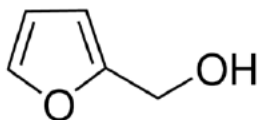


CAS-No.: 98-00-0 MSDS

## MATERIAL SAFETY DATA SHEET (MSDS)

### SECTION 1: Identification of the substance/mixture and of the company/undertaking

#### 1.1. Product identifier

|                    |   |
|--------------------|---|
| Product form       | : Substance   |
| EC Index-No.       | : 603-018-00-2  |
| EC-No.             | : 202-626-1   |
| CAS-No.            | : 98-00-0   |
| Product code       | : 3893B   |
| Formula            | : C <sub>5</sub> H <sub>6</sub> O <sub>2</sub>                                      |
| Chemical structure | :  |
| Synonyms           | : 2-(Hydroxymethyl) furan   |

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

##### 1.2.1. Relevant identified uses

|                                  |   |
|----------------------------------|---|
| Industrial/Professional use spec | : Industrial<br>For professional use only |
|----------------------------------|---|

##### 1.2.2. Uses advised against

No additional information available

#### 1.3. Details of the supplier of the safety data sheet

Labogens Fine Chem Industries  
1st Floor , Above Bank of India, Guru Vihar , Rahon Road,  
Ludhiana Pb. (141007)  
+91 9316777775, +91 7707855700  
[sales@labogens.com](mailto:sales@labogens.com) - [www.Labogens.com](http://www.Labogens.com)

#### 1.4. Emergency telephone number

|                  |                                     |
|------------------|-------------------------------------|
| Emergency number | : +91 7707855700 (9:00am - 6:00 pm) |
|------------------|-------------------------------------|

### SECTION 2: Hazards identification

#### 2.1. Classification of the substance or mixture

##### Classification according to Regulation (EC) No. 1272/2008 [CLP]

|                                     |      |
|-------------------------------------|------|
| Acute toxicity (inhal.), Category 3 | H331 |
| Acute toxicity (dermal), Category 4 | H312 |
| Acute toxicity (oral), Category 4   | H302 |
| Carcinogenicity, Category 2         | H351 |
| Serious eye damage/eye              | H319 |

# FURFURYL ALCOHOL FOR SYNTHESIS

## Safety Data Sheet

irritation, Category 2  
Specific target organ H335  
toxicity — Single  
exposure, Category 3,  
Respiratory tract irritation  
Specific target organ H373  
toxicity — Repeated  
exposure, Category 2

Full text of H statements : see section 16

### Classification according to Directive 67/548/EEC [DSD] or 1999/45/EC [DPD]

Carc.Cat.3; R40  
T; R23  
Xn; R21/22  
Xn; R48/20  
Xi; R36/37

Full text of R-phrases: see section 16

### Adverse physicochemical, human health and environmental effects

No additional information available

## 2.2. Label elements

### Labelling according to Regulation (EC) No. 1272/2008 [CLP]

Hazard pictograms (CLP) :



GHS06

GHS08

Signal word (CLP) : -

Hazard statements (CLP) :

H302+H312 - Harmful if swallowed or in contact with skin  
H319 - Causes serious eye irritation.  
H331 - Toxic if inhaled.  
H335 - May cause respiratory irritation.  
H351 - Suspected of causing cancer.  
H373 - May cause damage to organs through prolonged or repeated exposure.

Precautionary statements (CLP) :

P261 - Avoid breathing dust, fume, gas, vapours, spray, mist.  
P280 - Wear protective gloves, protective clothing, eye protection, face protection.  
P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes.  
Remove contact lenses, if present and easy to do. Continue rinsing.  
P311 - Call a POISON CENTER/doctor

## 2.3. Other hazards

No additional information available

# FURFURYL ALCOHOL FOR SYNTHESIS

## Safety Data Sheet

### SECTION 3: Composition/information on ingredients

#### 3.1. Substances

|              |                                  |
|--------------|----------------------------------|
| Name         | : FURFURYL ALCOHOL FOR SYNTHESIS |
| CAS-No.      | : 98-00-0                        |
| EC-No.       | : 202-626-1                      |
| EC Index-No. | : 603-018-00-2                   |

