

HEALTH	2
FLAMMABILITY	3
REACTIVITY	0

Section 1: PRODUCT AND COMPANY IDENTIFICATION

1.1 Product identifiers

Product Name	FURFURYL Mercaptan 1% in ETOH, Natural
Product Number	0249301
CAS-No.	98-02-2/64-17-5

1.2 Product Recommended Use Flavorings

1.3 Preparation Information

Company	Aurochemicals 7 Nicoll Street Washingtonville, NY 10992 - USA
Telephone	845-496-6065
Fax	845-496-6248 Fax

1.4 Emergency Telephone Number 1-800-535-5053
International - 1-352-323-3500 collect

Section 2: HAZARD(s) IDENTIFICATION

2.1 Classification of substance or mixture

GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)	Flammable liquids (Category 2) H225
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2.2 GHS Label Elements, Including precautionary statements

Pictogram



Signal Statement **DANGER**

Hazard Statement(s)

H225 Highly Flammable liquid and vapor

Precautionary Statement(s)

P210	Keep away from heat/sparks/open flames/hot surfaces – No smoking
P233	Keep container tightly closed
P240	Ground/bond container and receiving equipment
P241	Use explosion – proof electrical/ventilating/lighting equipment
P242	Use only non-sparking tools
P243	Take precautionary measures against static discharge
P280	Wear protective gloves/protective clothing/eye protection/ face protection
P303+P361+P353	IF ON SKIN (or hair): Remove/ Take off immediately all contaminated clothing. Rinse skin with water/shower
P370+P376	In case of fire: Use dry sand, dry chemical or alcohol-resistant foam for extinction. Store in a well ventilated place. Keep cool.
P403+P235	Dispose of contents/container to an approved waste disposal plant

P501

- 2.3 **HNOC (Hazards not otherwise classified or not covered by GHS)** None

Section 3: COMPOSITION / INFORMATION ON INGREDIENTS

3.1 Substances

Chemical characterization	Natural Product
Synonyms	Ethanol Solution
Formula	C ₁₁ H ₂₀ O ₂
Molecular Weight	184.28 g/mol
CAS-No	98-02-2/64-17-5
EC-No.	202-628-2/200-578-6

Hazardous Components

Component	Classification	Concentration
Ethanol	Flammable liquid (2)	99%
2-Furylmethanethiol	Flammable liquid (3)	1%

Section 4: FIRST AID MEASURES

4.1 Description of first aid measures

General Advice	Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.
Inhalation	Provide fresh air; keep at rest and at a comfortable position to breathe. Consult a physician
Contact with skin:	Remove contaminated clothing. Rinse skin with cool water then wash with mild soap and warm water. Consult a physician
Contact with eyes:	Rinse thoroughly with plenty of water for at least 15 as a precaution. Consult a physician. Continue rinsing during transport to hospital.
Ingestion	DO NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.
Clothing contamination:	Remove contaminated clothing and wash before reuse.

- 4.2 **Most important symptoms and effects both acute and delayed** See section 2.2 and or section 11

- 4.3 **Indication of any immediate medical attention and special treatment needed.** No data available

Section 5: FIREFIGHTING MEASURES

5.1 Extinguishing Media

Suitable Extinguishing Media	Use water spray, alcohol resistant foam, dry chemicals or carbon dioxide Carbon oxides
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- 5.2 **Special hazards arising from the substance or mixture**

No data available

- 5.3 **Advice for fire fighters**

Wear self contained breathing apparatus for firefighting if necessary. Emits toxic fumes under fire conditions

- 5.4 **Further information**

No data available

Section 6: ACCIDENTAL RELEASE MEASURES

- 6.1 Personal precautions, protective equipment and emergency procedures** Use personal protective equipment. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapors accumulating to form explosive concentrations. Vapors can accumulate in low areas.
- 6.2 Environment precautions** Prevent further leakage or spillage if safe to do so. Do not allow to enter drains or sewage system.
- 6.3 Methods and materials for containment and clean up** Pick up and arrange disposal without creating dust. Sweep up with broom and shovel. Place in a suitable, closed container for disposal.
- 6.4 Specific end use(s)** Apart from the uses mentioned in section 1.2, no other specific uses are stipulated.

