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Safety Data Sheet

Material Name: DIETHYL TELLURIDE

SDS ID: MAT07221

Section 1 - PRODUCT AND COMPANY IDENTIFICATION

Material Name

DIETHYL TELLURIDE

Synonyms

MTG MSDS 113; ETHYL TELLURIDE; DIETHYLTELLURIUM; 1,1-TELLUROBISETHANE; C₄H₁₀Te

Chemical Family

alkyls, non-metallic

Product Use

Industrial and Specialty Gas Applications.

Restrictions on Use

None known.

Details of the supplier of the safety data sheet

MATHESON TRI-GAS, INC.

150 Allen Road, Suite 302

Basking Ridge, NJ 07920

General Information: 1-800-416-2505

Emergency #: 1-800-424-9300 (CHEMTREC)

Outside the US: 703-527-3887 (Call collect)

Section 2 - HAZARDS IDENTIFICATION

Classification in accordance with paragraph (d) of 29 CFR 1910.1200.

Flammable Liquids - Category 3

Pyrophoric Liquids - Category 1

Substances and Mixtures which, in Contact with Water, Emit Flammable Gases - Category 2

Acute Toxicity - Oral - Category 3

Acute Toxicity - Inhalation - Dust/Mist - Category 1

Skin Corrosion/Irritation - Category 2

Serious Eye Damage/Eye Irritation - Category 2A

Reproductive Toxicity - Category 2

Specific Target Organ Toxicity - Single Exposure - Category 2

Specific Target Organ Toxicity - Single Exposure - Category 3

GHS Label Elements

Symbol(s)



Signal Word

Danger

Hazard Statement(s)

Flammable liquid and vapor.

Catches fire spontaneously if exposed to air.

In contact with water releases flammable gas.

Fatal if inhaled.

Toxic if swallowed.

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Material Name: DIETHYL TELLURIDE**SDS ID: MAT07221****Precautionary Statement(s)****Prevention**

Do not allow contact with air.
Keep away from heat, sparks, open flame, and hot surfaces - No smoking.
Keep away from any possible contact with water, because of violent reaction and possible flash fire.
Handle under inert gas, protect from moisture.
Keep container tightly closed.
Ground/Bond container and receiving equipment.
Use explosion-proof electrical/ventilating/lighting equipment.
Use only non-sparking tools.
Take precautionary measures against static discharge.
Do not breathe vapor or mist.
Use only outdoors or in a well-ventilated area.
Wear respiratory protection.
Wear protective gloves and eye/face protection.
Wash thoroughly after handling.
Do not eat, drink or smoke when using this product.
Protect from moisture.

Response

In case of fire, use media appropriate for extinction.
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
Immediately call a POISON CENTER or doctor/physician.
Specific treatment is urgent, see first aid section of Safety Data Sheet.
IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
Brush off loose particles from skin and immerse in cool water/wrap in wet bandages.
IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.
Specific treatment may be needed, see first aid section of Safety Data Sheet.
Rinse mouth.

Storage

Store under an inert atmosphere.
Store in a well-ventilated place.
Keep cool.
Store in a dry place.
Keep container tightly closed.
Store locked up.

Disposal

Dispose in accordance with all applicable regulations.

Statement(s) of Unknown Acute Toxicity

Oral 0% of the mixture consists of ingredient(s) of unknown acute toxicity.
Inhalation 0% of the mixture consists of ingredient(s) of unknown acute toxicity.

Section 3 - COMPOSITION / INFORMATION ON INGREDIENTS

| CAS | Component Name | Percent |
|----------|-------------------|---------|
| 627-54-3 | DIETHYL TELLURIDE | 100 |

Section 4 - FIRST AID MEASURES**Inhalation**



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If adverse effects occur, remove to uncontaminated area. Give artificial respiration if not breathing. If breathing is difficult, oxygen should be administered by qualified personnel. Get immediate medical attention.

Skin

Wash skin with soap and water for at least 15 minutes while removing contaminated clothing and shoes. Get immediate medical attention. Thoroughly clean and dry contaminated clothing before reuse.

Eyes

Flush eyes with plenty of water for at least 15 minutes. Then get immediate medical attention.

Ingestion

If swallowed, do not induce vomiting. Get immediate medical attention. Induce vomiting only at the instructions of a physician. Do not give anything by mouth to an unconscious or convulsive person. Rinse mouth.

