

MATERIAL SAFETY DATA SHEET

Biology

EASTMAN KODAK COMPANY
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Rochester, New York 14650

For Emergency Health, Safety, and Environmental Information, call 716-722-5151
For all other purposes, call 800-225-5352, in New York State call 716-458-4014

Date of Revision: 11/10/88 Kodak Accession Number: 900140

SECTION I. IDENTIFICATION

- Product Name: Furfural
- Synonym(s): 2-Furancarboxaldehyde; Furaldehyde
- Formula: C5 H4 O2
- CAT No(s): 102 2672; 102 2698; 102 2854; 102 2862; 102 2870; 102 2896
- Chem. No(s): 00140
- Kodak's Internal Hazard Rating Codes: R: 2 S: 2 F: 2 C: 0-Z

SECTION II. PRODUCT AND COMPONENT HAZARD DATA

COMPONENT(S):	Percent	ACGIH TLV(R)	CAS Reg. No.
Furfural	ca. 100	2 ppm (skin)	98-01-1

SECTION III. PHYSICAL DATA

- Appearance: Colorless to light yellow liquid
- Boiling Point: 162 C (324 F)
- Vapor Pressure: 1.1 mmHg at 20 C (68 F)
- Evaporation Rate (n-butyl acetate = 1): Not Available
- Volatile Fraction by Weight: ca. 100 %
- Specific Gravity (Water = 1): 1.16
- Solubility in Water (by Weight): Moderate

SECTION IV. FIRE AND EXPLOSION HAZARD DATA

- Flash Point: 60 C (140 F) Tag closed cup
- Extinguishing Media: Water spray; Dry chemical; Carbon dioxide; Alcohol foam
- Special Fire Fighting Procedures: Wear self-contained breathing apparatus and protective clothing. Use water spray to keep fire-exposed containers cool. Fight fire from a protected location.
- Unusual Fire and Explosion Hazards: Fire or excessive heat may result in violent rupture of container due to bulk polymerization.

SECTION V. REACTIVITY DATA

- Stability: Stable
- Incompatibility: Strong oxidizers, strong acids, bases
- Hazardous Decomposition Products: Combustion will produce carbon dioxide and probably carbon monoxide.
- Hazardous Polymerization: May occur. Avoid polymerization accelerators or light.

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SECTION VI. TOXICITY AND HEALTH HAZARD DATA

- A. EXPOSURE LIMITS: TLV 2 ppm TWA, skin, ACGIH 1988-89; OSHA PEL 2 ppm, skin.
- B. EXPOSURE EFFECTS:
 - Inhalation: Vapor irritating. Exposure to high concentrations may cause narcosis.
 - Skin: Causes irritation. Harmful if absorbed through the skin.
 - Eye: May cause irritation.
 - Ingestion: Harmful if swallowed.
- C. FIRST AID:
 - Inhalation: Remove to fresh air. Treat symptomatically. If symptoms are present get medical attention.
 - Skin: Immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash contaminated clothing before reuse. If symptoms are present after washing, get medical attention.
 - Eye: Immediately flush eyes with plenty of water for at least 15 minutes and get medical attention.
 - Ingestion: If swallowed, induce vomiting immediately as directed by medical personnel or a poison information center. Never give anything by mouth to an unconscious person. CALL A PHYSICIAN OR A POISON CONTROL CENTER IMMEDIATELY.

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SECTION VII. VENTILATION AND PERSONAL PROTECTION

- A. VENTILATION:
 - Use process enclosures, local exhaust ventilation or other engineering controls to reduce vapor concentrations to an acceptable level.
- B. RESPIRATORY PROTECTION:
 - If engineering controls are inadequate to control vapor concentrations to an acceptable level, a NIOSH approved organic vapor respirator should be worn if needed. If respirators are used, a program should be instituted to assure compliance with OSHA Standard 29 CFR 1910.134.
- C. SKIN AND EYE PROTECTION:
 - Protective gloves and clothing should be worn. Goggles or a face shield should be worn.

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SECTION VIII. SPECIAL STORAGE AND HANDLING PRECAUTIONS

Classified as a combustible liquid. Keep away from heat and flame. Keep container tightly closed and away from light, acids or bases. Store in a cool place. Keep from contact with oxidizing materials.

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SECTION IX. SPILL, LEAK, AND DISPOSAL PROCEDURES

Remove all sources of ignition. Absorb material in vermiculite or other suitable absorbent and place in impervious container. Dispose by incineration or contract with licensed chemical waste disposal agency. Discharge, treatment, or disposal may be subject to federal, state or local laws.

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The information contained herein is furnished without warranty of any kind. Users should consider these data only as a supplement to other information gathered by them and must make independent determinations of the suitability and completeness of information from all sources to assure proper use and disposal of these materials and the safety and health of employees and customers.

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