

1 Identification

Product identifier

Product name: Tetramethylthiuram disulfide

Stock number: 42235

CAS Number:

137-26-8

EC number:

205-286-2

Index number:

006-005-00-4

Details of the supplier of the safety data sheet

Manufacturer/Supplier:

Alfa Aesar

Thermo Fisher Scientific Chemicals, Inc.

30 Bond Street

Ward Hill, MA 01835-8099

Tel: 800-343-0660

Fax: 800-322-4757

Email: tech@alfa.com

www.alfa.com

Information Department: Health, Safety and Environmental Department

Emergency telephone number:

During normal business hours (Monday-Friday, 8am-7pm EST), call (800) 343-0660. After normal business hours, call Carechem 24 at (866) 928-0789.

2 Hazard(s) identification

Classification of the substance or mixture in accordance with 29 CFR 1910 (OSHA HCS)



GHS08 Health hazard

STOT RE 2 H373 May cause damage to the liver, the heart, the reproductive system, the digestive system, the blood, the brain, the endocrine system and the musculoskeletal through prolonged or repeated exposure. Route of exposure: Oral, Inhalation.



GHS07

Acute Tox. 4 H302 Harmful if swallowed.

Acute Tox. 4 H332 Harmful if inhaled.

Skin Irrit. 2 H315 Causes skin irritation.

Eye Irrit. 2A H319 Causes serious eye irritation.

Skin Sens. 1 H317 May cause an allergic skin reaction.

Hazards not otherwise classified No information known.

Label elements

GHS label elements The product is classified and labeled in accordance with 29 CFR 1910 (OSHA HCS)

Hazard pictograms



GHS07 GHS08

Signal word

Warning

Hazard statements

H302+H332 Harmful if swallowed or if inhaled.

H315 Causes skin irritation.

H319 Causes serious eye irritation.

H317 May cause an allergic skin reaction.

H373 May cause damage to the liver, the heart, the reproductive system, the digestive system, the blood, the brain, the endocrine system and the musculoskeletal through prolonged or repeated exposure. Route of exposure: Oral, Inhalation.

Precautionary statements

P260 Do not breathe dust/fume/gas/mist/vapors/spray.

P280 Wear protective gloves / eye protection / face protection.

P305+P351+P338 If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.

P301+P312 IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell.

P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

WHMIS classification

D1B - Toxic material causing immediate and serious toxic effects

D2A - Very toxic material causing other toxic effects



Classification system

HMIS ratings (scale 0-4)

(Hazardous Materials Identification System)

HEALTH 2 Health (acute effects) = 2

FIRE 1 Flammability = 1

REACTIVITY 1 Physical Hazard = 1

Other hazards

Results of PBT and vPvB assessment

PBT: Not applicable.

vPvB: Not applicable.

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3 Composition/information on ingredients

Chemical characterization: Substances
CAS# Description:
137-26-8 Tetramethylthiuram disulfide
Concentration: ≤100%
Identification number(s):
EC number: 205-286-2
Index number: 006-005-00-4

4 First-aid measures

Description of first aid measures
After inhalation
Supply fresh air. If required, provide artificial respiration. Keep patient warm.
Seek immediate medical advice.
After skin contact
Immediately wash with water and soap and rinse thoroughly.
Seek immediate medical advice.
After eye contact Rinse opened eye for several minutes under running water. Then consult a doctor.
After swallowing Seek medical treatment.
Information for doctor
Most important symptoms and effects, both acute and delayed
Causes skin irritation.
Harmful if swallowed.
Causes serious eye irritation.
Harmful if inhaled.
May cause an allergic skin reaction.
May cause damage to the liver, the heart, the reproductive system, the digestive system, the blood, the brain, the endocrine system and the musculoskeletal through prolonged or repeated exposure. Route of exposure: Oral, Inhalation.
Indication of any immediate medical attention and special treatment needed No further relevant information available.

5 Fire-fighting measures

Extinguishing media
Suitable extinguishing agents Carbon dioxide, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
Special hazards arising from the substance or mixture
If this product is involved in a fire, the following can be released:
Carbon monoxide and carbon dioxide
Sulfur oxides (SOx)
Nitrogen oxides (NOx)
Hydrogen sulfide
Advice for firefighters
Protective equipment:
Wear self-contained respirator.
Wear fully protective impervious suit.