Full text of R- and H-statements: see section 16

#### 3.2. Mixtures

Not applicable

### SECTION 4: First aid measures

#### 4.1. Description of first aid measures

|                                       |  |
|---------------------------------------|--|
| First-aid measures general            | : Suspected of causing cancer.   |
| First-aid measures after inhalation   | : Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/doctor if you feel unwell.   |
| First-aid measures after skin contact | : Immediately call a POISON CENTER/doctor. Specific measures (see supplemental first aid instruction on this label). Wash with plenty of water/.... Wash contaminated clothing before reuse. |
| First-aid measures after eye contact  | : 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.             |
| First-aid measures after ingestion    | : Rinse mouth. Call a POISON CENTER/doctor if you feel unwell.   |

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

|                                     |   |
|-------------------------------------|---|
| Symptoms/effects                    | : Causes damage to organs.  |
| Symptoms/effects after inhalation   | : May cause respiratory irritation. Toxic if inhaled.   |
| Symptoms/effects after skin contact | : Repeated exposure to this material can result in absorption through skin causing significant health hazard. Harmful in contact with skin. |
| Symptoms/effects after eye contact  | : Causes serious eye irritation.  |
| Symptoms/effects after ingestion    | : Swallowing a small quantity of this material will result in serious health hazard.  |

#### 4.3. Indication of any immediate medical attention and special treatment needed

No additional information available

### SECTION 5: Firefighting measures

#### 5.1. Extinguishing media

|                                |  |
|--------------------------------|--|
| Suitable extinguishing media   | : Water spray. Foam. Dry powder. Carbon dioxide. |
| Unsuitable extinguishing media | : Do not use a heavy water stream.               |

#### 5.2. Special hazards arising from the substance or mixture

No additional information available

#### 5.3. Advice for firefighters

|                                |   |
|--------------------------------|---|
| Protection during firefighting | : Do not enter fire area without proper protective equipment, including respiratory protection. |
|--------------------------------|---|

# FURFURYL ALCOHOL FOR SYNTHESIS

## Safety Data Sheet

### SECTION 6: Accidental release measures

#### 6.1. Personal precautions, protective equipment and emergency procedures

##### 6.1.1. For non-emergency personnel

Emergency procedures : Evacuate unnecessary personnel.

##### 6.1.2. For emergency responders

Protective equipment : Use personal protective equipment as required.  
Emergency procedures : Ventilate area.

#### 6.2. Environmental precautions

Avoid release to the environment.

#### 6.3. Methods and material for containment and cleaning up

Methods for cleaning up : Collect spillage. On land, sweep or shovel into suitable containers. Soak up spills with inert solids, such as clay or diatomaceous earth as soon as possible.

#### 6.4. Reference to other sections

No additional information available

### SECTION 7: Handling and storage

#### 7.1. Precautions for safe handling

Precautions for safe handling : Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Avoid contact with skin and eyes. Use only outdoors or in a well-ventilated area. Do not breathe vapours.  
Hygiene measures : Do not eat, drink or smoke when using this product. Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work.

#### 7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Keep container tightly closed.

#### 7.3. Specific end use(s)

No additional information available

### SECTION 8: Exposure controls/personal protection

#### 8.1. Control parameters

No additional information available

#### 8.2. Exposure controls

Hand protection : Protective gloves  
Eye protection : Chemical goggles or safety glasses  
Skin and body protection : Wear suitable protective clothing  
Respiratory protection : [In case of inadequate ventilation] wear respiratory protection.

