Vanderbilt Chemicals, LLC
A Wholly Owned Subsidiary of R.T. Vanderbilt Holding Company, Inc.

# SAFETY DATA SHEET

GHS
United States

## Section 1. Product and company identification

**Product name** CUVAN® 826

**Code** 12854

**Supplier/Manufacturer** Vanderbilt Chemicals, LLC
30 Winfield Street
Norwalk, CT 06855

**In case of emergency**
1-203-853-1400
Chemtrec: 1-800-424-9300
Outside US:
+1-703-527-3887

**Chemical name** 2,5-Dimercapto-1,3,4-thiadiazole derivative

**Synonym** 2,5-Dimercaptothiadiazole derivative

**Material uses** Lubricant additives

**Product type** Liquid.

## Section 2. Hazards identification

**OSHA/HCS status** This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

**Classification of the substance or mixture**
ACUTE TOXICITY (inhalation) - Category 4
SKIN IRRITATION - Category 2
SKIN SENSITIZATION - Category 1

**GHS label elements**

**Hazard pictograms**

**Signal word** Warning

**Hazard statements**
Harmful if inhaled.
Causes skin irritation.
May cause an allergic skin reaction.

**Precautionary statements**

**Prevention** Wear protective gloves. Use only outdoors or in a well-ventilated area. Avoid breathing vapor. Wash hands thoroughly after handling. Contaminated work clothing must not be allowed out of the workplace.

**Response** IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or physician if you feel unwell. IF ON SKIN: Wash with plenty of soap and water. Wash contaminated clothing before reuse. If skin irritation or rash occurs: Get medical attention.

**Storage** Not applicable.

**Disposal** Dispose of contents and container in accordance with all local, regional, national and international regulations.

**Hazards not otherwise classified** None known.

# Section 2. Hazards identification

# Section 3. Composition/information on ingredients

**Substance/mixture** Substance

| Ingredient name | CAS number | % by weight |
|---|---|---|
| 2,5-bis(n-octyldithio)-1,3,4-thiadiazole | 13539-13-4 | 60 - 80 |
| dioctyl disulfide | 822-27-5 | 20 - 40 |

For Europe, EC number 948-020-7 applies for REACH registration purposes for 2,5-Dimercapto-1,3,4-thiadiazole derivative.

**Occupational exposure limits, if available, are listed in Section 8.**

# Section 4. First aid measures

## Description of necessary first aid measures

**Eye contact** Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention.

**Inhalation** Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention if adverse health effects persist or are severe. If necessary, call a poison center or physician. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.

**Skin contact** Wash with plenty of soap and water. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 10 minutes. Get medical attention. In the event of any complaints or symptoms, avoid further exposure. Wash clothing before reuse. Clean shoes thoroughly before reuse.

**Ingestion** Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention if adverse health effects persist or are severe. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

## Most important symptoms/effects, acute and delayed

### Potential acute health effects

**Eye contact** No known significant effects or critical hazards.

**Inhalation** Harmful if inhaled.

**Skin contact** Causes skin irritation. May cause an allergic skin reaction.

**Ingestion** No known significant effects or critical hazards.

## Over-exposure signs/symptoms

# Section 4. First aid measures

**Eye contact**
Adverse symptoms may include the following:
pain or irritation
watering
redness

**Inhalation**
No specific data.

**Skin contact**
Adverse symptoms may include the following:
irritation
redness

**Ingestion**
No specific data.

**Indication of immediate medical attention and special treatment needed, if necessary**

**Notes to physician**
In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.

**Specific treatments**
No specific treatment.

**Protection of first-aiders**
No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

**See toxicological information (Section 11)**

# Section 5. Fire-fighting measures

**Extinguishing media**

**Suitable extinguishing media**
Use an extinguishing agent suitable for the surrounding fire.

**Unsuitable extinguishing media**
None known.

**Specific hazards arising from the chemical**
In a fire or if heated, a pressure increase will occur and the container may burst.

