

Sovchem[®] TETD

1. CHEMICAL PRODUCT & COMPANY IDENTIFICATION	
Manufacturer Sovereign Chemical Company 4040 Embassy Parkway, Suite 190 Akron, OH 44333	Emergency Contact Chemtrec: 1-800-424-9300 (continental USA) (1)703-527-3887 (outside continental USA)
Trade Name(s): Sovchem [®] TETD Crystal or Pellet	Synonyms: TETD or Thiodicarbonic diamide tetraethyl
Chemical Name: Tetraethyl thiuram disulfide	CAS Number: 97-77-8
Relevant identified uses of the substance or mixture and uses advised against: No further relevant information available.	Application of the substance/the preparation: Initial product for chemical reactions.
Issued By: Sovereign Chemical Company According to 1907/2006/EC (REACH), 1272/2008/EC (CLP), and OSHA GHS	SDS Number: 1525 Date of Issue: October 7, 2016 Revision Number: 6 (supersedes June 24, 2013) Change(s): Periodic review

2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008

Classifications listed are applicable to the OSHA GHS Hazard Communication Standard (29CFR1910.1200)

STOT RE 2 H373 May cause damage to organs through prolonged or repeated exposure.
 Aquatic Acute 1 H400 Very toxic to aquatic life.
 Aquatic Chronic 1 H410 Very toxic to aquatic life with long lasting effects
 Acute Tox. 4 H302 Harmful if swallowed.
 Skin Sens. 1 H317 May cause an allergic skin reaction.

2.2 Label elements

Labeling according to Regulation (EC) No 1272/2008

The product is additionally classified and labelled according to the Globally Harmonized System within the United States (GHS).

The substance is classified and labeled according to the CLP regulation.

Hazard pictograms



GHS07



GHS08



GHS09

Signal word: Warning

Hazard-determining components of labeling: disulfiram

Hazard statements

The following Hazard Statements are applicable only to the EU regulations and not the US GHS regulation: H410.

H302 Harmful if swallowed.

H317 May cause an allergic skin reaction.
 H373 May cause damage to organs through prolonged or repeated exposure.
 H410 Very toxic to aquatic life with long lasting effects.

Precautionary statements

- P280 Wear protective gloves and eye protection.
- P264 Wash thoroughly after handling.
- P260 Do not breathe dust.
- P301+P312 IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.
- P333+P313 If skin irritation or rash occurs: Get medical advice/attention.
- P314 Get medical advice/attention if you feel unwell.
- P302+P352 IF ON SKIN: Wash with plenty of soap and water.
- P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

Hazard description

NFPA ratings (scale 0-4)



Health = 2
 Fire = 1
 Reactivity = 0

HMIS ratings (scale 0-4)



Health = *2
 Fire = 1
 Reactivity = 0

* - Indicates a long-term health hazard from repeated or prolonged exposures.
 HMIS Long Term Health Hazard Substances: Substance is not listed.

2.3 Other hazards
 Results of PBT and vPvB assessment
 PBT: Not applicable.
 vPvB: Not applicable.

3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances
 CAS No., Description: 97-77-8, disulfiram
 Identification number(s)
 EC number: 202-607-8
 Index number: 006-079-00-8

4. FIRST AID MEASURES

4.1 Description of first aid measures
 General information
 Symptoms of poisoning may even occur after several hours; therefore, medical observation for at least 48 hours after the accident.
 After inhalation: Supply fresh air; consult doctor in case of complaints.
 After skin contact
 Immediately wash with water and soap and rinse thoroughly.

If skin irritation continues, consult a doctor.

After eye contact

Remove contact lenses if worn.

Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.

After swallowing

Rinse out mouth and then drink plenty of water.

Do not induce vomiting; call for medical help immediately.

Call for a doctor immediately.

4.2 Most important symptoms and effects, both acute and delayed

Gastric or intestinal disorders

Coughing

Dizziness

Hazards

Danger of circulatory collapse.

Danger of disturbed cardiac rhythm.

Condition may deteriorate with alcohol consumption.

4.3 Indication of any immediate medical attention and special treatment needed

Treat skin and mucous membrane with antihistamine and corticoid preparations.

In cases of irritation to the lungs, initial treatment with cortical steroid inhalants.

Medical supervision for at least 48 hours.

5. FIRE FIGHTING MEASURES

5.1 Extinguishing media

Suitable extinguishing agents: CO₂, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.

For safety reasons, unsuitable extinguishing agents: None.

5.2 Special hazards arising from the substance or mixture: Formation of toxic gases is possible during heating or in case of fire.

5.3 Advice for firefighters

Protective equipment

Wear self-contained respiratory protective device.

Wear fully protective suit.

Additional information: Cool endangered receptacles with water spray.

6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

Wear protective equipment. Keep unprotected persons away.

Use respiratory protective device against the effects of fumes/dust/aerosol.