### SECTION 9: Physical and chemical properties

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

Physical state : Liquid  
Molecular mass : 98.1 g/mol

# FURFURYL ALCOHOL FOR SYNTHESIS

## Safety Data Sheet

|  |                            |
|--|----------------------------|
| Colour                                     | : Clear Colorless.         |
| Odour                                      | : burning.                 |
| Odour threshold                            | : 8 ppm                    |
| pH   | : No data available        |
| Relative evaporation rate (butylacetate=1) | : No data available        |
| Melting point                              | : -29 °C                   |
| Freezing point                             | : No data available        |
| Boiling point                              | : 170 °C                   |
| Flash point                                | : 65 °C                    |
| Auto-ignition temperature                  | : 490 °C                   |
| Decomposition temperature                  | : No data available        |
| Flammability (solid, gas)                  | : No data available        |
| Vapour pressure                            | : 0.1 kPa (at 20°C)        |
| Relative vapour density at 20 °C           | : 3.38                     |
| Relative density                           | : No data available        |
| Density                                    | : 1.1296 g/cm <sup>3</sup> |
| Solubility                                 | : Water: Soluble           |
| Log Pow                                    | : 0.3                      |
| Viscosity, kinematic                       | : No data available        |
| Viscosity, dynamic                         | : No data available        |
| Explosive properties                       | : No data available        |
| Oxidising properties                       | : No data available        |
| Explosive limits                           | : 1.8 - 16.3 vol %         |

### 9.2. Other information

No additional information available

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

No additional information available

### 10.2. Chemical stability

Stable under normal conditions.

### 10.3. Possibility of hazardous reactions

No additional information available

### 10.4. Conditions to avoid

Direct sunlight. Extremely high or low temperatures.

### 10.5. Incompatible materials

No additional information available

# FURFURYL ALCOHOL FOR SYNTHESIS

## Safety Data Sheet

### 10.6. Hazardous decomposition products

No additional information available

## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

Acute toxicity : Inhalation: Toxic if inhaled. Dermal: Harmful in contact with skin. Oral: Harmful if swallowed.

Skin corrosion/irritation : Not classified  
Serious eye damage/irritation : Causes serious eye irritation.  
Respiratory or skin sensitisation : Not classified  
Germ cell mutagenicity : Not classified  
Carcinogenicity : Suspected of causing cancer.

Reproductive toxicity : Not classified  
STOT-single exposure : May cause respiratory irritation.

STOT-repeated exposure : May cause damage to organs through prolonged or repeated exposure.

Aspiration hazard : Not classified

Potential adverse human health effects and symptoms : Harmful if swallowed. Harmful in contact with skin.

## SECTION 12: Ecological information

### 12.1. Toxicity

No additional information available

### 12.2. Persistence and degradability

No additional information available

### 12.3. Bioaccumulative potential

#### FURFURYL ALCOHOL FOR SYNTHESIS (98-00-0)

|         |     |
|---------|-----|
| Log Pow | 0.3 |
|---------|-----|

### 12.4. Mobility in soil

No additional information available

### 12.5. Results of PBT and vPvB assessment

No additional information available

# FURFURYL ALCOHOL FOR SYNTHESIS

## Safety Data Sheet

### 12.6. Other adverse effects

No additional information available

## SECTION 13: Disposal considerations

### 13.1. Waste treatment methods

Product/Packaging disposal recommendations : Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation.

## SECTION 14: Transport information

In accordance with ADR / RID / IMDG / IATA / ADN

### 14.1. UN number

UN-No. (ADR) : 2874  
UN-No. (IMDG) : 2874  
UN-No. (IATA) : 2874  
UN-No. (ADN) : 2874  
UN-No. (RID) : 2874

### 14.2. UN proper shipping name

Proper Shipping Name (ADR) : FURFURYL ALCOHOL  
Proper Shipping Name (IMDG) : FURFURYL ALCOHOL  
Proper Shipping Name (IATA) : Furfuryl alcohol  
Proper Shipping Name (ADN) : FURFURYL ALCOHOL  
Proper Shipping Name (RID) : FURFURYL ALCOHOL  
Transport document description (ADR) : UN 2874 FURFURYL ALCOHOL, 6.1, III, (E)  
Transport document description (IMDG) : UN 2874 FURFURYL ALCOHOL, 6.1, III  
Transport document description (IATA) : UN 2874 Furfuryl alcohol, 6.1, III  
Transport document description (ADN) : UN 2874 FURFURYL ALCOHOL, 6.1, III  
Transport document description (RID) : UN 2874 FURFURYL ALCOHOL, 6.1, III

