

MATERIAL SAFETY DATA SHEET
2-FURALDEHYDE DIETHYL ACETAL 99%

Section 1 - Chemical Product and Company Identification

MSDS Name:	2-FURALDEHYDE DIETHYL ACETAL 99%
Catalog Numbers:	4.22
Synonyms:	2-Furfural diethyl acetal
Relevant identified uses of substance or mixture and uses advised against	
Identified uses	Laboratory chemicals, Manufacture of substances
Company Identification:	Tau-Chem, Ltd. Nobelova 34, P.O. Box 29 836 05 Bratislava, Slovak Republic Phone: +421 2 44 452 252 Fax: +421 244 457 645
POISON CENTER:	National Toxicological Information Centre Limbová 5, 833 05 Bratislava,
Emergency Numbers Slovakia:	Phone: +42 2 54 774 166 Fax: +42 2 54 774 605


Section 2 - Hazards Identification

Classification of the substance or mixture

According to Regulation (EC) No 1272/2008
 Skin irritation, (Category 2)
 Eye irritation,(Category 2)
 Specific target organ toxicity – single exposure (Category 3)

According to European Directive 67/548/EEC as amended.
 Irritating to eyes, respiratory system and skin.

Label elements

Pictogram	
Signal word	Warning
Hazard statement(s)	
H315	Causes skin irritation.
H319	Causes serious eye irritation.
H335	May cause respiratory irritation.
Precautionary statement(s)	
P261	Avoid breathing dust/foam/mist/spray.
P280	Wear protective gloves/protective clothing.
P302+P352	IF ON SKIN: Wash with plenty of soap and water.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P501	Dispose of contents/container in accordance with local/regional/national/international regulations.
Hazard symbol(s)	
Xi	Irritant.
R-phrase(s)	
R36/37/38	Irritating to eyes, respiratory system and skin.
S-phrase(s)	
S26	In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
S36	Wear suitable protective clothing.
Other hazards	None.

Section 3 - Composition, Information on Ingredients

CAS#	Chemical Name:	%	EINECS#
13529-27-6	2-FURALDEHYDE DIETHYL ACETAL	99	236-872-6

Classification Skin Irrit. 2; Eye Irrit,2; STOTSE 3;
H315, H319, H335
Xi, R36/37/38

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

Section 4 - First Aid Measures

General advice:	Consult a physician. Show this safety data sheet to the doctor in attendance.
If inhaled:	If breathed in, move person into fresh air. If not breathing give artificial respiration. Consult a physician.
In case of skin contact:	Wash off with soap and plenty of water. Consult a physician.
In case eye contact:	Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.
If swallowed:	Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

Section 5 - Fire Fighting Measures

Suitable extinguishing media:	For small (incipient) fires, use media such as "alcohol" foam, dry chemical, or carbon dioxide. For large fires, apply water from as far as possible. Use very large quantities (flooding) of water applied as a mist or spray; solid streams of water may be ineffective. Cool all affected containers with flooding quantities of water.
Special protective equipment for fire-fighters:	Wear self contained apparatus breathing apparatus for fire fighting if necessary.

Section 6 - Accidental Release Measures

Personal precautions:	Use personal protective equipment. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas.
Environmental precautions:	Prevent further leakage or spillage if safe to do so. Do not let product enter drains.
Methods and materials for containment and cleaning up	Contain spillage, and then collect with an electrically protected vacuum cleaner or by wet-brushing and place in container for disposal according to local regulations (see section 13). Keep in suitable, closed containers for disposal.

Section 7 - Handling and Storage

Precautions for safe handling:	Avoid contact with skin and eyes. Avoid inhalation of vapour or mist. Keep away from sources of ignition - No smoking. Take measures to prevent the build up of electrostatic charge.
Conditions for safe storage:	Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage. Store in cool place. Recommended storage temperature: 0-6 °C

Section 8 - Exposure Controls, Personal Protection

Personal protective equipment:

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).
Hand protection	The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it. Handle with gloves.
Eye protection:	Face shield and safety glasses.
Skin and body protection:	Choose body protection according to the amount and concentration of the dangerous substance at the work place.
Hygiene measures:	Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

Section 9 - Physical and Chemical Properties

Appearance

Form:	Liquid
Colour:	Yellow

Safety data:

pH	Not available
Melting point:	Not available
Boiling Point:	189 - 191 °C / 760 mm Hg
Flash Point:	64 °C - closed cup
Ignition temperature:	Not available
Explosion Limits: Lower:	Not available

Explosion Limits: Upper:	Not available
Solubility in water:	Insoluble
Specific Gravity/Density:	1.008 g/cm ³
Refractive Index:	1.4430 – 1.4450
Molecular Formula:	C ₉ H ₁₄ O ₃
Molecular Weight:	170.21 g/mol

Section 10 - Stability and Reactivity

Chemical Stability:	Stabile under recommended storage conditions.
Conditions to Avoid:	Incompatible materials, strong oxidants, light, ignition sources, heat, flames and sparks.
Materials to avoid:	Strong oxidizing agents, strong acids.
Hazardous Decomposition Products	Hazardous decomposition products under fire conditions. – Carbon oxides.

Section 11 - Toxicological Information

Acute toxicity	No data available
Skin corrosion/irritation	No data available
Serious eye damage/eye irritation	No data available
Respiratory or skin sensitization	No data available
Germ cell mutagenicity	No data available

Carcinogenicity:

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

Reproductive toxicity:	No data available
Specific target organ toxicity – single exposure	Inhalation – May cause respiratory irritation.
Specific target organ toxicity – repeated exposure	No data available
Aspiration hazard	No data available
Potential health effect:	
Inhalation	May be harmful if inhaled. Causes respiratory tract irritation.
Ingestion	May be harmful if swallowed.
Skin	May be harmful if absorbed through skin. Causes skin irritation.
Eyes	Causes serious eye irritation

Signs and Symptoms of Exposure

Material is irritating to mucous membranes and upper respiratory tract. To the best of our knowledge, the chemical, physical and toxicological properties have not been thoroughly investigated.

Additional Information

RTECS: Not available

Section 12 – Ecological Information

Toxicity:	No data available
Persistence and degradability	No data available
Bioaccumulative potential	No data available
Mobility in soil	No data available
PBT and vPvB assessment	No data available
Other adverse effects	No data available

Section 13 - Disposal Considerations

Product	This combustible material may be burned in a chemical incinerator equipped with an afterburner and scrubber. Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material.
Contaminated packaging	Dispose of as unused product.

Section 14 - Transport Information

	IATA	IMDG	RID/ADR
Shipping Name:	Not dangerous goods	Not dangerous goods	Not dangerous goods
Hazard Class:			
UN Number:			
Packing Group:			

Section 15 - Regulatory Information

This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006

Section 16 - Other Information

Text of H-code(s) and R-phrase(s) mentioned in Section 3

Eye Irrit.	Eye irritation.
H315	Causes skin irritation.
H319	Causes serious eye irritation.
H355	May cause respiratory irritation.
Skin Irrit.	Skin irritation.
STOT SE	Specific target organ toxicity – single exposure.
Xi	Irritant.
R36/37/38	Irritating to eyes, respiratory system and skin.

MSDS Creation Date: 17/9/2008

Revision #1: 18/07/2011

This safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006.

Disclaimer:

The information contained herein is based on the present state of our knowledge. It characterizes the product with regard to the appropriate safety precautions. It does not represent a guarantee of the properties of the product. The information relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text.