6 Accidental release measures

Personal precautions, protective equipment and emergency procedures
Wear protective equipment. Keep unprotected persons away.
Ensure adequate ventilation
Environmental precautions: Do not allow material to be released to the environment without proper governmental permits.
Methods and material for containment and cleaning up:
Dispose of contaminated material as waste according to section 13.
Ensure adequate ventilation.
Prevention of secondary hazards: Keep away from ignition sources.
Reference to other sections
See Section 7 for information on safe handling
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.
Protective Action Criteria for Chemicals
PAC-1: 0.15 mg/m³
PAC-2: 250 mg/m³
PAC-3: 1,500 mg/m³

7 Handling and storage

Handling
Precautions for safe handling
Keep container tightly sealed.
Store in cool, dry place in tightly closed containers.
Ensure good ventilation at the workplace.
Information about protection against explosions and fires: Keep ignition sources away.
Conditions for safe storage, including any incompatibilities
Storage
Requirements to be met by storerooms and receptacles: No special requirements.
Information about storage in one common storage facility: Store away from oxidizing agents.
Further information about storage conditions:
Keep container tightly sealed.
Store in cool, dry conditions in well sealed containers.
Specific end use(s) No further relevant information available.

8 Exposure controls/personal protection

Additional information about design of technical systems:
Properly operating chemical fume hood designed for hazardous chemicals and having an average face velocity of at least 100 feet per minute.

Control parameters

Components with limit values that require monitoring at the workplace:

137-26-8 Tetramethylthiuram disulfide (100.0%)

PEL (USA) Long-term value: 5 mg/m³

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REL (USA)	Long-term value: 5 mg/m ³
TLV (USA)	Long-term value: 0.05* mg/m ³ DSEN;*inhalable fraction and vapor
EL (Canada)	Long-term value: 1 mg/m ³
EV (Canada)	S Long-term value: 1 mg/m ³

Additional information: No data

Exposure controls

Personal protective equipment

General protective and hygienic measures
The usual precautionary measures for handling chemicals should be followed.
Keep away from foodstuffs, beverages and feed.
Remove all soiled and contaminated clothing immediately.
Wash hands before breaks and at the end of work.
Avoid contact with the eyes and skin.
Maintain an ergonomically appropriate working environment.

Breathing equipment: Use suitable respirator when high concentrations are present.

Recommended filter device for short term use:
Use a respirator with multi-purpose combination (US) or type ABEK (EN 14387) as a backup to engineering controls. Risk assessment should be performed to determine if air-purifying respirators are appropriate. Only use equipment tested and approved under appropriate government standards such as NIOSH (USA) or CEN (EU).

Protection of hands:
Impervious gloves
Check protective gloves prior to each use for their proper condition.
The selection of suitable gloves not only depends on the material, but also on quality. Quality will vary from manufacturer to manufacturer.

Material of gloves Nitrile rubber, NBR

Penetration time of glove material (in minutes) 480

Glove thickness: 0.11 mm

Eye protection: Safety glasses with side shields / NIOSH (US) or EN 166(EU)

Body protection: Protective work clothing.

9 Physical and chemical properties

Information on basic physical and chemical properties	
General Information	
Appearance:	
Form:	Powder
Odor:	Not determined
Odor threshold:	Not determined.
pH-value: Not applicable.	
Change in condition	
Melting point/Melting range:	152-155 °C (306-311 °F)
Boiling point/Boiling range:	129 °C (264 °F) (20mm)
Sublimation temperature / start:	Not determined
Flash point: 89 °C (192 °F)	
Flammability (solid, gaseous) Not determined.	
Ignition temperature: Not determined	
Decomposition temperature: Not determined	
Auto igniting: Not determined.	
Danger of explosion: Product does not present an explosion hazard.	
Explosion limits:	
Lower:	Not determined
Upper:	Not determined
Vapor pressure at 20 °C (68 °F):	0.01 hPa
Density at 20 °C (68 °F):	1.3 g/cm ³ (10.849 lbs/gal)
Relative density	Not determined.
Vapor density	Not applicable.
Evaporation rate	Not applicable.
Solubility in / Miscibility with	
Water:	Not determined
Partition coefficient (n-octanol/water):	Not determined.
Viscosity:	
dynamic:	Not applicable.
kinematic:	Not applicable.
Other information No further relevant information available.	

