

Safety Data Sheet
According to Regulation (EC) No 1907/2006, Annex II,
Amended by COMMISSION REGULATION (EU) 2015/830,
According to REGULATION (EC) No 1272/2008

Furfuryl Alcohol

Version 1.0

Issue date: 08-10-2019

Revision date: 08-10-2019

SDS Record Number: CSSS-TCO-010-132576

Section 1 Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier:

Identification on the label/Trade name: Furfuryl Alcohol
Additional identification: Not available
Identification of the product: CAS#98-00-0 EC#202-626-1
Index Number: 603-018-00-2
REACH registration No.: Not available

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

1.2.1 Identified uses:

Foundry

1.2.2 Uses advised against:

No uses advised against are identified.

1.3 Details of the supplier of the safety data sheet:

Supplier(Only representative): -
Supplier(Manufacturer): Shandong Yino Biologic Materials Co.,Ltd.
Address: Guyun Economic-Technological Development Area, Shen County, Liaocheng City, Shandong Province,China.
Contact person(E-mail): wl@yinobio.com
Telephone: 0086 635 7886156
Fax: 0086 635 7886179

1.4 Emergency telephone Number:

0086 635 7886155 (Only available during office hours (9:00a.m.-17:30p.m.))

Available outside office hours? YES NO

Section 2 Hazards Identification

2.1 Classification of the substance or mixture:

2.1.1 Classification:

The substance is classified as following according to REGULATION (EC) No 1272/2008:

REGULATION (EC) No 1272/2008	
Hazard classes/Hazard categories	Hazard statement
Acute Tox. 3	H301
Acute Tox.3	H311
Skin Irrit. 2	H315
Eye Irrit. 2	H319
Acute Tox. 3	H331
STOT SE 3	H335
Carc. 2	H351
STOT RE 2	H373

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2.2 Label elements:

Hazard Pictograms:



Signal Word(S):

Danger

Hazard Statement:

H301: Toxic if swallowed.

H311: Toxic in contact with skin.

H315: Causes skin irritation.

H319: Causes serious eye irritation.

H331: Toxic IF INHALED.

H335: May cause respiratory irritation.

H351: Suspected of causing cancer (Inhalation)

H373: May cause damage to organs < Respiratory - nasal tissue > through prolonged or repeated exposure < Inhalation >.

Precautionary statement:

P201: Obtain special instructions before use.

P202: Do not handle until all safety precautions have been read and understood.

P260: Do not breathe dust/fume/ gas/mist/vapours/spray.

P264: Wash hands thoroughly after handling.

P270: Do not eat, drink or smoke when using this product.

P271: Use only outdoors or in a well-ventilated area.

P280: Wear protective gloves/protective clothing/eye protection/face protection.

P301 + P310: IF SWALLOWED: Immediately call a poison center/doctor. P321: Specific treatment (See first aid instructions on this label).

P302 + P352: If on skin: wash with plenty of water.

P304 + P340: IF INHALED: remove person to fresh air and keep 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.

P308 + P313: If exposed or concerned: Get medical advice/attention.

P312: Call a poison center/doctor if you feel unwell.

P313: Get medical advice/ attention if you feel unwell.

P330: Rinse mouth.

P332 + P313: If skin irritation occurs: Get medical advice/attention.

P337 + P313: If eye irritation persists: Get medical advice/attention.

P361 + P364: Take off immediately all contaminated clothing and wash it before reuse.

P403 + P233: Store in a well-ventilated place. keep container tightly closed.

P405: Store locked up.

P501: Dispose of contents/container in accordance with local regulation.

2.3 Other hazards:

The substance is not PBT / vPvB.

Section 3 Composition/information on ingredients

Substance/Mixture:

Substance

Ingredient(s):

Chemical Name	Registration No.	CAS No.	EC No.	Concentration
Furfuryl Alcohol	N/A	98-00-0	202-626-1	98%min

Section 4 First aid measures

4.1 Description of first aid measures:

In all cases of doubt, or when symptoms persist, seek medical attention.

4.1.1 In case of inhalation:

Fresh air, rest and call a doctor if you feel unwell.

4.1.2 In case of skin contact:

Remove contaminated clothes, rinse skin with water or shower.

4.1.3 In case of eyes contact:

First rinse with plenty of water (remove lenses if possible). If eye irritation persists: get medical advice.