Ensure adequate ventilation

6.2 Environmental precautions

Inform respective authorities in case of seepage into water course or sewage system.

Do not allow to enter sewers/ surface or ground water.

6.3 Methods and material for containment and cleaning up
Pick up mechanically.
Dispose contaminated material as waste according to Section 13.

6.4 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.

7. HANDLING AND STORAGE

7.1 Precautions for safe handling
Prevent formation of dust.
Ensure good ventilation/exhaustion at the workplace.
Any unavoidable deposit of dust must be regularly removed.
Information about fire and explosion protection
Keep respiratory protective device available.
Dust can combine with air to form an explosive mixture.

7.2 Conditions for safe storage, including any incompatibilities
Storage
Requirements to be met by storerooms and receptacles: Provide ventilation for receptacles.
Information about storage in one common storage facility
Store away from oxidizing agents.
Do not store together with acids.
Store away from foodstuffs.
Further information about storage conditions: None

7.3 Specific end use(s): No further relevant information available.

8. EXPOSURE CONTROLS - PERSONAL PROTECTION

Additional information about design of technical facilities: No further data; see item 7.

8.1 Control parameters
Ingredients with limit values that require monitoring at the workplace
97-77-8 disulfiram
REL (USA) 2 mg/m³, avoid concurrent exposure to Ethylene dibromide
TLV (USA) 2 mg/m³
EL (Canada) 2 mg/m³
EV (Canada) 2 mg/m³
DNELs No further relevant information available.
PNECs No further relevant information available.
Additional information: The lists valid during the making were used as basis.

8.2 Exposure controls
Personal protective equipment
General protective and hygienic measures
The usual precautionary measures are to be adhered to when handling chemicals.
Pregnant women should strictly avoid inhalation or skin contact.
Keep away from foodstuffs, beverages and feed.

Immediately remove all soiled and contaminated clothing
 Wash hands before breaks and at the end of work.
 Do not inhale dust / smoke / mist.
 Respiratory protection: Suitable respiratory protective device recommended.
 Protection of hands



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
 Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

Material of gloves

Neoprene gloves

Nitrile rubber, NBR

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.

Penetration time of glove material

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

Not suitable are gloves made of the following materials: Strong material gloves

Eye protection

Goggles recommended during refilling.



Safety glasses with side shields or face shields strongly suggested.

Body protection: Protective work clothing

Limitation and supervision of exposure into the environment

No further relevant information available.

Risk management measures

See Section 7 for additional information.

No further relevant information available.

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

General Information

Appearance Form: Crystalline Color: Light yellow	Change in Condition Melt Point/Range: 71-72 °C (160-162 °F) Boiling point/Range: Undetermined
Odor: Amine-like	Octanol/Water Partition Coefficient: Not determined.
Odor threshold: Not determined	Solid content: Not determined
pH: Not applicable	Specific Gravity: 1.27 – 1.30
Vapor Pressure: Not applicable	Flash point: Not applicable
Density at 20 °C: 1.3 g/cm ³	Flammability (solid, gaseous): May cause fire.
Relative density Not determined.	Ignition temperature: Not determined
Vapor Density: Not applicable	Decomposition temperature: Not determined
Evaporation rate Not applicable.	Self-igniting: Not determined.
Solubility in / Miscibility with water: Insoluble.	Danger of explosion: Product does not present an explosion hazard.

Viscosity Dynamic: Not applicable. Kinematic: Not applicable. Organic solvents: Not determined.	Explosion limits Lower: 20 g/m ³ . Upper: NE
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9.2 Other information No further relevant information available.

10. STABILITY AND REACTIVITY

10.1 Reactivity

10.2 Chemical stability

Thermal decomposition / conditions to be avoided

No decomposition if used and stored according to specifications.

10.3 Possibility of hazardous reactions

Toxic fumes may be released if heated above the decomposition point.

As the product is supplied it is not capable of dust explosion; however, enrichment with fine dust causes risk of dust explosion.

Reacts with strong oxidizing agents.

Reacts with strong acids.

10.4 Conditions to avoid

Keep ignition sources away - Do not smoke.

Store away from oxidizing agents.

10.5 Incompatible materials: No further relevant information available.

10.6 Hazardous decomposition products

Sulphur oxides (SO_x)

Nitrogen oxides (NO_x)

Carbon monoxide and carbon dioxide

11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Acute toxicity

Primary irritant effect

on the skin: Slight irritant effect on skin and mucous membranes.

on the eye: Slight irritant effect on eyes.

Sensitization

Sensitizing effect through inhalation is possible by prolonged exposure.

Sensitization possible through skin contact.

Additional toxicological information

Harmful.

Toxic and/or corrosive effects may be delayed up to 48 hours.

Danger through skin adsorption.

Repeated dose toxicity

May cause damage to organs through prolonged or repeated exposure.

Repeated exposures may result in skin and/or respiratory sensitivity.