Most Important Symptoms/Effects

Acute

Fatal if inhaled, toxic if swallowed.

Delayed

no information on significant adverse effects.

Indication of any immediate medical attention and special treatment needed

For inhalation, consider oxygen.

Section 5 - FIRE FIGHTING MEASURES

Extinguishing Media

Suitable Extinguishing Media

regular dry chemical, dry sand, Lime, soda ash, Large fires: Keep unnecessary people away, isolate hazard area and deny entry. Let the fire burn.

Unsuitable Extinguishing Media

Do not use water. Do not use foam.

Special Hazards Arising from the Chemical

Severe fire hazard. May ignite on exposure to air. Vapors or gases may ignite at distant ignition sources and flash back.

Hazardous Combustion Products

Oxides of carbon, oxides of tellurium

Fire Fighting Measures

Do not use water. Do not use foam. Move container from fire area if it can be done without risk. Use extinguishing agents appropriate for surrounding fire. Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Withdraw immediately in case of rising sound from venting safety device or any discoloration of tanks due to fire. Stay away from the ends of tanks. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible withdraw from area and let fire burn. Do not get water inside container. Avoid inhalation of material or combustion by-products. For tank, rail car or tank truck: Evacuation radius: 800 meters (1/2 mile).

Special Protective Equipment and Precautions for Firefighters

Wear full protective fire fighting gear including self contained breathing apparatus (SCBA) for protection against possible exposure.

Section 6 - ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment and Emergency Procedures

Wear personal protective clothing and equipment, see Section 8.

Methods and Materials for Containment and Cleaning Up

Avoid heat, flames, sparks and other sources of ignition. Eliminate all ignition sources if safe to do so. Do not touch or walk through spilled material. Stop leak if possible without personal risk. Do not get water directly on material. Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. All equipment used when handling the product must be grounded. Prevent entry into waterways, sewers, basements, or confined areas. Vapor-suppressing foam may be used to control vapors. Small spills: Absorb with sand or other non-combustible

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material. Use non-sparking tools and equipment. Collect spilled material in appropriate container for disposal. Large spills: Dike for later disposal. Keep unnecessary people away, isolate hazard area and deny entry. Stay upwind and keep out of low areas.

Environmental Precautions

Avoid release to the environment.

Section 7 - HANDLING AND STORAGE**Precautions for Safe Handling**

Do not allow contact with air. Keep away from heat, sparks, open flame, and hot surfaces - No smoking. Keep away from any possible contact with water, because of violent reaction and possible flash fire. Handle under inert gas. Protect from moisture. Keep container tightly closed. Ground/bond container and receiving equipment. Use explosion-proof electrical/ventilating/lighting equipment. Use only non-sparking tools. Take precautionary measures against static discharges. Do not breathe vapor or mist. Use only outdoors or in a well-ventilated area. Wear respiratory protection. Wear protective gloves/eye protection/face protection. Wash hands thoroughly after handling. Do not eat, drink or smoke when using this product.

Conditions for Safe Storage, Including any Incompatibilities

Store under an inert atmosphere.

Store in a well-ventilated place.

Keep cool.

Store in a dry place.

Keep container tightly closed.

Store locked up.

Store and handle in accordance with all current regulations and standards. Store under an inert atmosphere. Store in a well-ventilated area. Keep cool. Store in a dry place. Keep container tightly closed. Keep locked up. Grounding and bonding required. Keep away from incompatible materials. Subject to storage regulations: U.S. OSHA 29 CFR 1910.106.

Incompatible Materials

oxidizing materials

Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION**Component Exposure Limits**

| | |
|--------------------------|---|
| DIETHYL TELLURIDE | 627-54-3 |
| ACGIH: | 0.1 mg/m3 TWA (except hydrogen telluride and tellurium hexafluoride) asTe (related to Tellurium compounds) |
| NIOSH: | 0.1 mg/m3 TWA (except Tellurium hexafluoride and Bismuth telluride) asTe (related to Tellurium compounds) |
| | 25 mg/m3 IDLH (except Tellurium hexafluoride and bismuth telluride) asTe (related to Tellurium compounds) |
| OSHA (US): | 0.1 mg/m3 TWA asTe (related to Tellurium compounds) |
| Mexico: | 0.1 mg/m3 TWA VLE-PPT (related to Tellurium compounds) |

ACGIH - Threshold Limit Values - Biological Exposure Indices (BEI)

There are no biological limit values for any of this product's components.