4.1.4 In case of ingestion:

Rinse mouth, and call a doctor if you feel unwell.

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

Toxic if swallowed. Toxic in contact with skin. Causes skin irritation. Causes serious eye irritation. Toxic IF INHALED. May cause respiratory irritation. Suspected of causing cancer (Inhalation). May cause damage to organs < Respiratory - nasal tissue > through prolonged or repeated exposure < Inhalation >.

4.3 Indication of any immediate medical attention and special treatment needed:

If skin irritation or rash occurs, get medical advice/attention.

Section 5 Firefighting measures

5.1 Extinguishing media:

Suitable extinguishing media:

Small fire use dry chemical powder, large fire use water spray, fog or foam

Unsuitable extinguishing media:

Do not use water jet

5.2 Special hazards arising from the substance or mixture

In case of fire, the following can be released: Oxides of carbon.

5.3 Advice for firefighters:

Self-contained breathing apparatus with full-face mask and full protective clothing (standard wear).

Section 6 Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures:

6.1.1 For non-emergency personnel:

Eliminate all sources of ignition. Wear appropriate protective clothing. Avoid breathing vapors. Keep unnecessary people away; isolate hazard area and deny entry. Consider need for evacuation. Stay up wind and keep out of low areas where vapor may accumulate and ignite.

6.1.2 For emergency responders:

Wear an appropriate NIOSH/MSHA approved respirator if vapor is generated.

6.2 Environmental Precautions:

Try to prevent the material from entering drains or water courses. Advise Authorities if spillage has entered water course or sewer or has contaminated soil or vegetation.

6.3 Methods and material for Containment and Cleaning up:

Take up small amounts spilled product with an inert absorbent. Dispose of as hazardous waste.

Dam spilled substance in and carefully remove with special vacuum cleaner; recycle if possible. Wash away remainder with water. Flush water into sewage.

6.4 Reference to other sections:

See Section 7 for information on safe handling.

See Section 8 for information on personal protection equipment.

Section 7 Handling and storage

7.1 Precautions for safe handling:

7.1.1 Protective measures: Use only in well ventilated areas. No open flames and no smoking. Above 65 °C closed system.

7.1.2 Advice on general occupational hygiene: Do not eat, drink and smoke in work areas. Wash hands after use. Remove contaminated clothing and protective equipment before entering eating areas.

7.2 Conditions for safe storage, including any incompatibilities: Light sensitive, air sensitive. Store in light-resistant container. Keep container in a cool, well-ventilated area. Separated from oxidants and strong acids.

7.3 Specific end use(s): Not applicable.

Section 8 Exposure Controls/Personal Protection

8.1 Control parameters:

8.1.1 Occupational exposure limits:

Country	Substance	EINECS No.	CAS No.	Occupational Exposure Limit Value (8-hour reference period)		Occupational Exposure Limit Value (15-minute reference period)		
				ppm	mg/ m3	ppm	mg/ m3	Note
Ireland	Furfuryl Alcohol	202-626-1	98-00-0	5	20	15	60	Sk

8.1.2 Additional exposure limits under the conditions of use: Not available.

8.1.3 DNEL/DMEL and PNEC-Values:

Workers - Hazard via inhalation route	Systemic effects-Long term exposure	DNEL=31mg/m ³
Workers - Hazard via inhalation route	Systemic effects-Acute/short term exposure	DNEL=143 mg/m ³
Workers - Hazard via inhalation route	Local effects-Long term exposure	DNEL=8mg/kg bw/day
Workers - Hazard via inhalation route	Local effects-Acute/short term exposure	DNEL=8mg/kg bw/day
Workers - Hazard via dermal route	Systemic effects-Long term exposure	DNEL=4 mg/kg bw/day
General Population - Hazard via inhalation route	Systemic effects-Long term exposure	DNEL=9.3 mg/m ³
General Population - Hazard via inhalation route	Systemic effects-Acute/short term exposure	DNEL=128.5 mg/m ³
General Population - Hazard via inhalation route	Local effects-Long term exposure	DNEL= 8 mg/m ³
General Population - Hazard via inhalation route	Local effects-Acute/short term exposure	DNEL= 8 mg/m ³
General Population - Hazard via dermal route	Systemic effects-Long term exposure	DNEL=2.4 mg/kg bw/day
General Population - Hazard via oral route	Systemic effects-Long term exposure	DNEL=2.4 mg/kg bw/day
General Population - Hazard via oral route	Systemic effects-Acute/short term exposure	DNEL=2.4 mg/kg bw/day
Hazard for aquatic organisms	Freshwater	PNEC=0.17 mg/L
Hazard for aquatic organisms	Marine water	PNEC=0.017 mg/L
Hazard for aquatic organisms	Sediment (freshwater)	PNEC= 0.861 mg/kg sediment dw
Hazard for aquatic organisms	Sediment (marine water)	PNEC= 0.086 mg/kg sediment dw
Hazard for terrestrial organisms	Soil	PNEC= 0.072 mg/kg soil dw
Hazard for predators	Secondary poisoning	PNEC= 35.3 mg/kg food

