

## SAFETY DATA SHEET

Version 6.4  
Revision Date 04/27/2021  
Print Date 05/28/2022

**SECTION 1: Identification of the substance/mixture and of the company/undertaking****1.1 Product identifiers**

Product name : Furfurylamine

Product Number : F20009  
Brand : Aldrich  
CAS-No. : 617-89-0

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

Identified uses : Laboratory chemicals, Synthesis of substances

**1.3 Details of the supplier of the safety data sheet**

Company : Sigma-Aldrich Inc.  
3050 SPRUCE ST  
ST. LOUIS MO 63103  
UNITED STATES

Telephone : +1 314 771-5765  
Fax : +1 800 325-5052

**1.4 Emergency telephone**

Emergency Phone # : 800-424-9300 CHEMTREC (USA) +1-703-  
527-3887 CHEMTREC (International) 24  
Hours/day; 7 Days/week

**SECTION 2: Hazards identification****2.1 Classification of the substance or mixture****GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)**

Flammable liquids (Category 3), H226  
Acute toxicity, Oral (Category 3), H301  
Acute toxicity, Inhalation (Category 4), H332  
Acute toxicity, Dermal (Category 2), H310  
Skin corrosion (Category 1B), H314  
Serious eye damage (Category 1), H318  
Short-term (acute) aquatic hazard (Category 2), H401

For the full text of the H-Statements mentioned in this Section, see Section 16.

**2.2 GHS Label elements, including precautionary statements**

Pictogram



|                            |                                                                                                                                                                            |
|----------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Signal word                | Danger                                                                                                                                                                     |
| Hazard statement(s)        |                                                                                                                                                                            |
| H226                       | Flammable liquid and vapor.                                                                                                                                                |
| H301                       | Toxic if swallowed.                                                                                                                                                        |
| H310                       | Fatal in contact with skin.                                                                                                                                                |
| H314                       | Causes severe skin burns and eye damage.                                                                                                                                   |
| H332                       | Harmful if inhaled.                                                                                                                                                        |
| H401                       | Toxic to aquatic life.                                                                                                                                                     |
| Precautionary statement(s) |                                                                                                                                                                            |
| P210                       | Keep away from heat/ sparks/ open flames/ hot surfaces. No smoking.                                                                                                        |
| P233                       | Keep container tightly closed.                                                                                                                                             |
| P240                       | Ground/bond container and receiving equipment.                                                                                                                             |
| P241                       | Use explosion-proof electrical/ ventilating/ lighting/ equipment.                                                                                                          |
| P242                       | Use only non-sparking tools.                                                                                                                                               |
| P243                       | Take precautionary measures against static discharge.                                                                                                                      |
| P261                       | Avoid breathing dust/ fume/ gas/ mist/ vapors/ spray.                                                                                                                      |
| P262                       | Do not get in eyes, on skin, or on clothing.                                                                                                                               |
| P264                       | Wash skin thoroughly after handling.                                                                                                                                       |
| P270                       | Do not eat, drink or smoke when using this product.                                                                                                                        |
| P271                       | Use only outdoors or in a well-ventilated area.                                                                                                                            |
| P273                       | Avoid release to the environment.                                                                                                                                          |
| P280                       | Wear protective gloves/ protective clothing/ eye protection/ face protection.                                                                                              |
| P301 + P310 + P330         | IF SWALLOWED: Immediately call a POISON CENTER/ doctor. Rinse mouth.                                                                                                       |
| P301 + P330 + P331         | IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.                                                                                                                         |
| P302 + P350 + P310         | IF ON SKIN: Gently wash with plenty of soap and water. Immediately call a POISON CENTER or doctor/ physician.                                                              |
| P303 + P361 + P353         | IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/ shower.                                                                       |
| P304 + P340 + P310         | IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER/ doctor.                                                       |
| P305 + P351 + P338 + P310  | IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER/ doctor. |
| P362                       | Take off contaminated clothing and wash before reuse.                                                                                                                      |
| P370 + P378                | In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish.                                                                                       |
| P403 + P235                | Store in a well-ventilated place. Keep cool.                                                                                                                               |
| P405                       | Store locked up.                                                                                                                                                           |
| P501                       | Dispose of contents/ container to an approved waste disposal plant.                                                                                                        |