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Provide local exhaust or process enclosure ventilation system. Ventilation equipment should be explosion-resistant if explosive concentrations of material are present. Ensure compliance with applicable exposure limits.

Individual Protection Measures, such as Personal Protective Equipment**Eye/face protection**

Wear helmet with full face shield and fire-proof hood to prevent any possibility of burns if in contact with this substance.

Skin Protection

Wear appropriate chemical resistant clothing.

Respiratory Protection

The following respirators and maximum use concentrations are drawn from NIOSH and/or OSHA. Measurement Element: Tellurium (Te). 0.5 mg/m³. Any quarter-mask respirator. 1 mg/m³. Any particulate respirator equipped with an N95, R95, or P95 filter (including N95, R95, and P95 filtering facepieces) except quarter-mask respirators. The following filters may also be used: N99, R99, P99, N100, R100 or P100. Any supplied-air respirator. 2.5 mg/m³. Any supplied-air respirator operated in a continuous-flow mode. Any powered, air-purifying respirator with a high-efficiency particulate filter. 5 mg/m³. Any air-purifying, full-facepiece respirator equipped with an N100, R100, or P100 filter. Any supplied-air respirator with a tight-fitting facepiece that is operated in a continuous-flow mode. Any powered, air-purifying respirator with a tight-fitting facepiece and a high-efficiency particulate filter. Any self-contained breathing apparatus with a full facepiece. Any supplied-air respirator with a full facepiece. 25 mg/m³. Any supplied-air respirator operated in a pressure-demand or other positive-pressure mode. Emergency or planned entry into unknown concentrations or IDLH conditions -. Any self-contained breathing apparatus that has a full facepiece and is operated in a pressure-demand or other positive-pressure mode. Any supplied-air respirator with a full facepiece that is operated in a pressure-demand or other positive-pressure mode in combination with an auxiliary self-contained breathing apparatus operated in pressure-demand or other positive-pressure mode. Escape -. Any air-purifying, full-facepiece respirator equipped with an N100, R100, or P100 filter. Any appropriate escape-type, self-contained breathing apparatus.

Glove Recommendations

Wear fire-resistant gloves.

Section 9 - PHYSICAL AND CHEMICAL PROPERTIES

| | | | |
|---------------------------------|---------------|----------------------------------|------------------------------|
| Appearance | yellow liquid | Physical State | liquid |
| Odor | Not available | Color | yellow |
| Odor Threshold | Not available | pH | Not available |
| Melting Point | Not available | Boiling Point | 137 - 138 °C (279 - 280 °F) |
| Boiling Point Range | Not available | Freezing point | Not available |
| Evaporation Rate | Not available | Flammability (solid, gas) | Not available |
| Autoignition Temperature | Not available | Flash Point | 42 °C (108 °F) |



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| | | | |
|------------------------------|---------------|---|--|
| Lower Explosive Limit | Not available | Decomposition temperature | Not available |
| Upper Explosive Limit | Not available | Vapor Pressure | Not available |
| Vapor Density (air=1) | Not available | Specific Gravity (water=1) | 1.599 at 15 °C |
| Water Solubility | (Insoluble) | Partition coefficient: n-octanol/water | Not available |
| Viscosity | Not available | Kinematic viscosity | Not available |
| Solubility (Other) | Not available | Density | Not available |
| Physical Form | liquid | Molecular Formula | (C ₂ -H ₅) ₂ -Te |
| Molecular Weight | 185.72 | | |

Solvent Solubility**Soluble**

alcohol

Section 10 - STABILITY AND REACTIVITY**Chemical Stability**

May ignite on exposure to air. May react violently with water at normal temperature and pressure. Contact with water or moist air may release flammable gases. May explode when heated.

Possibility of Hazardous Reactions

Will not polymerize.

Conditions to Avoid

Avoid contact with air. Keep dry. Keep out of water supplies and sewers.

