public domain (administration, education, entertainment, services, craftsmen)

Chemical product category

PC21 : Laboratory chemicals

Process categories

PROC15 : Use as laboratory reagent

Environmental Release Categories

ERC 2 : Formulation into mixture

ERC 6a : Use of intermediate

ERC 6b : Use of reactive processing aid at industrial site (no inclusion into or onto article)

Disclaimer:

The information above is believe to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no event shall KEMICAS be liable for any claims, losses, or damages of any third party or for lost profits or any indirect, incidental, consequential or exemplary damages, howsoever arising, even if KEMICAS has been advise of the possibility of such damages.