### 2.3 Hazards not otherwise classified (HNOC) or not covered by GHS - none

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## SECTION 3: Composition/information on ingredients

### 3.1 Substances

Synonyms : 2-Aminomethylfuran

Formula : C<sub>5</sub>H<sub>7</sub>NO

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Molecular weight : 97.12 g/mol  
CAS-No. : 617-89-0  
EC-No. : 210-536-9

| Component            | Classification                                                                                                                                              | Concentration |
|----------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|
| <b>furfurylamine</b> |                                                                                                                                                             |               |
|                      | Flam. Liq. 3; Acute Tox. 3;<br>Acute Tox. 4; Acute Tox.<br>2; Skin Corr. 1B; Eye<br>Dam. 1; Aquatic Acute 2;<br>H226, H301, H332, H310,<br>H314, H318, H401 | <= 100 %      |

For the full text of the H-Statements mentioned in this Section, see Section 16.

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## SECTION 4: First aid measures

### 4.1 Description of first-aid measures

#### General advice

First aiders need to protect themselves. Show this material safety data sheet to the doctor in attendance.

#### If inhaled

After inhalation: fresh air. Call in physician.

#### In case of skin contact

In case of skin contact: Take off immediately all contaminated clothing. Rinse skin with water/ shower. Call a physician immediately.

#### In case of eye contact

After eye contact: rinse out with plenty of water. Immediately call in ophthalmologist. Remove contact lenses.

#### If swallowed

If swallowed: give water to drink (two glasses at most). Seek medical advice immediately. In exceptional cases only, if medical care is not available within one hour, induce vomiting (only in persons who are wide awake and fully conscious), administer activated charcoal (20 - 40 g in a 10% slurry) and consult a doctor as quickly as possible. Do not attempt to neutralise.

### 4.2 Most important symptoms and effects, both acute and delayed

The most important known symptoms and effects are described in the 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

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## SECTION 5: Firefighting measures

### 5.1 Extinguishing media

#### Suitable extinguishing media

Water Foam Carbon dioxide (CO<sub>2</sub>) Dry powder

**Unsuitable extinguishing media**

For this substance/mixture no limitations of extinguishing agents are given.

**5.2 Special hazards arising from the substance or mixture**

Carbon oxides

Nitrogen oxides (NO<sub>x</sub>)

Combustible.

Vapors are heavier than air and may spread along floors.

Forms explosive mixtures with air at elevated temperatures.

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

**5.3 Advice for firefighters**

Stay in danger area only with self-contained breathing apparatus. Prevent skin contact by keeping a safe distance or by wearing suitable protective clothing.

**5.4 Further information**

Remove container from danger zone and cool with water. Suppress (knock down) gases/vapors/mists with a water spray jet. Prevent fire extinguishing water from contaminating surface water or the ground water system.

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**SECTION 6: Accidental release measures****6.1 Personal precautions, protective equipment and emergency procedures**

Advice for non-emergency personnel: Do not breathe vapors, aerosols. Avoid substance contact. Ensure adequate ventilation. Keep away from heat and sources of ignition. Evacuate the danger area, observe emergency procedures, consult an expert. For personal protection see section 8.

**6.2 Environmental precautions**

Do not let product enter drains. Risk of explosion.

**6.3 Methods and materials for containment and cleaning up**

Cover drains. Collect, bind, and pump off spills. Observe possible material restrictions (see sections 7 and 10). Take up carefully with liquid-absorbent material (e.g. Chemizorb®). Dispose of properly. Clean up affected area.

**6.4 Reference to other sections**

For disposal see section 13.

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**SECTION 7: Handling and storage****7.1 Precautions for safe handling****Advice on safe handling**

Work under hood. Do not inhale substance/mixture. Avoid generation of vapours/aerosols.

**Advice on protection against fire and explosion**

Keep away from open flames, hot surfaces and sources of ignition. Take precautionary measures against static discharge.

**Hygiene measures**

Immediately change contaminated clothing. Apply preventive skin protection. Wash hands and face after working with substance.

For precautions see section 2.2.