10 Stability and reactivity

Reactivity No information known.

Chemical stability Stable under recommended storage conditions.

Thermal decomposition / conditions to be avoided: Decomposition will not occur if used and stored according to specifications.

Possibility of hazardous reactions Reacts with strong oxidizing agents

Conditions to avoid No further relevant information available.

Incompatible materials: Oxidizing agents

Hazardous decomposition products:
Carbon monoxide and carbon dioxide
Nitrogen oxides
Sulfur oxides (SOx)
Hydrogen sulfide

11 Toxicological information

Information on toxicological effects

Acute toxicity:
Harmful if inhaled.
Harmful if swallowed.
The Registry of Toxic Effects of Chemical Substances (RTECS) contains acute toxicity data for this substance.

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USA

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LD/LC50 values that are relevant for classification:	
Oral	LD50 560 mg/kg (rat)
Skin irritation or corrosion: Causes skin irritation.	
Eye irritation or corrosion: Causes serious eye irritation.	
Sensitization: May cause an allergic skin reaction.	
Germ cell mutagenicity: The Registry of Toxic Effects of Chemical Substances (RTECS) contains mutation data for this substance.	
Carcinogenicity:	
IARC-3: Not classifiable as to carcinogenicity to humans.	
ACGIH A4: Not classifiable as a human carcinogen: Inadequate data on which to classify the agent in terms of its carcinogenicity in humans and/or animals.	
The Registry of Toxic Effects of Chemical Substances (RTECS) contains tumorigenic and/or carcinogenic and/or neoplastic data for this substance.	
Reproductive toxicity: The Registry of Toxic Effects of Chemical Substances (RTECS) contains reproductive data for this substance.	
Specific target organ system toxicity - repeated exposure:	
May cause damage to the liver, the heart, the reproductive system, the digestive system, the blood, the brain, the endocrine system and the musculoskeletal through prolonged or repeated exposure. Route of exposure: Oral, Inhalation.	
Specific target organ system toxicity - single exposure: No effects known.	
Aspiration hazard: No effects known.	
Subacute to chronic toxicity: The Registry of Toxic Effects of Chemical Substances (RTECS) contains multiple dose toxicity data for this substance.	
Additional toxicological information: To the best of our knowledge the acute and chronic toxicity of this substance is not fully known.	

12 Ecological information

Toxicity	
Aquatic toxicity: No further relevant information available.	
Persistence and degradability No further relevant information available.	
Bioaccumulative potential No further relevant information available.	
Mobility in soil No further relevant information available.	
Ecotoxicological effects:	
Remark: Very toxic for aquatic organisms	
Additional ecological information:	
General notes:	
Do not allow material to be released to the environment without proper governmental permits.	
Do not allow product to reach ground water, water course or sewage system, even in small quantities.	
Danger to drinking water if even extremely small quantities leak into the ground.	
Also poisonous for fish and plankton in water bodies.	
May cause long lasting harmful effects to aquatic life.	
Avoid transfer into the environment.	
Very toxic for aquatic organisms	
Results of PBT and vPvB assessment	
PBT: Not applicable.	
vPvB: Not applicable.	
Other adverse effects No further relevant information available.	

13 Disposal considerations

Waste treatment methods	
Recommendation Consult state, local or national regulations to ensure proper disposal.	
Uncleaned packagings:	
Recommendation: Disposal must be made according to official regulations.	

14 Transport information

UN-Number	UN3077
DOT, IMDG, IATA	
UN proper shipping name	Environmentally hazardous substances, solid, n.o.s. (Tetramethylthiuram disulfide)
DOT	3077 Environmentally hazardous substances, solid, n.o.s. (Tetramethylthiuram disulfide)
ADR	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Tetramethylthiuram disulfide)
IMDG, IATA	
Transport hazard class(es)	
DOT, IMDG	
Class	9 Miscellaneous dangerous substances and articles
Label	9
ADR	
Class	9 (M7) Miscellaneous dangerous substances and articles
Label	9
IATA	
Class	9 Miscellaneous dangerous substances and articles
Label	9
Packing group	
DOT, ADR, IMDG, IATA	III
Environmental hazards:	
Marine pollutant (IMDG):	No
Special marking (ADR):	Symbol (fish and tree)