Section 7: HANDLING AND STORAGE

- 7.1 Precautions for safe handling** Avoid contact with skin and eyes. Inhalation of vapor or mist
Use explosion proof equipment. Keep away from sources of ignition – No smoking.
Take measures to prevent the build-up of electrostatic charge.
- 7.2 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.
Hygroscopic
- 7.3 Specific End use(s)** Flavorings

Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

- 8.1 Control parameters**
Components with workplace control parameters

Component	CAS-No	Value	Control Parameters	Basis
Ethanol	64-17-5	TWA	1,000 ppm	USA ACGIH Threshold Limit Values (TLV)
Remarks: Upper Respiratory Tract Irritation. Confirmed animal carcinogen with unknown relevance to humans				
		TWA	1,000 ppm 1,900 mg/m3	USA, Occupational Exposure Limits (OSHA)-Table Z-1 Limits for Air Contaminants
The value in mg/m3 is approximate				
		TWA	1,000 ppm 1,900 mg/m3	USA. NIOSH Recommended Exposure Limits

- 8.2 Exposure Controls**

Appropriate Engineering Controls

Handle in accordance with good industrial hygiene and safety practices.
Mechanical exhaust required, Safety Shower and Eye Bath

Personal protective equipment

These recommendations are advisory only and must be evaluated by an industrial hygienist and safety officer familiar with the specific situation of anticipated use by our customers. They should not be construed as offering an approval for any specific use scenario.

Eye/face protection Wear appropriate tightly fitting safety goggles. NIOSH tested and approved.

Skin protection	Wear chemically resistant gloves of Butyl-rubber. Use proper glove removal techniques (without touching gloves outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use. Wash and dry hands.
Body protection	Complete suite protecting against chemicals, made of flame retardant antistatic material should be selected specifically for the work place, depending on concentration and quantity of the hazardous substances handled. The resistance of the protective clothing to chemicals should be ascertained with the respective supplier
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 faced supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).
Control of environmental exposure	Prevent further leakage or spillage if safe to do so. Do not let product enter drains

Section 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

a	Appearance	Pale yellow liquid
b	Odor	Characteristic unpleasant, sulfurous, alcoholic
c	Odor Threshold	No data available
d	pH	No data available
e	Melting Point /Freezing Point	Melting Point 114°C
f	Boiling Point	78°C
g	Flash Point	14.0°C closed cup
h	Evaporation Rate	No data available
i	Flammability (Solid, Gas)	No data available
j	Upper/lower Flammability Limit	Upper Explosion Limit: 19% (V) Lower Explosion Limit: 3.3% (V)
k	Vapor pressure	59.5 hPa (44.6 mmHg) at 20.0°C
l	Vapor density	No data available
m	Relative density at 25°C	0.773-0.854
n	Solubility	Completely soluble in water; soluble in most organic solvents.
o	Partition coefficient: n-octanol/water	No data available
p	Auto-ignition Temp.	363.0°C
q	Decomposition Temp.	No data available
r	Viscosity	No data available
s	Explosive properties	No data available
t	Oxidizing properties	No data available
9.2	Other Safety Information	No data available

Section 10: STABILITY AND REACTIVITY

10.1	Reactivity	No data available
10.2	Chemical Stability	Stable under recommended storage conditions
10.3	Possibility of Hazardous reactions	Vapors may form explosive mixture with air
10.4	Conditions to avoid	Heat, flames and sparks. Extremes of temperature and direct sunlight.
10.5	Incompatible materials	Alkali metals, Ammonia, Oxidizing agents, Peroxides

10.6 Hazardous decomposition products	No data available
10.7 Further Information	In the event of fire: see section 5

Section 11: TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Acute Toxicity

LD50-Oral-Rat 7,060 mg/kg
REMARKS: Lungs, Thorax, or Respiration: other changes

LC50-Inhalation- Rat 20,000 ppm 10h

LD50-Dermal No data available

Skin corrosion/irritation Rabbit: no skin irritation -24 h (OECD Test Guideline 404)

Serious eye damage/eye irritation Rabbit: Mild eye irritation -24 h (OECD Test Guideline 405)

Respiratory or skin sensitization No data available

Germ Cell mutagenicity No data available

Carcinogenicity

Carcinogenicity Mouse-Oral
Tumorigenic: Equivocal Tumorigenic agent by RTECS criteria. Liver: Tumors. Blood: Lymphomas including Hodgkin's disease.