## 7.2 Conditions for safe storage, including any incompatibilities

### Storage conditions

Keep container tightly closed in a dry and well-ventilated place. Keep away from heat and sources of ignition. Keep locked up or in an area accessible only to qualified or authorized persons.

Storage class (TRGS 510): 3: Flammable liquids

## 7.3 Specific end use(s)

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

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## SECTION 8: Exposure controls/personal protection

### 8.1 Control parameters

#### Ingredients with workplace control parameters

Contains no substances with occupational exposure limit values.

### 8.2 Exposure controls

#### Appropriate engineering controls

Immediately change contaminated clothing. Apply preventive skin protection. Wash hands and face after working with substance.

#### Personal protective equipment

##### Eye/face protection

Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU). Tightly fitting safety goggles

##### Skin protection

This recommendation applies only to the product stated in the safety data sheet, supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN374 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: [www.kcl.de](http://www.kcl.de)).

Full contact

Material: butyl-rubber

Minimum layer thickness: 0.7 mm

Break through time: 480 min

Material tested: Butoject® (KCL 898)

This recommendation applies only to the product stated in the safety data sheet, supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN374 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: [www.kcl.de](http://www.kcl.de)).

Splash contact

Material: Nitrile rubber

Minimum layer thickness: 0.4 mm

Break through time: 30 min

Material tested: Camatril® (KCL 730 / Aldrich Z677442, Size M)

##### Body Protection

Flame retardant antistatic protective clothing.

##### Respiratory protection

required when vapours/aerosols are generated.

Our recommendations on filtering respiratory protection are based on the following standards: DIN EN 143, DIN 14387 and other accompanying standards relating to the used respiratory protection system.

### **Control of environmental exposure**

Do not let product enter drains. Risk of explosion.

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## **SECTION 9: Physical and chemical properties**

### **9.1 Information on basic physical and chemical properties**

|                                                 |                                                      |
|-------------------------------------------------|------------------------------------------------------|
| a) Appearance                                   | Form: liquid                                         |
| b) Odor                                         | No data available                                    |
| c) Odor Threshold                               | No data available                                    |
| d) pH                                           | No data available                                    |
| e) Melting point/freezing point                 | Melting point/range: -70 °C (-94 °F) - lit.          |
| f) Initial boiling point and boiling range      | 145 - 146 °C 293 - 295 °F - lit.                     |
| g) Flash point                                  | 46 °C (115 °F) - DIN 51755 Part 1 - DIN 51755 Part 1 |
| h) Evaporation rate                             | No data available                                    |
| i) Flammability (solid, gas)                    | No data available                                    |
| j) Upper/lower flammability or explosive limits | Lower explosion limit: 1.8 %(V)                      |
| k) Vapor pressure                               | No data available                                    |
| l) Vapor density                                | No data available                                    |
| m) Relative density                             | No data available                                    |
| n) Water solubility                             | No data available                                    |
| o) Partition coefficient: n-octanol/water       | No data available                                    |
| p) Autoignition temperature                     | No data available                                    |
| q) Decomposition temperature                    | No data available                                    |
| r) Viscosity                                    | No data available                                    |
| s) Explosive properties                         | No data available                                    |
| t) Oxidizing properties                         | No data available                                    |

### **9.2 Other safety information**

No data available

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## SECTION 10: Stability and reactivity

### 10.1 Reactivity

Vapor/air-mixtures are explosive at intense warming.

### 10.2 Chemical stability

The product is chemically stable under standard ambient conditions (room temperature) .

### 10.3 Possibility of hazardous reactions

Violent reactions possible with:

Strong oxidizing agents

Acid anhydrides

acid halides

acids

Caution! In contact with nitrites, nitrates, nitrous acid possible liberation of nitrosamines!

### 10.4 Conditions to avoid

Heating.

### 10.5 Incompatible materials

No data available

### 10.6 Hazardous decomposition products

In the event of fire: see section 5

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## SECTION 11: Toxicological information

### 11.1 Information on toxicological effects

#### Acute toxicity

LD50 Oral - Rat - 200 - 2,000 mg/kg

Remarks: (Lit.)Symptoms: If ingested, severe burns of the mouth and throat, as well as a danger of perforation of the esophagus and the stomach.  
absorption

LC50 Inhalation - Rat - 4 h - 1.3 mg/l

Remarks: (Lit.)Symptoms: mucosal irritations, Cough, Shortness of breath, Possible damages:, damage of respiratory tractInhalation: absorption

LD50 Dermal - Rat - 100 mg/kg

Remarks: (Lit.)

