



# 1,4-Dithiane

## Synerzine™ Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations  
Date of issue: 05/19/2015 Revision date: 05/23/2015 Version: 2.0

### SECTION 1: Identification

#### 1.1. Identification

Product form : Substance  
Substance name : 1,4-Dithiane  
CAS-No. : 505-29-3  
Product code : (US) W0487  
Formula : C4H8S2  
Synonyms : p-Dithiane / 1,4-dithiane / Dithiane, 1,4-

#### 1.2. Recommended use and restrictions on use

No additional information available

#### 1.3. Supplier

Synerzine  
5340 Hwy 42 S  
Ellenwood, Georgia 30294 - USA  
T 404-524-6744 - F 404-577-1651  
[info@synerzine.com](mailto:info@synerzine.com) - [www.synerzine.com](http://www.synerzine.com)

#### 1.4. Emergency telephone number

Emergency number : Infotrac 1-800-535-5053 (Contract# 102471) Dial +1-352-323-3500 when outside the US

### SECTION 2: Hazard(s) identification

#### 2.1. Classification of the substance or mixture


##### GHS-US classification

Skin corrosion/irritation Category 2	H315	Causes skin irritation
Serious eye damage/eye irritation Category 2A	H319	Causes serious eye irritation
Specific target organ toxicity (single exposure) Category 3	H335	May cause respiratory irritation

Full text of H statements : see section 16

#### 2.2. GHS Label elements, including precautionary statements

##### GHS-US labeling

Hazard pictograms (GHS-US) : 

Signal word (GHS-US) : Warning

Hazard statements (GHS-US) : H315 - Causes skin irritation  
H319 - Causes serious eye irritation  
H335 - May cause respiratory irritation

Precautionary statements (GHS-US) : P261 - Avoid breathing dust.  
P264 - Wash hands, forearms and face thoroughly after handling.  
P271 - Use only outdoors or in a well-ventilated area.  
P280 - Wear eye protection, face protection, protective gloves, protective clothing.  
P302+P352 - If on skin: Wash with plenty of soap and water  
P304+P340 - If inhaled: Remove person to fresh air and keep comfortable for breathing  
P305+P351+P338 - If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing  
P312 - Call a doctor, a POISON CENTER if you feel unwell  
P321 - Specific treatment (see supplemental first aid instructions on this label)  
P332+P313 - If skin irritation occurs: Get medical advice/attention.  
P337+P313 - If eye irritation persists: Get medical advice/attention.  
P362 - Take off contaminated clothing and wash before reuse.  
P403+P233 - Store in a well-ventilated place. Keep container tightly closed.  
P405 - Store locked up.

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P501 - Dispose of contents/container to an approved waste disposal plant

### 2.3. Other hazards which do not result in classification

No additional information available

### 2.4. Unknown acute toxicity (GHS US)

Not applicable

## SECTION 3: Composition/Information on ingredients

### 3.1. Substances

Name	Product identifier	%	GHS-US classification
1,4-Dithiane (Main constituent)	(CAS-No.) 505-29-3	97 - 100	Skin Irrit. 2, H315 Eye Irrit. 2A, H319 STOT SE 3, H335

Full text of hazard classes and H-statements : see section 16

### 3.2. Mixtures

Not applicable

## SECTION 4: First-aid measures

### 4.1. Description of first aid measures

- First-aid measures general : Call a poison center/doctor/physician if you feel unwell.
- First-aid measures after inhalation : Remove person to fresh air and keep comfortable for breathing. Call a poison center/doctor/physician if you feel unwell.
- First-aid measures after skin contact : Wash skin with plenty of water. Take off contaminated clothing. If skin irritation occurs: Get medical advice/attention.
- First-aid measures after eye contact : Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.
- First-aid measures after ingestion : Call a poison center/doctor/physician if you feel unwell.

### 4.2. Most important symptoms and effects (acute and delayed)

- Symptoms/effects after inhalation : May cause respiratory irritation.
- Symptoms/effects after skin contact : Irritation.
- Symptoms/effects after eye contact : Eye irritation.

### 4.3. Immediate medical attention and special treatment, if necessary

Treat symptomatically.

## SECTION 5: Fire-fighting measures

### 5.1. Suitable (and unsuitable) extinguishing media

- Suitable extinguishing media : Water spray. Dry powder. Foam.