Incompatible Materials

oxidizing materials

Hazardous decomposition products

Oxides of carbon, oxides of tellurium

Section 11 - TOXICOLOGICAL INFORMATION**Information on Likely Routes of Exposure****Inhalation**

irritation, garlic odor, metallic taste, drowsiness, hair loss, nausea, vomiting, dizziness, blood disorders, paralysis, brain damage, death

Skin Contact

irritation

Eye Contact

irritation

Ingestion

garlic odor, metallic taste, drowsiness, death



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Acute and Chronic Toxicity

Component Analysis - LD50/LC50

The components of this material have been reviewed in various sources and the following selected endpoints are published:

DIETHYL TELLURIDE (627-54-3)

Oral LD50 Rat 54100 µg/kg

Product Toxicity Data

Acute Toxicity Estimate

No data available.

Immediate Effects

Fatal if inhaled, toxic if swallowed.

Delayed Effects

no information on significant adverse effects.

Irritation/Corrosivity Data

No information available.

Respiratory Sensitization

No data available.

Dermal Sensitization

No data available.

Component Carcinogenicity

None of this product's components are listed by ACGIH, IARC, NTP, DFG or OSHA

Germ Cell Mutagenicity

No data available.

Tumorigenic Data

No data available

Reproductive Toxicity

No data available.

Specific Target Organ Toxicity - Single Exposure

No data available.

Specific Target Organ Toxicity - Repeated Exposure

No data available.

Aspiration hazard

No data available.

Medical Conditions Aggravated by Exposure

No data available.

Section 12 - ECOLOGICAL INFORMATION

Component Analysis - Aquatic Toxicity

No LOEL ecotoxicity data are available for this product's components.

Persistence and Degradability

No data available.

Bioaccumulative Potential

No data available.

Mobility

No data available.

Section 13 - DISPOSAL CONSIDERATIONS

Disposal Methods

Dispose in accordance with all applicable regulations. Subject to disposal regulations: U.S. EPA 40 CFR 262.

Hazardous Waste Number(s): D001, D003.

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The U.S. EPA has not published waste numbers for this product's components.

Section 14 - TRANSPORT INFORMATION**US DOT Information:****Shipping Name:** TOXIC LIQUIDS, FLAMMABLE, ORGANIC, N.O.S. , (Contains: DIETHYL TELLURIDE)**Hazard Class:** 6.1**UN/NA #:** UN2929**Packing Group:** I**Required Label(s):** 6.1**IMDG Information:****Shipping Name:** TOXIC LIQUID, FLAMMABLE, ORGANIC, N.O.S. , (Contains: DIETHYL TELLURIDE)**Hazard Class:** 6.1**UN#:** UN2929**Packing Group:** I**Required Label(s):** 6.1 3**International Bulk Chemical Code**

This material does not contain any chemicals required by the IBC Code to be identified as dangerous chemicals in bulk.

Section 15 - REGULATORY INFORMATION**U.S. Federal Regulations**

None of this products components are listed under SARA Sections 302/304 (40 CFR 355 Appendix A), SARA Section 313 (40 CFR 372.65), CERCLA (40 CFR 302.4), TSCA 12(b), or require an OSHA process safety plan.

SARA Section 311/312 (40 CFR 370 Subparts B and C) reporting categories

Flammable; Pyrophoric; In contact with water, emits flammable gas; Acute toxicity; Reproductive Toxicity; Skin Corrosion/Irritation; Serious Eye Damage/Eye Irritation; Specific Target Organ Toxicity

U.S. State Regulations

The following components appear on one or more of the following state hazardous substances lists:

| Component | CAS | CA | MA | MN | NJ | PA |
|--------------------------|-----------------|-----|----|-----|-----|----|
| DIETHYL TELLURIDE | 627-54-3 | Yes | No | Yes | Yes | No |

Not listed under California Proposition 65**Canada Regulations****Canadian WHMIS Ingredient Disclosure List (IDL)**

Components of this material have been checked against the Canadian WHMIS Ingredients Disclosure List. The List is composed of chemicals which must be identified on MSDSs if they are included in products which meet WHMIS criteria specified in the Controlled Products Regulations and are present above the threshold limits listed on the IDL

| | |
|--------------------------|--------------------------------------|
| DIETHYL TELLURIDE | 627-54-3 |
| | 1 % (related to Tellurium compounds) |

