

Material Safety Data Sheet

HAZARD WARNINGS	RISK PHRASES	PROTECTIVE CLOTHING
 	<p>Combustible material; avoid heat and sources of ignition. Toxic compound, do not ingest or inhale. Avoid all contact with this material. Irritating to skin, eyes, and the respiratory system. Stench -- do not inhale, use under a fume hood. Air sensitive material. Store under argon.</p>	   

Section I. Chemical Product and Company Identification

Chemical Name	Furfuryl Mercaptan		
Catalog Number	F0077	Supplier	TCI America 9211 N. Harborage St. Portland OR 1-800-423-8616
Synonym	2-Furanmethanethiol (CA INDEX NAME)		
Chemical Formula	C ₅ H ₆ OS		
CAS Number	98-02-2	In case of Emergency Call	Chemtrec® (800) 424-9300 (U.S.) (703) 527-3887 (International)

Section II. Composition and Information on Ingredients

Chemical Name	CAS Number	Percent (%)	TLV/PEL	Toxicology Data
Furfuryl Mercaptan	98-02-2	Min. 98.0 (GC)	Not available.	Mouse LD ₅₀ (intraperitoneal) 100 mg/kg

Section III. Hazards Identification

Acute Health Effects	<p>Toxic if ingested or inhaled. Avoid prolonged contact with this material. Overexposure may result in serious illness or death. Irritating to eyes and skin on contact. Inhalation causes irritation of the lungs and respiratory system. Inflammation of the eye is characterized by redness, watering, and itching. Skin inflammation is characterized by itching, scaling, reddening, or, occasionally, blistering. Follow safe industrial hygiene practices and always wear proper protective equipment when handling this compound.</p>
Chronic Health Effects	<p>CARCINOGENIC EFFECTS : Not available. MUTAGENIC EFFECTS : Not available. TERATOGENIC EFFECTS : Not available. DEVELOPMENTAL TOXICITY: Reproductive effects. Rat TDLo Oral 1260 mg/kg, male 42 days prior to mating Toxic Effects: Paternal Effects - Testes, epididymis, sperm duct Repeated exposure to an highly toxic material may produce general deterioration of health by an accumulation in one or many human organs.</p>

Section IV. First Aid Measures

Eye Contact	Check for and remove any contact lenses. In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention.
Skin Contact	In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention immediately.
Inhalation	If the victim is not breathing, perform mouth-to-mouth resuscitation. Loosen tight clothing such as a collar, tie, belt or waistband. If breathing is difficult, oxygen can be administered. Seek medical attention if respiration problems do not improve.
Ingestion	INDUCE VOMITING by sticking finger in throat. Lower the head so that the vomit will not reenter the mouth and throat. Loosen tight clothing such as a collar, tie, belt or waistband. If the victim is not breathing, perform mouth-to-mouth resuscitation. Examine the lips and mouth to ascertain whether the tissues are damaged, a possible indication that the toxic material was ingested; the absence of such signs, however, is not conclusive.

Section V. Fire and Explosion Data

Flammability	Combustible.	Auto-Ignition	Not available.
Flash Points	45°C (113°F)	Flammable Limits	Not available.
Combustion Products	These products are toxic carbon oxides (CO, CO ₂), sulfur oxides (SO _x).		
Fire Hazards	Not available.		
Explosion Hazards	Risks of explosion of the product in presence of mechanical impact: Not available. Risks of explosion of the product in presence of static discharge: Not available.		
Fire Fighting Media and Instructions			

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Emergency phone number (800) 424-9300

Combustible liquid.
 SMALL FIRE: Use DRY chemical powder.
 LARGE FIRE: Use alcohol foam, water spray or fog. Cool containing vessels with water jet in order to prevent pressure build-up, autoignition or explosion. Consult with local fire authorities before attempting large scale fire-fighting operations.

Section VI. Accidental Release Measures

Spill Cleanup Instructions
 Combustible material. Toxic material. Irritating material. This material produces an irritating stench. Air sensitive material. Keep away from heat. Mechanical exhaust required. Stop leak if without risk. Absorb with DRY earth, sand or other non-combustible material. DO NOT get water inside container. DO NOT touch spilled material. Use water spray to reduce vapors. Prevent entry into sewers, basements or confined areas; dike if needed. Consult federal, state, and/or local authorities for assistance on disposal.

Section VII. Handling and Storage

Handling and Storage Information
 COMBUSTIBLE. TOXIC. IRRITANT. STENCH. AIR SENSITIVE. STORE UNDER ARGON. Keep locked up. Keep away from heat. Mechanical exhaust required. Avoid excessive heat and light. DO NOT ingest. Do not breathe gas/fumes/vapor/spray. Wear suitable protective clothing. If ingested, seek medical advice immediately and show the container or the label. Treat symptomatically and supportively.
 Always store away from incompatible compounds such as oxidizing agents, reducing agents, alkalis (bases).

Section VIII. Exposure Controls/Personal Protection

Engineering Controls
 Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors below their respective threshold limit value. Ensure that eyewash station and safety shower is proximal to the work-station location.

