

HEALTH	2
FLAMMABILITY	3
REACTIVITY	0

## Section 1: PRODUCT AND COMPANY IDENTIFICATION

### 1.1 Product identifiers

Product Name	Difurfuryl Disulfide 1% ETOH, Natural
Product Number	0314600
CAS-No.	4437-20-1/64-17-5

### 1.2 Product Recommended Use

Flavorings

### 1.3 Preparation Information

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

### 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

### 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/clothing and eye and face protection
P303+P361+P353	IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower'
P370+P378	In case of fire: Use dry sand, dry chemical or alcohol resistant foam for extinction
P403+P235	Store in a well ventilated place. Keep cool.
P501	Dispose of contents/container to an approved waste disposal plant

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

### Section 3: COMPOSITION / INFORMATION ON INGREDIENTS

<b>3.1 Substances</b>	2,2-((Dithiodimethylene)Difuran and Ethyl Alcohol	
Synonyms	Ethanol Solution	
Formula	C <sub>10</sub> H <sub>10</sub> O <sub>2</sub> S <sub>2</sub>	
Molecular Weight	226.36 g/mol	
CAS-No	4437-20-1/64-17-5	
EC-No.	224-649-6/ 200-578-6	
Index No – Ethyl Alcohol	603-02-00-5	
<b>Hazardous components</b>		
Component	Classification	Concentration
<b>Ethanol</b>	<b>Flammable Liquid (2) H225</b>	<b>99%</b>

### Section 4: FIRST AID MEASURES

<b>4.1 Description of first aid measures</b>	
General Advice	Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.
Inhalation	If breathed in, move person to 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 and consult a physician.
Ingestion	DO NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water.
Clothing contamination:	Remove contaminated clothing and wash before reuse.
<b>4.2 Most important symptoms and effects both acute and delayed</b>	See section 2.2 and or section 11
<b>4.3 Indication of any immediate medical attention and special treatment needed.</b>	No data available

### Section 5: FIREFIGHTING MEASURES

<b>5.1 Extinguishing Media</b>	
Suitable Extinguishing Media	Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide Use water spray to cool unopened containers.
<b>5.2 Special hazards arising from the substance or mixture</b>	Carbon oxides, sulphur oxides
<b>5.3 Advice for fire fighters</b>	Wear self contained breathing apparatus for firefighting if necessary.
<b>5.4 Further information</b>	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** Contain spillage. Soak up with absorbent material. 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. Avoid inhalation of vapor or mist. Use explosion proof equipment. Keep away from sources of ignition. No smoking. Take measures to prevent the buildup 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 no substance 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	USA. Occupational Exposure Limits (OSHA) – Table Z-1 Limits for Air Contaminants
		TWA	1,000 ppm	
			1,900 mg/m3	
			The value in mg/m3 is approximate	USA. NIOSH Recommended Exposure Limits
		TWA	1,000 ppm	
			1,900 mg/m3	

**Appropriate Engineering Controls** Handle in accordance with good industrial hygiene and safety practices. Provide adequate exhaust ventilation in areas where product is handled. Wash hands thoroughly before breaks and at the end of the day.

**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 safety glasses with side shields conforming to EN 166. Use equipment for eye

protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166 (EU).

Skin protection	Wear chemically resistant, Butyl rubber gloves, 0.3mm thick when handling this product.. 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	Impervious clothing protecting against chemicals, 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 face 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	Clear to pale yellow liquid
b	Odor	Stench/alcohol like
c	Odor Threshold	No data available
d	pH	No data available
e	Melting Point /Freezing 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	0.785-0.820
n	Solubility	Completely soluble in water and 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 <b>Chemical Stability</b>	Stable under recommended storage conditions
10.3 <b>Possibility of Hazardous reactions</b>	Vapors may form explosive mixture with air
10.4 <b>Conditions to avoid</b>	Heat, Flames, Sparks. Extremes of temperature and direct sunlight
10.5 <b>Incompatible materials</b>	Alkali metals, ammonia, oxidizing agents, peroxides
10.6 <b>Hazardous decomposition products</b>	No data available
10.7 <b>Further Information</b>	No data available

## 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 10 hr  
LD50-Dermal No data available

Skin corrosion/irritation Rabbit: No skin irritation – 24 hr (OECD Test Guideline 404)  
Serious eye damage/eye irritation Rabbit: Mild eye irritation – 24 hr (OECD Test Guideline 405)  
Respiratory or skin sensitization No data available  
Germ Cell mutagenicity No data available

#### Carcinogenicity

##### Mouse – Oral

**Tumorigenic: Equivocal Tumorigenic agent by RTEC criteria: Liver: Tumors; Blood: Lymphomas including Hodgkin 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.

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 Human: Female – Oral  
Effects on Newborn: Apgar score (human only) Other neonatal measures or effects; drug dependence.

Teratogenicity No data available

Specific target organ toxicity-single No data available

exposure (GHS) No data available

Specific target organ toxicity-repeated No data available

exposures (GHS) No data available

Aspiration Hazards No data available

Signs and Symptoms of Exposure Central nervous system depression, narcosis. Damage to the heart

Heart irregularities – Based on Human evidence

Stomach irregularities – Based on Human evidence

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

Synergistic effect No data available

RTECS: KQ6300000

## 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

<b>DOT (US)</b>	UN Number 1170 Class 9	Packing Group II
Proper shipping name:	Ethanol Solution	
Marine pollutant	No	
Poison Inhalation Hazard	No	
<b>IMDG</b>	UN Number 1170 Class 9	Packing Group II
	Ethanol Solution	
<b>IATA</b>	UN Number 1170 Class 9	Packing Group II
	Ethanol Solution	

## 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		
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	(2-2'-[Dithiobis(methylene)]bisfuran	CAS# 4437-20-1	Rev. Date:
	Ethanol	CAS # 64-17-5	Rev. Date: 3/1/2007
New Jersey Right to Know components	(2-2'-[Dithiobis(methylene)]bisfuran	CAS# 4437-20-1	Rev. Date:
	Ethanol	CAS # 64-17-5	Rev. Date: 3/1/2007

# Safety Data Sheet

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  
Physical 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.

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