8.2 Exposure controls:

8.2.1 Appropriate engineering controls: Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

8.2.2 Individual protection measures, such as personal protective equipment:

Eye/face protection: Splash goggles

Hand protection: Gloves

Body protection: Full suits, boots.

Respiratory protection: Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose combination (US) or type ABEK (EN 14387)

respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Thermal hazards:

Wear suitable protective clothing to prevent heat.

8.2.3 Environmental exposure controls:

Avoid discharge into the environment. According to local regulations, Federal and official regulations.

Section 9 Physical and chemical properties

9.1 Information on basic physical and chemical properties:

Appearance:	Liquid
Colour:	Colorless to light yellow, transparent liquid
Odour:	Burning(Slight)
Odour threshold:	Not available
pH:	Not available
Melting point/range (°C):	-14.6°C(5.7°F)(ITI,1985)-31C(Lewis, 1989)
Boiling point/range (°C):	171°C(339.8°F)
Flash point (°C):	Closed up 65° C(149°F)..Open cup:75°C(167°F)
Evaporation rate:	Not available
Flammability limit - lower (%):	Not available
Flammability (solid, gas):	Not applicable
Ignition temperature (°C):	Not available
Upper/lower explosive limits:	16.3% / 1.8%
Vapour pressure (20°C):	53 Pa
Vapour density:	Not available
Relative Density:	1.129-1.135
Bulk density (kg/m³):	Not available
Water solubility (g/l):	Miscible
n-Octanol/Water (log Po/w):	0.3 (25°C)
Auto-ignition temperature:	490°C (914°F)
Decomposition temperature:	Not available
Viscosity, dynamic (mPa.s):	4.62 (25°C)
Explosive properties:	Non-explosive
Oxidising properties:	Not available
Molecular Formula:	C ₅ H ₆ O ₂
Molecular Weight:	98.1g.mole

9.2. Other information:

Fat solubility(solvent-oil to be specified)	Not available
etc:	
Surface tension:	38 mN/m(25 °C)
Dissociation constant in water(pKa):	pKa= 9.55
Oxidation-reduction Potential:	Not available

Section 10 Stability and reactivity

10.1 Reactivity:

The substance is stable under normal storage and handling conditions.

10.2 Chemical stability:

Stable at room temperature in closed containers under normal storage and

	handling conditions.
10.3 Possibility of hazardous reactions:	No dangerous reactions known.
10.4 Conditions to avoid:	Incompatible materials. Avoid all possible sources of ignition (spark or flame). Do not store above 25°C (77°F).
10.5 Incompatible materials:	Strong mineral acids, oxidising agents. Aluminum at higher temperatures.
10.6 Hazardous decomposition products:	Oxides of carbon.

Section 11 Toxicological information

11.1 Information on toxicological effects:

Acute toxicity:	
LD50(Oral, Rat):	160mg/kg
LD50(Dermal, Rabbit):	400mg/kg
LC50(Inhalation, Rat):	Not available
Skin corrosion/Irritation:	Causes skin irritation.
Serious eye damage/irritation:	Causes serious eye irritation.
Respiratory or skin sensitization:	Not classified
Germ cell mutagenicity:	Not classified
Carcinogenicity:	Suspected of causing cancer (Inhalation)
Reproductive toxicity:	Not classified
STOT- single exposure:	May cause respiratory irritation.
STOT-repeated exposure:	May cause damage to organs < Respiratory - nasal tissue > through prolonged or repeated exposure < Inhalation >.
Aspiration hazard:	Not classified