**Hazardous thermal decomposition products**
Decomposition products may include the following materials:
carbon dioxide
carbon monoxide
nitrogen oxides
sulfur oxides

**Special protective actions for fire-fighters**
Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

**Special protective equipment for fire-fighters**
Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

# Section 6. Accidental release measures

## Personal precautions, protective equipment and emergency procedures

**For non-emergency personnel**

No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

**For emergency responders**

If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

**Environmental precautions**

Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

## Methods and materials for containment and cleaning up

**Small spill**

Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

**Large spill**

Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

# Section 7. Handling and storage

## Precautions for safe handling

**Protective measures**

Put on appropriate personal protective equipment (see Section 8). Persons with a history of skin sensitization problems should not be employed in any process in which this product is used. Do not get in eyes or on skin or clothing. Do not ingest. Avoid breathing vapor or mist. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.

**Advice on general occupational hygiene**

Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

**Conditions for safe storage, including any incompatibilities**

Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.

This product has a tendency upon standing to haze. If this should happen, the product should be heated at 40ºC (104ºF) to 50ºC (122ºF) to re-homogenize.

# Section 8. Exposure controls/personal protection

## Control parameters

### Occupational exposure limits

None.

**Appropriate engineering controls**

Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

**Environmental exposure controls**

Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

## Individual protection measures

**Hygiene measures**

Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

**Eye/face protection**

Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles. Recommended: splash goggles

## Skin protection

**Hand protection**

Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.

**Body protection**

Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. Recommended: lab coat

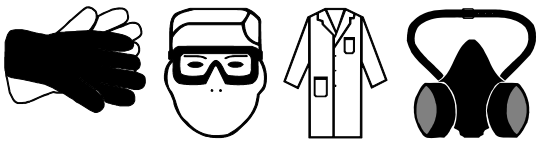
**Other skin protection**

Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

**Respiratory protection**

Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use. Recommended: Vapor and dust respirator.

**Personal protective equipment (Pictograms)**



## Section 9. Physical and chemical properties

**Appearance**

| | |
|---|---|
| **Physical state** | Liquid. |
| **Color** | Amber to gold. |
| **Odor** | Lard-like. [Slight] |
| **Odor threshold** | Not available. |
| **pH** | Not available. |
| **Melting point** | -10°C (14°F) |
| **Boiling point** | Not available. |
| **Flash point** | Open cup: 210°C (410°F) [Cleveland.] |
| **Burning time** | Not applicable. |
| **Burning rate** | Not applicable. |
| **Evaporation rate** | Slower than n-Butyl Acetate |
| **Flammability (solid, gas)** | Not available. |
| **Lower and upper explosive (flammable) limits** | Not available. |
| **Vapor pressure** | Not available. |
| **Vapor density** | Not available. |
| **Density** | 1.04 g/cm³ [25°C (77°F)] |
| **Relative density** | 1.04 |
| **Solubility** | Insoluble in the following materials: cold water. |
| **Solubility in water** | Not available. |
| **Partition coefficient: n-octanol/water** | Not available. |
| **Auto-ignition temperature** | Not available. |
| **Decomposition temperature** | Not available. |
| **SADT** | Not available. |
| **Viscosity** | Not available. |

## Section 10. Stability and reactivity

| | |
|---|---|
| **Reactivity** | No specific test data related to reactivity available for this product or its ingredients. |
| **Chemical stability** | The product is stable. |
| **Possibility of hazardous reactions** | Under normal conditions of storage and use, hazardous reactions will not occur. |
| **Conditions to avoid** | No specific data. |
| **Incompatible materials** | No specific data. |
| **Hazardous decomposition products** | Under normal conditions of storage and use, hazardous decomposition products should not be produced. |

# Section 11. Toxicological information

## Information on toxicological effects

### Acute toxicity

| Product/ingredient name | Result | Species | Dose | Exposure |
|---|---|---|---|---|
| CUVAN® 826 | LC50 Inhalation Dusts and mists<br>LD50 Dermal<br>LD50 Oral | Rat<br>Rabbit<br>Rat | 3.08 mg/l<br>>2000 mg/kg<br>>5000 mg/kg | 4 hours<br>-<br>- |

### Irritation/Corrosion

Not available.