Dermal: absorption

#### Skin corrosion/irritation

Skin - Rabbit

Result: Causes burns.

Remarks: (External MSDS)

#### Serious eye damage/eye irritation

Eyes - Rabbit

Result: Causes burns.

Remarks: (External MSDS)

Causes serious eye damage. Risk of blindness!

#### Respiratory or skin sensitization

## **Germ cell mutagenicity**

### **Carcinogenicity**

IARC: No ingredient of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

NTP: No ingredient of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

OSHA: No component of this product present at levels greater than or equal to 0.1% is on OSHA's list of regulated carcinogens.

### **Reproductive toxicity**

#### **Specific target organ toxicity - single exposure**

#### **Specific target organ toxicity - repeated exposure**

#### **Aspiration hazard**

## **11.2 Additional Information**

RTECS: LU9275000

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

Under given conditions, contact with nitrites or nitric acid can lead to the formation of nitrosamines, which have shown themselves to be carcinogenic in animal experiments.

Other dangerous properties can not be excluded.

Handle in accordance with good industrial hygiene and safety practice.

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## **SECTION 12: Ecological information**

### **12.1 Toxicity**

|                  |                                                      |
|------------------|------------------------------------------------------|
| Toxicity to fish | LC50 - Leuciscus idus (Golden orfe) - 10 mg/l - 96 h |
|                  | Remarks: (External MSDS)                             |

### **12.2 Persistence and degradability**

|                  |                                  |
|------------------|----------------------------------|
| Biodegradability | Result: - Readily biodegradable. |
|------------------|----------------------------------|

### **12.3 Bioaccumulative potential**

### **12.4 Mobility in soil**

### **12.5 Results of PBT and vPvB assessment**

PBT/vPvB assessment not available as chemical safety assessment not required/not conducted

### **12.6 Other adverse effects**

Discharge into the environment must be avoided.

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## SECTION 13: Disposal considerations

### 13.1 Waste treatment methods

#### Product

Waste material must be disposed of in accordance with the national and local regulations. Leave chemicals in original containers. No mixing with other waste. Handle uncleaned containers like the product itself. See [www.retrologistik.com](http://www.retrologistik.com) for processes regarding the return of chemicals and containers, or contact us there if you have further questions.

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## SECTION 14: Transport information

#### DOT (US)

UN number: 2526 Class: 3 (8) Packing group: III  
Proper shipping name: Furfurylamine  
Reportable Quantity (RQ):  
Poison Inhalation Hazard: No

#### IMDG

UN number: 2526 Class: 3 (8) Packing group: III EMS-No: F-E, S-C  
Proper shipping name: FURFURYLAMINE

#### IATA

UN number: 2526 Class: 3 (8) Packing group: III  
Proper shipping name: Furfurylamine

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## SECTION 15: Regulatory information

#### SARA 302 Components

This material does not contain any components with a section 302 EHS TPQ.

#### SARA 313 Components

This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

#### SARA 311/312 Hazards

Fire Hazard, Acute Health Hazard

#### Massachusetts Right To Know Components

|               |                     |                             |
|---------------|---------------------|-----------------------------|
| furfurylamine | CAS-No.<br>617-89-0 | Revision Date<br>2007-03-01 |
|---------------|---------------------|-----------------------------|

No components are subject to the Massachusetts Right to Know Act.

#### Pennsylvania Right To Know Components

|               |                     |                             |
|---------------|---------------------|-----------------------------|
| furfurylamine | CAS-No.<br>617-89-0 | Revision Date<br>2007-03-01 |
|---------------|---------------------|-----------------------------|

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## **SECTION 16: Other information**

### **Further information**

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Sigma-Aldrich Corporation and its Affiliates shall not be held liable for any damage resulting from handling or from contact with the above product. See [www.sigma-aldrich.com](http://www.sigma-aldrich.com) and/or the reverse side of invoice or packing slip for additional terms and conditions of sale.

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