Section 12 Ecological information

12.1 Toxicity:

Acute (short-term) toxicity:	
LC50(96h, Fish):	Not available
LC50(48h, Crustacea):	223.76 mg/L
EC50(72h, Algae/aquatic plants):	Not available
Chronic (long-term) toxicity:	
NOEC(Fish):	Not available
NOEC(Crustacea):	Not available
EC50(Algae/aquatic plants):	Not available
12.2 Persistence and degradability:	Readily biodegradable
12.3 Bioaccumulative potential:	Not available.
12.4 Mobility in soil:	Not available.
12.5 Results of PBT and vPvB assessment:	The substance is not PBT / vPvB.
12.6 Other adverse effects:	Not available.

Section 13 Disposal considerations

13.1 Waste treatment methods:

Dispose of in accordance with all applicable local and national regulations. Use recovery/recycling where feasible, otherwise incineration is the recommended method of disposal. Empty containers may contain hazardous residues. Do not cut, puncture or weld on or near to the container. Labels should not be removed from containers until they have been cleaned. Contaminated containers must not be treated as household waste. Containers should be cleaned by appropriate methods and then re-used or disposed of by landfill or incineration as appropriate. Do not incinerate closed containers.

Section 14 Transport information

	Land transport (ADR/RID)	Inland waterways (ADN)	Sea transport (IMDG)	Air transport (ICAO/IATA)
UN number	2874	2874	2874	2874
UN Proper shipping name	FURFURYL ALCOHOL	FURFURYL ALCOHOL	FURFURYL ALCOHOL	FURFURYL ALCOHOL
Transport hazard Class(es)	6.1	6.1	6.1	6.1
Packing group	III	III	III	III
Environmental hazards	No	No	No	No
Special precautions for user	See section 2.2	See section 2.2	See section 2.2	See section 2.2
Transport in bulk according to Annex II of Marpol and the IBC Code	IBC03	IBC03	IBC03	IBC03

Section 15 Regulatory information

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

Relevant information regarding authorization: Not applicable.

Relevant information regarding restriction: Not applicable.

Other EU regulations: Employment restrictions concerning young person must be observed. For use only by technically qualified individuals.

Other National regulations: Not applicable

15.2 Chemical safety assessment

YES

NO

Section 16 Other information

16.1 Indication of changes:

Version 1.0 Amended by (EU) 2015/830

16.2 Abbreviations and acronyms:

ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road

RID: Regulation for rail International transportation of Dangerous goods

ADN: European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways

IMDG: Code international maritime dangerous goods code

ICAO: International Civil Aviation Organization

IATA: International Air Transport Association

LC50: median lethal concentration

EC50: The effective concentration of substance that causes 50% of the maximum response.

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NOEC: No Observed Effect Concentration

DNEL: derived no-effect level

PNEC: predicted no-effect concentration

16.3 Key literature references and sources for data

ECHA Registered substances data

16.4 Classification and procedure used to derive the classification for mixtures according to Regulation (EC) 1272/2008 [CLP]

Classification according to Regulation (EC) No. 1272/2008		Classification procedure
Acute Tox. 3	H301	On basis of test data
Acute Tox.3	H311	On basis of test data
Skin Irrit. 2	H315	On basis of test data
Eye Irrit. 2	H319	On basis of test data
Acute Tox. 3	H331	On basis of test data
STOT SE 3	H335	On basis of test data
Carc. 2	H351	On basis of test data
STOT RE 2	H373	On basis of test data

16.5 Relevant H-statements (number and full text):

H301: Toxic if swallowed.

H311: Toxic in contact with skin.

H315: Causes skin irritation.

H319: Causes serious eye irritation.

H331: Toxic IF INHALED.

H335: May cause respiratory irritation.

H351: Suspected of causing cancer (Inhalation)

H373: May cause damage to organs < Respiratory - nasal tissue > through prolonged or repeated exposure < Inhalation >.

16.6 Training instructions:

Not applicable.

16.7 Further information:

This information is based upon the present state of our knowledge. This SDS has been compiled and is solely intended for this product.

16.8 Notice to reader:

Employers should use this information only as a supplement to other information gathered by them, and should make independent judgment of suitability of this information to ensure proper use and protect the health and safety of employees. This information is furnished without warranty, and any use of the product not in conformance with this Safety Data Sheet, or in combination with any other product or process, is the responsibility of the user.

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