### 14.3. Transport hazard class(es)

#### ADR

Transport hazard class(es) (ADR) : 6.1  
Danger labels (ADR) : 6.1



#### IMDG

Transport hazard class(es) (IMDG) : 6.1  
Danger labels (IMDG) : 6.1



#### IATA

Transport hazard class(es) (IATA) : 6.1

# FURFURYL ALCOHOL FOR SYNTHESIS

## Safety Data Sheet

Hazard labels (IATA) : 6.1



### ADN

Transport hazard class(es) (ADN) : 6.1

Danger labels (ADN) : 6.1



### RID

Transport hazard class(es) (RID) : 6.1

Danger labels (RID) : 6.1



### 14.4. Packing group

Packing group (ADR) : III

Packing group (IMDG) : III

Packing group (IATA) : III

Packing group (ADN) : III

Packing group (RID) : III

### 14.5. Environmental hazards

Dangerous for the environment : No

Marine pollutant : No

Other information : No supplementary information available

### 14.6. Special precautions for user

#### - Overland transport

Classification code (ADR) : T1

Limited quantities (ADR) : 5I

Excepted quantities (ADR) : E1

Packing instructions (ADR) : P001, IBC03, LP01, R001

Mixed packing provisions (ADR) : MP19

Portable tank and bulk container instructions (ADR) : T4

Portable tank and bulk container special provisions (ADR) : TP1

Tank code (ADR) : L4BH

Tank special provisions (ADR) : TU15, TE19

Vehicle for tank carriage : AT

Transport category (ADR) : 2



# FURFURYL ALCOHOL FOR SYNTHESIS

## Safety Data Sheet

Special provisions for carriage - Packages (ADR) : V12  
Special provisions for carriage - Loading, unloading and handling (ADR) : CV13, CV28  
Special provisions for carriage - Operation (ADR) : S9  
Hazard identification number (Kemler No.) : 60  
Orange plates :



Tunnel restriction code (ADR) : E  
EAC code : •2X

### - Transport by sea

Packing instructions (IMDG) : P001, LP01  
IBC packing instructions (IMDG) : IBC03  
Tank instructions (IMDG) : T4  
Tank special provisions (IMDG) : TP1  
EmS-No. (Fire) : F-A  
EmS-No. (Spillage) : S-A  
Stowage category (IMDG) : A  
Segregation (IMDG) : SG17, SG35  
Properties and observations (IMDG) : Clear, colourless, mobile liquid, becoming brown to dark-red upon exposure to light and air. Miscible with water. Reacts explosively with oxidizing substances. Toxic if swallowed, by skin contact or by inhalation.  
MFAG-No : 153

### - Air transport

PCA Excepted quantities (IATA) : E1  
PCA Limited quantities (IATA) : Y642  
PCA limited quantity max net quantity (IATA) : 2L  
PCA packing instructions (IATA) : 655  
PCA max net quantity (IATA) : 60L  
CAO packing instructions (IATA) : 663  
CAO max net quantity (IATA) : 220L  
ERG code (IATA) : 6L

### - Inland waterway transport

Classification code (ADN) : T1  
Special provisions (ADN) : 802  
Limited quantities (ADN) : 5 L  
Excepted quantities (ADN) : E1  
Carriage permitted (ADN) : T  
Equipment required (ADN) : PP, EP, TOX, A  
Ventilation (ADN) : VE02  
Number of blue cones/lights (ADN) : 0

### - Rail transport

Classification code (RID) : T1  
Excepted quantities (RID) : E1  
Packing instructions (RID) : P001, IBC03, LP01, R001  
Mixed packing provisions (RID) : MP19  
Portable tank and bulk container instructions (RID) : T4