### 5.2. Specific hazards arising from the chemical

- Reactivity : The product is non-reactive under normal conditions of use, storage and transport.

### 5.3. Special protective equipment and precautions for fire-fighters

- Protection during firefighting : Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

## SECTION 6: Accidental release measures

### 6.1. Personal precautions, protective equipment and emergency procedures

#### 6.1.1. For non-emergency personnel

- Emergency procedures : Ventilate spillage area. Avoid breathing dust. Avoid contact with skin and eyes.

#### 6.1.2. For emergency responders

- Protective equipment : Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".

### 6.2. Environmental precautions

Avoid release to the environment.

### 6.3. Methods and material for containment and cleaning up

- Methods for cleaning up : Mechanically recover the product.

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Other information : Dispose of materials or solid residues at an authorized site.

### 6.4. Reference to other sections

For further information refer to section 13.

## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

Precautions for safe handling : Use only outdoors or in a well-ventilated area. Avoid breathing dust. Avoid contact with skin and eyes. Wear personal protective equipment.

Hygiene measures : Wash contaminated clothing before reuse. Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

### 7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Store locked up. Store in a well-ventilated place. Keep container tightly closed. Keep cool.

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

No additional information available

### 8.2. Appropriate engineering controls

Appropriate engineering controls : Ensure good ventilation of the work station.

Environmental exposure controls : Avoid release to the environment.

### 8.3. Individual protection measures/Personal protective equipment

#### Hand protection:

Protective gloves

#### Eye protection:

Safety glasses

#### Skin and body protection:

Wear suitable protective clothing

#### Respiratory protection:

In case of insufficient ventilation, wear suitable respiratory equipment

## SECTION 9: Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

Physical state : Solid  
Appearance : Crystalline solid.  
Color : Pale yellow  
Odor : seafood-like garlic onion odor  
Odor threshold : No data available  
pH : No data available  
Melting point :  $\approx 100\text{ }^{\circ}\text{C}$   
Freezing point : Not applicable  
Boiling point :  $200\text{ }^{\circ}\text{C}$   
Flash point :  $179\text{ }^{\circ}\text{F TCC}$   
Relative evaporation rate (butyl acetate=1) : No data available  
Flammability (solid, gas) : Non flammable.  
Vapor pressure : No data available  
Relative vapor density at  $20\text{ }^{\circ}\text{C}$  : No data available  
Relative density : Not applicable  
Solubility : No data available

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Log Pow	: No data available
Auto-ignition temperature	: Not applicable
Decomposition temperature	: No data available
Viscosity, kinematic	: Not applicable
Viscosity, dynamic	: No data available
Explosion limits	: Not applicable
Explosive properties	: No data available
Oxidizing properties	: No data available

### 9.2. Other information

No additional information available

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

The product is non-reactive under normal conditions of use, storage and transport.

### 10.2. Chemical stability

Stable under normal conditions.

### 10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

### 10.4. Conditions to avoid

None under recommended storage and handling conditions (see section 7).

### 10.5. Incompatible materials

No additional information available

### 10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

Acute toxicity : Not classified

1,4-Dithiane (505-29-3)	
LD50 oral rat	2768 mg/kg
ATE US (oral)	2768 mg/kg body weight

Skin corrosion/irritation	: Causes skin irritation.
Serious eye damage/irritation	: Causes serious eye irritation.
Respiratory or skin sensitization	: Not classified
Germ cell mutagenicity	: Not classified
Carcinogenicity	: Not classified
Reproductive toxicity	: Not classified
Specific target organ toxicity – single exposure	: May cause respiratory irritation.
Specific target organ toxicity – repeated exposure	: Not classified
Aspiration hazard	: Not classified
Symptoms/effects after inhalation	: May cause respiratory irritation.
Symptoms/effects after skin contact	: Irritation.
Symptoms/effects after eye contact	: Eye irritation.

## SECTION 12: Ecological information

### 12.1. Toxicity

Ecology - general : The product is not considered harmful to aquatic organisms or to cause long-term adverse effects in the environment.

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### 12.2. Persistence and degradability

No additional information available

### 12.3. Bioaccumulative potential

No additional information available

### 12.4. Mobility in soil

No additional information available

### 12.5. Other adverse effects

No additional information available

## SECTION 13: Disposal considerations

### 13.1. Disposal methods

Waste treatment methods : Dispose of contents/container in accordance with licensed collector's sorting instructions.