### Conclusion/Summary

**Skin** Causes skin irritation. (Rabbit)

**Eyes** Non-irritating to the eyes. (Rabbit)

### Sensitization

| Product/ingredient name | Route of exposure | Species | Result |
|---|---|---|---|
| CUVAN® 826 | skin | Guinea pig | Sensitizing |

### Mutagenicity

| Product/ingredient name | Test | Experiment | Result |
|---|---|---|---|
| CUVAN® 826 | OECD 471<br><br>OECD 490<br><br>OECD 487 | Experiment: In vitro<br>Subject: Bacteria<br>Experiment: In vitro<br>Subject: Mammalian-Animal<br>Experiment: In vitro<br>Subject: Mammalian-Human | Negative<br><br>Negative<br><br>Negative |

### Carcinogenicity

Not available.

### Reproductive toxicity

Not available.

**Conclusion/Summary** NOAEL = 330mg/kg bw/day (subchronic)

### Teratogenicity

Not available.

### Specific target organ toxicity (single exposure)

Not available.

### Specific target organ toxicity (repeated exposure)

Not available.

### Aspiration hazard

Not available.

# Section 11. Toxicological information

**Information on the likely routes of exposure** Routes of entry anticipated: Dermal, Inhalation.

## Potential acute health effects

**Eye contact** No known significant effects or critical hazards.

**Inhalation** Harmful if inhaled.

**Skin contact** May be harmful in contact with skin. Causes skin irritation. May cause an allergic skin reaction.

**Ingestion** No known significant effects or critical hazards.

## Symptoms related to the physical, chemical and toxicological characteristics

**Eye contact** Adverse symptoms may include the following:
pain or irritation
watering
redness

**Inhalation** No specific data.

**Skin contact** Adverse symptoms may include the following:
irritation
redness

**Ingestion** No specific data.

## Delayed and immediate effects and also chronic effects from short and long term exposure

### Short term exposure

**Potential immediate effects** Not available.

**Potential delayed effects** Not available.

### Long term exposure

**Potential immediate effects** Not available.

**Potential delayed effects** Not available.

### Potential chronic health effects

| Product/ingredient name | Result | Species | Dose | Exposure |
|---|---|---|---|---|
| CUVAN® 826 | Sub-acute NOAEL Oral | Rat | 330 mg/kg | - |

**General** Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.

**Carcinogenicity** No known significant effects or critical hazards.

**Mutagenicity** No known significant effects or critical hazards.

**Teratogenicity** No known significant effects or critical hazards.

**Developmental effects** No known significant effects or critical hazards.

**Fertility effects** No known significant effects or critical hazards.

## Numerical measures of toxicity

### Acute toxicity estimates

Not available.

# Section 11. Toxicological information

**Other information** Not available.

# Section 12. Ecological information

## Toxicity

| Product/ingredient name | Result | Species | Exposure |
|---|---|---|---|
| CUVAN® 826 | Acute EC50 >100 mg/l<br>Acute EC50 45 mg/l<br>Acute LC50 >100 mg/l<br>Acute LOEL 100 mg/l<br>Acute NOEC 10 mg/l<br>Acute NOEL 100 mg/l<br>Acute NOEL 32 mg/l<br>Acute NOEL 100 mg/l<br>Acute NOEL >1000 mg/l | Algae<br>Daphnia<br>Fish<br>Daphnia<br>Micro-organism<br>Algae<br>Daphnia<br>Fish<br>Micro-organism | 72 hours<br>48 hours<br>96 hours<br>48 hours<br>3 hours<br>72 hours<br>48 hours<br>96 hours<br>3 hours |

## Persistence and degradability

| Product/ingredient name | Test | Result | Dose | Inoculum |
|---|---|---|---|---|
| CUVAN® 826 | OECD 301B | 0 % - Not readily - 28 days | - | - |

| Product/ingredient name | Aquatic half-life | Photolysis | Biodegradability |
|---|---|---|---|
| CUVAN® 826 | - | - | Not readily |