12. ECOLOGICAL INFORMATION

12.1 Toxicity

Aquatic toxicity: Toxic for aquatic organisms

12.2 Persistence and degradability: Not easily biodegradable.

12.3 Bioaccumulative potential: May be accumulated in organism

12.4 Mobility in soil No further relevant information available.

Ecotoxicological effects

Remark: Very toxic for fish

Additional ecological information

General notes

The product may not be released into the environment without control.

Due to available data on eliminability/decomposition and bioaccumulation potential prolonged term damage of the environment cannot be excluded.

Water hazard class 3 (German Regulation) (Self-assessment): extremely hazardous for water

Do not allow product to reach ground water, water course or sewage system, even in small quantities.

anger to drinking water if even extremely small quantities leak into the ground.

Also, poisonous for fish and plankton in water bodies.

Very toxic for aquatic organisms

12.5 Results of PBT and vPvB assessment

PBT: Not applicable.

vPvB: Not applicable.

12.6 Other adverse effects: No further relevant information available.

13. DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

Recommendation

Must not be disposed together with household garbage. Do not allow product to reach sewage system.

Hand over to hazardous waste disposers.

Can be burned with household garbage after consulting with the waste disposal facility operator and the pertinent authorities and adhering to the necessary technical regulations.

The user of this material has the responsibility to dispose of unused material, residues and containers in compliance with all relevant local, state and federal laws and regulations regarding treatment, storage and disposal for hazardous and nonhazardous wastes. Residual materials should be treated as hazardous.

Uncleaned packaging

Recommendation: Disposal must be made according to official regulations.

14. TRANSPORTATION INFORMATION

14.1 UN-Number

DOT

ADR, IMDG, IATA

Not Regulated

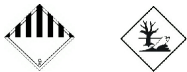
UN3077

14.2 UN proper shipping name

DOT	Not Regulated
ADR	3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Tetraethylthiuram Disulfide)
IMDG	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Tetraethylthiuram Disulfide), MARINE POLLUTANT
IATA	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Tetraethylthiuram Disulfide)

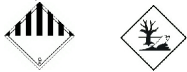
14.3 Transport hazard class(es)

DOT	Class: Not Regulated
ADR	



Class: 9 (M7) Miscellaneous dangerous substances and articles.
Label: 9

IMDG, IATA



Class: 9 Miscellaneous dangerous substances and articles.
Label: 9

14.4 Packing group

DOT	N/A
ADR, IMDG, IATA	III

14.5 Environmental hazards

Marine pollutant	Yes
Special marking (ADR)	Symbol (fish and tree)
Special marking (IATA)	Symbol (fish and tree)

14.6 Special precautions for user

Danger code (Kemler)	Warning: Miscellaneous dangerous substances and articles. 90
EMS Number	F-A,S-F

14.7 Transport in bulk according to Annex II of

MARPOL73/78 and the IBC Code Not applicable.

Transport/Additional information

ADR	
Limited quantities (LQ)	5 kg
Transport category	3
Tunnel restriction code	E
UN "Model Regulation"	UN3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (disulfiram), 9, III

15. REGULATORY INFORMATION

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

United States (USA)	
SARA Section 355 (extremely hazardous substances)	Substance is not listed.
SARA Section 313 (Specific toxic chemical listings)	Substance is not listed.

TSCA (Toxic Substances Control Act)	Substance is listed.
Proposition 65 (California)	
Chemicals known to cause cancer	Substance is not listed.
Chemicals known to cause reproductive toxicity for females	Substance is not listed.
Chemicals known to cause reproductive toxicity for males	Substance is not listed.
Chemicals known to cause developmental toxicity	Substance is not listed.
Carcinogenic Categories	
EPA (Environmental Protection Agency)	Substance is not listed.
IARC (International Agency for Research on Cancer)	97-77-8 disulfiram 3
TLV (Threshold Limit Value established by ACGIH)	97-77-8 disulfiram A4
NIOSH-Ca (National Institute for Occupational Safety and Health)	Substance is not listed.
OSHA-Ca (Occupational Safety & Health Administration)	Substance is not listed.
Canada	
Canadian Domestic Substances List (DSL)	Substance is listed.
Canadian Ingredient Disclosure list (limit 0.1%)	Substance is not listed.
Canadian Ingredient Disclosure list (limit 1%)	Substance is listed.

15.2 Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

16. OTHER INFORMATION

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

Relevant phrases

H304 May be fatal if swallowed and enters airways.

R65 Harmful: may cause lung damage if swallowed.

Abbreviations and acronyms

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

GHS: Globally Harmonized System of Classification and Labeling of Chemicals

ACGIH: American Conference of Governmental Industrial Hygienists

EINECS: European Inventory of Existing Commercial Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

NFPA: National Fire Protection Association (USA)

HMIS: Hazardous Materials Identification System (USA)

WHMIS: Workplace Hazardous Materials Information System (Canada)

DNEL: Derived No-Effect Level (REACH)

PNEC: Predicted No-Effect Concentration (REACH)