Component Analysis - Inventory**DIETHYL TELLURIDE (627-54-3)**

| | | | | | | | | | | | | | | |
|----|----|----|----|----|-----------|-----------|-----------|-----------|------------|----|----|----|----|----------|
| US | CA | EU | AU | PH | JP - ENCS | JP - ISHL | KR KECI - | KR KECI - | KR - REACH | CN | NZ | MX | TW | VN - NCI |
|----|----|----|----|----|-----------|-----------|-----------|-----------|------------|----|----|----|----|----------|



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| | | | | | | | | | | | | | | |
|-----|-----|-----|----|----|----|-----|---------|---------|-----|-----|----|----|-----|---------|
| | | | | | | | Annex 1 | Annex 2 | CCA | | | | | (Draft) |
| Yes | NSL | EIN | No | No | No | Yes | No | No | No | Yes | No | No | Yes | No |

Section 16 - OTHER INFORMATION

NFPA Ratings

Health: 4 Fire: 2 Reactivity: 3 Other:

Hazard Scale: 0 = Minimal 1 = Slight 2 = Moderate 3 = Serious 4 = Severe

Summary of Changes

Updated: 05/01/2015

Key / Legend

ACGIH - American Conference of Governmental Industrial Hygienists; ADR - European Road Transport; AU - Australia; BOD - Biochemical Oxygen Demand; C - Celsius; CA - Canada; CA/MA/MN/NJ/PA - California/Massachusetts/Minnesota/New Jersey/Pennsylvania*; CAS - Chemical Abstracts Service; CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act; CFR - Code of Federal Regulations (US); CLP - Classification, Labelling, and Packaging; CN - China; CPR - Controlled Products Regulations; DFG - Deutsche Forschungsgemeinschaft; DOT - Department of Transportation; DSD - Dangerous Substance Directive; DSL - Domestic Substances List; EC - European Commission; EEC - European Economic Community; EIN - European Inventory of (Existing Commercial Chemical Substances); EINECS - European Inventory of Existing Commercial Chemical Substances; ENCS - Japan Existing and New Chemical Substance Inventory; EPA - Environmental Protection Agency; EU - European Union; F - Fahrenheit; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; ICAO - International Civil Aviation Organization; IDL - Ingredient Disclosure List; IDLH - Immediately Dangerous to Life and Health; IMDG - International Maritime Dangerous Goods; ISHL - Japan Industrial Safety and Health Law; IUCLID - International Uniform Chemical Information Database; JP - Japan; Kow - Octanol/water partition coefficient; KR KECI Annex 1 - Korea Existing Chemicals Inventory (KECI) / Korea Existing Chemicals List (KECL); KR KECI Annex 2 - Korea Existing Chemicals Inventory (KECI) / Korea Existing Chemicals List (KECL) , KR - Korea; LD50/LC50 - Lethal Dose/ Lethal Concentration; LEL - Lower Explosive Limit; LLV - Level Limit Value; LOLI - List Of Lists™ - ChemADVISOR's Regulatory Database; MAK - Maximum Concentration Value in the Workplace; MEL - Maximum Exposure Limits; MX - Mexico; NDSL - Non-Domestic Substance List (Canada); NFPA - National Fire Protection Agency; NIOSH - National Institute for Occupational Safety and Health; NJTSR - New Jersey Trade Secret Registry; NTP - National Toxicology Program; NZ - New Zealand; OSHA - Occupational Safety and Health Administration; PEL- Permissible Exposure Limit; PH - Philippines; RCRA - Resource Conservation and Recovery Act; REACH- Registration, Evaluation, Authorisation, and restriction of Chemicals; RID - European Rail Transport; SARA - Superfund Amendments and Reauthorization Act; STEL - Short-term Exposure Limit; TCCA - Korea Toxic Chemicals Control Act; TDG - Transportation of Dangerous Goods; TLV - Threshold Limit Value; TSCA - Toxic Substances Control Act; TW - Taiwan; TWA - Time Weighted Average; UEL - Upper Explosive Limit; UN/NA - United Nations /North American; US - United States; VLE - Exposure Limit Value (Mexico); VN NCI (Draft) - Vietnam National Chemicals Inventory (NCI) (Draft); WHMIS - Workplace Hazardous Materials Information System (Canada) .

Other Information

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