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USA

Product name: Tetramethylthiuram disulfide	
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Special marking (IATA):	Symbol (fish and tree)
Special precautions for user EMS Number: Stowage Category Stowage Code	Warning: Miscellaneous dangerous substances and articles F-A,S-F A SW23 When transported in BK3 bulk container, see 7.6.2.12 and 7.7.3.9.
Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code Not applicable.	
Transport/Additional information:	
DOT Quantity limitations	On passenger aircraft/rail: No limit On cargo aircraft only: No limit 10 lbs, 4.54 kg
Hazardous substance: Marine Pollutant (DOT):	No
IMDG Limited quantities (LQ) Excepted quantities (EQ)	5 kg Code: E1 Maximum net quantity per inner packaging: 30 g Maximum net quantity per outer packaging: 1000 g
UN "Model Regulation":	UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCES, SOLID, N.O.S. (TETRAMETHYLTHIURAM DISULFIDE), 9, III

15 Regulatory information

Safety, health and environmental regulations/legislation specific for the substance or mixture
GHS label elements The product is classified and labeled in accordance with 29 CFR 1910 (OSHA HCS)
Hazard pictograms



Signal word Warning
Hazard statements
H302+H332 Harmful if swallowed or if inhaled.
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P260 Do not breathe dust/fume/gas/mist/vapors/spray.
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P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P301+P312 IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell.
P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

National regulations
All components of this product are listed in the U.S. Environmental Protection Agency Toxic Substances Control Act Chemical substance Inventory.
All components of this product are listed on the Canadian Domestic Substances List (DSL).

SARA Section 313 (specific toxic chemical listings)

137-26-8 Tetramethylthiuram disulfide

California Proposition 65
Prop 65 - Chemicals known to cause cancer Substance is not listed.
Prop 65 - Developmental toxicity Substance is not listed.
Prop 65 - Developmental toxicity, female Substance is not listed.
Prop 65 - Developmental toxicity, male Substance is not listed.
Information about limitation of use: For use only by technically qualified individuals.
Other regulations, limitations and prohibitive regulations
Substance of Very High Concern (SVHC) according to the REACH Regulations (EC) No. 1907/2006. Substance is not listed.
The conditions of restrictions according to Article 67 and Annex XVII of the Regulation (EC) No 1907/2006 (REACH) for the manufacturing, placing on the market and use must be observed.
Substance is not listed.
Annex XIV of the REACH Regulations (requiring Authorisation for use) Substance is not listed.
Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

16 Other information

Employers should use this information only as a supplement to other information gathered by them, and should make independent judgement of suitability of this information to ensure proper use and protect the health and safety of employees. This information is furnished without warranty, and any use of the product not in conformance with this Safety Data Sheet, or in combination with any other product or process, is the responsibility of the user.

Department issuing SDS: Global Marketing Department
Date of preparation/Revision: Print date, revision date and version number are in the header of each page.

Abbreviations and acronyms:
RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)
ICAO: International Civil Aviation Organisation
ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
IMDG: International Maritime Code for Dangerous Goods
DOT: US Department of Transportation
IATA: International Air Transport Association
EINECS: European Inventory of Existing Commercial Chemical Substances
CAS: Chemical Abstracts Service (division of the American Chemical Society)
HMIS: Hazardous Materials Identification System (USA)
WHMIS: Workplace Hazardous Materials Information System (Canada)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
PBT: Persistent, Bioaccumulative and Toxic
SVHC: Substances of Very High Concern
vPvB: very Persistent and very Bioaccumulative
ACGIH: American Conference of Governmental Industrial Hygienists (USA)
OSHA: Occupational Safety and Health Administration (USA)
NTP: National Toxicology Program (USA)
IARC: International Agency for Research on Cancer
EPA: Environmental Protection Agency (USA)
Acute Tox. 4: Acute toxicity – Category 4
Skin Irrit. 2: Skin corrosion/irritation – Category 2

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Eye Irrit. 2A: Serious eye damage/eye irritation – Category 2A
Skin Sens. 1: Skin sensitisation – Category 1
STOT RE 2: Specific target organ toxicity (repeated exposure) – Category 2

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