Material Safety Data Sheet

May be used to comply with OSHA's Hazard Communication Standard, 29CFR 1910.1200. Standard must be consulted for specific requirements

2-Furaldehyde

Quick Identifier
QO® 2-Furaldehyde
Common Name (used on label and list):

Section I

Manufacturer's Name and Address
Penn Specialty Chemicals, Inc.
3324 Chelsea Avenue
Memphis, TN 38108

Emergency Telephone Number
901-320-4092
For Emergency Medical Information
Hazard Information Services: 800-228-5635
For Product Information and Other Calls:
Penn Specialty Chemicals, Inc.: 877-895-7366

Effective: July 15, 2003
Supersedes: October 23, 2000

Section II - Hazardous Ingredients/Identity Information

Hazardous Component(s) Chemical & Common Name(s)	OSHA PEL	ACGIH TLV	CAS NO.	%
2-Furaldehyde (Furfural)	5 ppm (skin)	2 ppm (skin), A3	98-01-1	

Section III - Physical/Chemical Characteristics

Boiling Point	Vapor Density (Air=1)	Specific Gravity (H_20 = 1)	Vapor Pressure (mm Hg)
323°F, 162°C	3.3	1.16	1.0 @ 65.3°F, 18.5°C

Solubility in Water
Moderate

Reactivity in Water
None

Appearance and Color
Clear, yellowish to dark amber, mobile liquid.
Pungent, almond-like odor.

Melting Point/Freezing Point
-34°F, -37°C

Section IV - Fire and Explosion Hazard Data

Flash Point	Method Used	Flammable Limits in Air, % Volume	LEL Lower	UEL Upper
140°F, 60°C	TCC		2.1	19.3

Auto-Ignition temperature
600°F, 315°C

Extinguisher Media
Water spray, dry chemical, "alcohol" foam, carbon dioxide

Special Fire Fighting Procedures
Firefighters should have eye protection and wear self-contained breathing apparatus.
Use water spray to cool containers exposed to fire.

Unusual Fire and Explosion Hazards
See Section V.

Section V - Physical Hazards/Reactivity Data

Stability
Unstable
Stable X

Conditions to Avoid
Normally stable; see warnings below

Incompatibility (Materials to Avoid)
Oxidizers. Acids. Bases

Hazardous Decomposition Products
Combustion produces carbon dioxide and carbon monoxide

Hazardous Polymerization
May Occur
Will Not Occur X

Conditions to Avoid
Hazardous polymerization may occur as concentration of acids or bases increases. Elevated temperature will speed this process

Section VI - Health Hazards

Chemical Listed as Carcinogen or Potential Carcinogen

National Toxicology	IARC Monographs	OSHA Regulated
Yes	Yes	Yes
No X*	No X	No X

*NTP study TR 382, NIH publication 90-2837 reports evidence of carcinogenic activity in mice and rats chronically exposed to 2-Furaldehyde by gavage for two years.

Signs and Symptoms

Exposure
Detectable odor

Acute Overexposure
Strong odor. Headache. Irritation of skin, eyes and respiratory tract. Staining of skin. Unconsciousness.

Chronic Overexposure
May cause dermatitis, sensitization of skin. Loss of taste, numbness of the tongue.

Emergency and First Aid Procedures for Overexposure - Obtain prompt medical attention.

Inhalation
Move to fresh air. If necessary, restore and support breathing. Get medical attention.

Eyes
Immediately flush with water for 15 minutes while lifting eyelids and rolling eyes.
Get immediate medical attention.

Skin
Wash promptly with large volumes of soap and water for 15 minutes. If irritation occurs get medical help.

Ingestion
Get medical help. If conscious and medical help not readily available, give 1 to 2 glasses of water.

Section VII - Special Precautions and Spill/Leak Procedures

Precautions to be taken in Handling and Storage

Store in a cool, dry, well-ventilated location away from ignition sources. Outside or detached storage is preferred. Separate from acids, bases and oxidizers.

Other Precautions

Avoid acid and base contamination and skin contact. Keep containers tightly closed. No smoking or eating in handling area. Store under nitrogen to reduce fire hazard and for product quality.

Steps to be taken in case Material is Released or Spilled

Shut off sources of ignition. Pick up spill on sand, earth or other non-combustible, absorbent material. Flush area with water to remove last traces. Place in covered containers for disposal.

Waste Disposal Methods (Consult Federal, State and Local Regulations)

Dispose of as EPA hazardous waste (#U125) in accord with regulations. Reportable quantity is 5,000 lbs. Dispose of in accord with regulations.

Section VIII - Special Protection and Control Measures

Respiratory Protection (Specify Type)

NIOSH approved organic vapor air purifying respirator where TLV exceeded
Ventilation and local exhaust required; keep below TLV.

Eye Protection	Protective Gloves	Other Protective Clothing or Equipment
Chemical goggles and full face shield.	Neoprene/natural rubber.	Eye fountain and safety shower.

Work Hygiene Practices

Avoid direct with 2-Furaldehyde.

Transport Information

DOT: Furaldehydes, 6.1, UN1199, PGII, Subsidiary Risk 3, RQ. (Reportable quantity applies only to shipments in bulk packages).
Label: Toxic, subsidiary Flammable liquid

Revision

Change 2-Furaldehyde to Furaldehydes under DOT