## SECTION 14: Transport information

### Department of Transportation (DOT)

In accordance with DOT

Transport document description : UN3335 Aviation regulated solid, n.o.s., 9, III  
UN-No.(DOT) : UN3335  
Proper Shipping Name (DOT) : Aviation regulated solid, n.o.s.  
Class (DOT) : 9 - Class 9 - Miscellaneous hazardous material 49 CFR 173.140  
Packing group (DOT) : III - Minor Danger  
Hazard labels (DOT) : 9 - Class 9 (Miscellaneous dangerous materials)



DOT Packaging Non Bulk (49 CFR 173.xxx) : 204  
DOT Symbols : A - Material is regulated as a hazardous material only when transported by air; G - Identifies PSN requiring a technical name  
DOT Special Provisions (49 CFR 172.102) : A35 - This includes any material which is not covered by any of the other classes but which has an anesthetic, narcotic, noxious or other similar properties such that, in the event of spillage or leakage on an aircraft, extreme annoyance or discomfort could be caused to crew members so as to prevent the correct performance of assigned duties.  
DOT Packaging Exceptions (49 CFR 173.xxx) : 155  
DOT Quantity Limitations Passenger aircraft/rail (49 CFR 173.27) : 400 kg  
DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75) : 400 kg  
DOT Vessel Stowage Location : A - The material may be stowed "on deck" or "under deck" on a cargo vessel and on a passenger vessel.  
Other information : No supplementary information available.

### Transportation of Dangerous Goods

#### Transport by sea

Transport document description (IMDG) : UN 3335 AVIATION REGULATED SOLID, N.O.S., 9, III  
UN-No. (IMDG) : 3335  
Proper Shipping Name (IMDG) : AVIATION REGULATED SOLID, N.O.S.  
Class (IMDG) : 9 - Miscellaneous dangerous substances and articles  
Packing group (IMDG) : III - substances presenting low danger

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### Air transport

Transport document description (IATA)	: UN 3335 Aviation regulated solid, n.o.s., 9, III
UN-No. (IATA)	: 3335
Proper Shipping Name (IATA)	: Aviation regulated solid, n.o.s.
Class (IATA)	: 9 - Miscellaneous Dangerous Goods
Packing group (IATA)	: III - Minor Danger

## SECTION 15: Regulatory information

### 15.1. US Federal regulations

#### 1,4-Dithiane (505-29-3)

Listed on the United States TSCA (Toxic Substances Control Act) inventory

### 15.2. International regulations

#### CANADA

#### 1,4-Dithiane (505-29-3)

Listed on the Canadian NDSL (Non-Domestic Substances List)

#### EU-Regulations

#### 1,4-Dithiane (505-29-3)

Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

#### National regulations

#### 1,4-Dithiane (505-29-3)

Listed on NZIoC (New Zealand Inventory of Chemicals)  
Listed on the TCSI (Taiwan Chemical Substance Inventory)

### 15.3. US State regulations

No additional information available

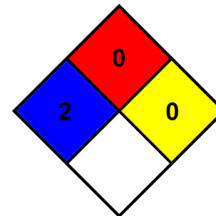
## SECTION 16: Other information

Revision date : 05/23/2015

Full text of H-phrases:

H315	Causes skin irritation
H319	Causes serious eye irritation
H335	May cause respiratory irritation

NFPA health hazard	: 2 - Materials that, under emergency conditions, can cause temporary incapacitation or residual injury.
NFPA fire hazard	: 0 - Materials that will not burn under typical fire conditions, including intrinsically noncombustible materials such as concrete, stone, and sand.
NFPA reactivity	: 0 - Material that in themselves are normally stable, even under fire conditions.



Hazard Rating

Health	: 2 Moderate Hazard - Temporary or minor injury may occur
Flammability	: 0 Minimal Hazard - Materials that will not burn
Physical	: 0 Minimal Hazard - Materials that are normally stable, even under fire conditions, and will NOT react with water, polymerize, decompose, condense, or self-react. Non-Explosives.
Personal protection	: C C - Safety glasses, Gloves, Synthetic apron

Synerzine US

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*This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product*