## Bioaccumulative potential

| Product/ingredient name | $LogP_{ow}$ | BCF | Potential |
|---|---|---|---|
| CUVAN® 826 | >6.5 | - | high |

## Mobility in soil

**Soil/water partition coefficient ($K_{OC}$)** Not available.

**Other adverse effects** No known significant effects or critical hazards.

# Section 13. Disposal considerations

**Disposal methods** The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

**Disposal should be in accordance with applicable regional, national and local laws and regulations.**

## Section 13. Disposal considerations

## Section 14. Transport information

| Regulatory information | UN number | Proper shipping name | Classes | PG* | Label | Additional information |
|---|---|---|---|---|---|---|
| DOT Classification | Not regulated. | - | - | - | | - |
| TDG Classification | Not regulated. | - | - | - | | - |
| ADR/RID Class | Not regulated. | - | - | - | | - |
| IMDG Class | Not regulated. | - | - | - | | - |
| IATA-DGR Class | Not regulated. | - | - | - | | - |

PG* : Packing group

## Section 15. Regulatory information

**United States inventory (TSCA 8b)** All components are listed or exempted.

**U.S. Federal regulations**

**TSCA 8(a) CDR Exempt/Partial exemption**: Not determined

**SARA 302/304**

**Composition/information on ingredients**

No products were found.

**SARA 304 RQ** Not applicable.

**SARA 311/312**

**Classification** ACUTE TOXICITY (inhalation) - Category 4
SKIN IRRITATION - Category 2
SKIN SENSITIZATION - Category 1

**Composition/information on ingredients**

No products were found.

**State regulations**

**Massachusetts** None of the components are listed.

**New York** None of the components are listed.

**New Jersey** None of the components are listed.

**Pennsylvania** None of the components are listed.

**California Prop. 65** None of the components are listed.

**International regulations**

For Europe, EC number 948-020-7 applies for REACH registration purposes for 2,5-Dimercapto-1,3,4-thiadiazole derivative.

**Australia inventory (AICS)** All components are listed or exempted.

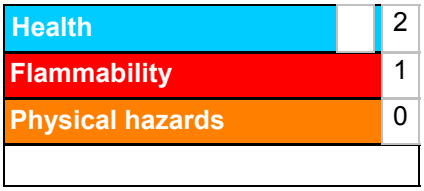
**Canada inventory** All components are listed or exempted.

## Section 15. Regulatory information

| | |
|---|---|
| **China inventory (IECSC)** | All components are listed or exempted. |
| **Europe inventory** | All components are listed or exempted. |
| **Japan inventory (ENCS)** | All components are listed or exempted. |
| **Korea inventory (KECI)** | All components are listed or exempted. |
| **New Zealand Inventory of Chemicals (NZIoC)** | All components are listed or exempted. |
| **Philippines inventory (PICCS)** | All components are listed or exempted. |
| **Taiwan Chemical Substances Inventory (TCSI)** | All components are listed or exempted. |

## Section 16. Other information

**Hazardous Material Identification System (U.S.A.)**




**Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered trademark and service mark of the American Coatings Association, Inc.**

**The customer is responsible for determining the PPE code for this material. For more information on HMIS® Personal Protective Equipment (PPE) codes, consult the HMIS® Implementation Manual.**

**National Fire Protection Association (U.S.A.)**




**History**

| | |
|---|---|
| **Date of printing** | 1/9/2019 |
| **Validation date** | 1/9/2019 |
| **Date of previous issue** | 11/2/2017 |
| **Version** | 3 |

# Section 16. Other information

**Key to abbreviations**

ATE = Acute Toxicity Estimate
BCF = Bioconcentration Factor
GHS = Globally Harmonized System of Classification and Labelling of Chemicals
IATA = International Air Transport Association
IBC = Intermediate Bulk Container
IMDG = International Maritime Dangerous Goods
LogPow = logarithm of the octanol/water partition coefficient
MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)
UN = United Nations

**References**

Not available.

**Information contact**

**Vanderbilt Global Services, LLC**
**Corporate Risk Management**

**1-203-295-2143**

**Visit www.vanderbiltchemicals.com for more information.**

**Notice to reader**