Personal Protection
 Splash goggles. Lab coat. Vapor respirator. Boots. Gloves. A MSHA/NIOSH approved respirator must be used to avoid inhalation of the product. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product.



Exposure Limits
 Not available.

Section IX. Physical and Chemical Properties

Physical state @ 20°C	Liquid. (Clear, colorless.)	Solubility	Soluble in many organic solvents. Insoluble in water.
Specific Gravity	1.13 (water=1)		
Molecular Weight	114.17	Partition Coefficient	Not available.
Boiling Point	155°C (311 °F)	Vapor Pressure	4 hPa (@ 20°C)
Melting Point	Not available.	Vapor Density	Not available.
Refractive Index	1.53	Volatility	Not available.
Critical Temperature	Not available.	Odor	Stench.
Viscosity	Not available.	Taste	Not available.

Section X. Stability and Reactivity Data

Stability
 This material is stable if stored under proper conditions. (See Section VII for instructions)

Conditions of Instability
 Avoid excessive heat and light. Air sensitive.

Incompatibilities
 Reactive with oxidizing agents, reducing agents, alkalis (bases), alkali metals.

Section XI. Toxicological Information

RTECS Number
 LU2100000

Routes of Exposure
 Eye Contact. Ingestion. Inhalation.

Toxicity Data
 Mouse LD₅₀ (intraperitoneal) 100 mg/kg

Chronic Toxic Effects
CARCINOGENIC EFFECTS : Not available.
MUTAGENIC EFFECTS : Not available.
TERATOGENIC EFFECTS : Not available.
DEVELOPMENTAL TOXICITY: Reproductive effects.
 Rat TDLo Oral 1260 mg/kg, male 42 days prior to mating
 Toxic Effects:
 Paternal Effects - Testes, epididymis, sperm duct
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Acute Toxic Effects
 Toxic if ingested or inhaled. Avoid prolonged contact with this material. Overexposure may result in serious illness or death. Irritating to eyes and skin on contact. Inhalation causes irritation of the lungs and respiratory system. Inflammation of the eye is characterized by redness, watering, and itching. Skin inflammation is characterized by itching, scaling, reddening, or, occasionally, blistering.
 Follow safe industrial hygiene practices and always wear proper protective equipment when handling this compound.

Section XII. Ecological Information

Ecotoxicity	Not available.
Environmental Fate	Not available.

Section XIII. Disposal Considerations

Waste Disposal	Recycle to process, if possible. Consult your local regional authorities. You may be able to dissolve or mix material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber system. Observe all federal, state and local regulations when disposing of the substance.
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Section XIV. Transport Information

DOT Classification	DOT CLASS 3: Flammable liquid DOT CLASS 6.1: Toxic material
PIN Number	UN1228
Proper Shipping Name	Mercaptans, liquid, flammable, toxic, n.o.s.
Packing Group (PG)	III
DOT Pictograms	 

**Section XV. Other Regulatory Information and Pictograms**

TSCA Chemical Inventory (EPA)	This compound is ON the EPA Toxic Substances Control Act (TSCA) inventory list.
WHMIS Classification (Canada)	CLASS B-3: Combustible liquid with a flash point between 37.8°C (100°F) and 93.3°C (200°F). CLASS D-1B: Material causing immediate and serious toxic effects (TOXIC). On DSL.
EINECS Number (EEC)	202-628-2
EEC Risk Statements	R10- Flammable. R18- In use, may form flammable/explosive vapor-air mixture. R23/24/25- Toxic by inhalation, in contact with skin and if swallowed. R36/37/38- Irritating to eyes, respiratory system and skin.
Japanese Regulatory Data	ENCS No. 5-50

Section XVI. Other Information

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Notice to Reader

TCI laboratory chemicals are for research purposes only and are NOT intended for use as drugs, food additives, households, or pesticides. The information herein is believed to be correct, but does not claim to be all inclusive and should be used only as a guide. Neither the above named supplier nor any of its subsidiaries assumes any liability whatsoever for the accuracy or completeness of the information contained herein. Final determination of suitability of any material is the sole responsibility of the user. All chemical reagents must be handled with the recognition that their chemical, physiological, toxicological, and hazardous properties have not been fully investigated or determined. All chemical reagents should be handled only by individuals who are familiar with their potential hazards and who have been fully trained in proper safety, laboratory, and chemical handling procedures. Although certain hazards are described herein, we can not guarantee that these are the only hazards which exist. Our MSDS sheets are based only on data available at the time of shipping and are subject to change without notice as new information is obtained. Avoid long storage periods since the product is subject to degradation with age and may become more dangerous or hazardous. It is the responsibility of the user to request updated MSDS sheets for products that are stored for extended periods. Disposal of unused product must be undertaken by qualified personnel who are knowledgeable in all applicable regulations and follow all pertinent safety precautions including the use of appropriate protective equipment (e.g. protective goggles, protective clothing, breathing equipment, facial mask, fume hood). For proper handling and disposal, always comply with federal, state, and local regulations.