# FURFURYL ALCOHOL FOR SYNTHESIS

## Safety Data Sheet

|   |                    |
|---|--------------------|
| Portable tank and bulk container special provisions (RID)               | : TP1              |
| Tank codes for RID tanks (RID)  | : L4BH             |
| Special provisions for RID tanks (RID)                                  | : TU15             |
| Transport category (RID)  | : 2                |
| Special provisions for carriage – Packages (RID)                        | : W12              |
| Special provisions for carriage - Loading, unloading and handling (RID) | : CW13, CW28, CW31 |
| Colis express (express parcels) (RID)                                   | : CE8              |
| Hazard identification number (RID)                                      | : 60               |

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

Not applicable

## SECTION 15: Regulatory information

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

#### 15.1.1. EU-Regulations

No REACH Annex XVII restrictions

FURFURYL ALCOHOL FOR SYNTHESIS is not on the REACH Candidate List

FURFURYL ALCOHOL FOR SYNTHESIS is not on the REACH Annex XIV List

#### 15.1.2. National regulations

##### Germany

Reference to AwSV : Water hazard class (WGK) 1, low hazard to water (Classification according to AwSV; ID No. 114)

12th Ordinance Implementing the Federal Immission Control Act - 12.BImSchV : Is not subject of the 12. BImSchV (Hazardous Incident Ordinance)

##### Netherlands

SZW-lijst van kankerverwekkende stoffen : The substance is not listed

SZW-lijst van mutagene stoffen : The substance is not listed

NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Borstvoeding : The substance is not listed

NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Vruchtbaarheid : The substance is not listed

NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Ontwikkeling : The substance is not listed

##### Denmark

Class for fire hazard : Class III-1

Store unit : 50 liter

Classification remarks : Flammable according to the Danish Ministry of Justice; Emergency management guidelines for the storage of flammable liquids must be followed

# FURFURYL ALCOHOL FOR SYNTHESIS

## Safety Data Sheet

Recommendations Danish Regulation : Young people below the age of 18 years are not allowed to use the product  
Pregnant/breastfeeding women working with the product must not be in direct contact with the product  
The requirements from the Danish Working Environment Authorities regarding work with carcinogens must be followed during use and disposal

### 15.2. Chemical safety assessment

No additional information available

## SECTION 16: Other information

Full text of R-, H- and EUH-statements:

|                           |  |
|---------------------------|--|
| Acute Tox. 3 (Inhalation) | Acute toxicity (inhal.), Category 3  |
| Acute Tox. 4 (Dermal)     | Acute toxicity (dermal), Category 4  |
| Acute Tox. 4 (Oral)       | Acute toxicity (oral), Category 4  |
| Carc. 2                   | Carcinogenicity, Category 2  |
| Eye Irrit. 2              | Serious eye damage/eye irritation, Category 2  |
| STOT RE 2                 | Specific target organ toxicity — Repeated exposure, Category 2                             |
| STOT SE 3                 | Specific target organ toxicity — Single exposure, Category 3, Respiratory tract irritation |
| H302                      | Harmful if swallowed.  |
| H312                      | Harmful in contact with skin.  |
| H319                      | Causes serious eye irritation.   |
| H331                      | Toxic if inhaled.  |
| H335                      | May cause respiratory irritation.  |
| H351                      | Suspected of causing cancer.   |
| H373                      | May cause damage to organs through prolonged or repeated exposure.                         |
| R21/22                    | Harmful in contact with skin and if swallowed  |
| R23                       | Toxic by inhalation  |
| R36/37                    | Irritating to eyes and respiratory system  |
| R40                       | Limited evidence of a carcinogenic effect  |
| R48/20                    | Harmful: danger of serious damage to health by prolonged exposure through inhalation       |
| T                         | Toxic  |
| Xi                        | Irritant   |
| Xn                        | Harmful  |

*This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product*