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

ACGIH No component of this product, present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

NTP No component of this product, present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

OSHA No component of this product, present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Reproductive toxicity Reproductive toxicity: Human-Female-Oral
Effects on Newborn Apgar score (human only)
Effects on Newborn: Other neonatal measures or effects.
Effects on New Drug Dependence

Specific target organ toxicity-single exposure (GHS) No data available

Specific target organ toxicity-repeated exposures (GHS) No data available

Aspiration Hazards No data available

Potential Health effects Central nervous system depression, narcosis, damage to the heart.

o the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated

Signs and Symptoms of Exposure

Heart-Irregularities – based on human evidence
Stomach- Irregularities – based on human evidence

RTECS:

No data available

Section 12: ECOLOGICAL INFORMATION

12.1	Toxicity	No data available
12.2	Persistence and degradability	No data available
12.3	Bioaccumulative potential	No data available
12.4	Mobility in soil	No data available
12.5	Results of PBT and vPvB assessment	PBT/vPvB assessment not available as chemical safety assessment not required / not conducted
12.6	Other adverse effects	No data available

Section 13: DISPOSAL CONSIDERATIONS

13.1	Disposal methods	
	Product:	According to local regulations
	Packaging	According to local regulations

Section 14: TRANSPORT INFORMATION

DOT (US)
 Proper Shipping Name: UN1170 Class 3, Packing Group II
 Reportable Quantity (RQ): Ethanol Solution (Furfuryl Mercaptan 1% ETOH)
 Marine Pollutant: No
 Poison Inhalation Hazard: No

IMDG
 Proper Shipping Name: UN1170 Class 3, Packing Group II EMS-No. F-E, S-D
 Marine Pollutant: ETHANOL SOLUTION (Furfuryl Mercaptan 1% ETOH)
 No

IATA
 Proper Shipping Name: UN1170 Class 3, Packing Group II
 Ethanol Solution (Furfuryl Mercaptan 1% ETOH)

Section 15: REGULATORY INFORMATION

Reach No. A registration number is not available for this substance as its uses are exempted from registration, the annual tonnage does not require a registration or the registration is envisaged for a later registration deadline.

SARA 302 Components No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302

Safety Data Sheet

SARA 313 Components	This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.		
SARA 311/312 Hazards	Fire Hazard, Chronic Health Hazard		
Massachusetts Right to Know components	Ethanol	CAS# 64-17-5	Rev. Date: 3/1/2007
Pennsylvania Right to Know components	Ethanol	CAS# 64-17-5	Rev. Date: 3/1/2007
	2-Furylmethanethiol	CAS # 98-02-2	Rev. Date:
New Jersey Right to Know components	Ethanol	CAS# 64-17-5	Rev. Date: 3/1/2007
	2-Furylmethanethiol	CAS # 98-02-2	Rev. Date:
California Prop. 65 components	This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.		

Section 16: OTHER INFORMATION

HMIS Rating

Health hazard	2
Chronic Health Hazard*	
Flammability	3
Reactive Hazard	0

Further Information

Aurochemicals provides the information contained herein in good faith but makes no representation as to its comprehensiveness or accuracy. This document is intended only as a guide to the appropriate precautionary handling of the material by a properly trained person using this product. Individuals receiving the information must exercise their independent judgment in determining its appropriateness for a particular purpose. Aurochemicals makes no representations or warranties, either expressed or implied, including without limitation any warranties of merchantability, fitness for a particular purpose with respect to the information set forth herein or the product to which the information refers. Accordingly, Aurochemicals will not be responsible, nor held liable, for damages resulting from use of or reliance upon this information.

Issued by:	Contact Person:
Aurochemicals	Deo N. Persaud
7 Nicoll Street	Revised Date: 8/11/2022
Washingtonville, NY 10992 USA	