



Chemicals Corp.

Technical Data Sheet

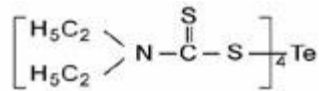
TDEC

Tellurium diethyl dithiocarbamate

CAS Number: 20941-65-5

Molecular weight: 721

Molecular formula: $C_{20}H_{40}N_4S_8Te$



PRODUCT INFORMATION

PRODUCT SPECIFICATIONS		OIL POWDER	POWDER
Appearance		Yellow oil powder	Yellow powder
Initial Melting Point	°C min	100.0	100.0
Tellurium content	%	16.5-19.0	16.5-19.0
Loss on drying	% max	0.50	0.50
Residue on sieve (63 μm)	% max	0.50	0.50
Residue on sieve (150μm)	% max	0.10	0.10
Oil content	%	0.0-2.0	-
<u>Typical properties</u>			
Density	g/cm ³	1.48	
<u>Packaging</u>			
Bag		25kg (55 lbs)	
Pallet		500kg or 600kg (1102 lbs or 1323 lbs)	

FUNCTION

TDEC is a very fast primary or secondary (ultra) accelerator used for natural and synthetic rubbers.

APPLICATIONS AND PROPERTIES

- TDEC is used as a secondary ultra accelerator in combination with other accelerators such as benzothiazoles and sulfenamides and their cure systems.
- TDEC offers very fast vulcanization.
- Using TDEC in sulphur vulcanization results in increased tensile strength and modulus.
- TDEC gives the longest scorch time of all dithiocarbamates.
- Product is non-staining and non-discolouring.
- Soluble in chloroform, benzene and carbon disulfide and slightly soluble in alcohol and gasoline.
- Insoluble in water.
- TDEC is not regulated for use in food contact applications under FDA 21 CFR.

STORAGE

Material should be stored in a tightly closed container in a cool, dry, well ventilated area. Avoid exposure to direct sunlight. The maximum recommended storage life is 1 year when stored under normal conditions.

HANDLING PRECAUTIONS

For detailed information on toxicological properties and handling precautions, please refer to the current Safety Data Sheet. This information is available by request from **SunBoss Chemicals Corp.**

[Revised: November 6, 2014 by kk]

Safety Data Sheet

TDEC

1. IDENTIFICATION OF SUBSTANCE / COMPANY INFORMATION

Chemical Name Tellurium Diethyl dithiocarbamate
Synonyms TDEC
CAS # 20941-65-5
Formula C₂₀H₄₀N₄S₈Te
Chemical Family Accelerator
Supplier **SunBoss Chemicals Corp.**
Address **8-110 West Beaver Creek Road**
 Richmond Hill, ON L4B 1J9
Telephone **905-707-3433**
Fax **905-707-7393**

Emergency Information After normal hours call Chemtrec at 1-800-424-9300

2. COMPOSITION / INFORMATION ON INGREDIENTS

<u>Component</u>	<u>CAS - No</u>	<u>Weight %</u>	<u>EC No.</u>
Tellurium diethyl dithiocarbamate	20941-65-5	96-98	244-121-9
White Mineral Oil (Petroleum)	8042-47-5	1-2	232-455-8
	<u>Symbol(s)</u>	<u>Risk Phrase(s)</u>	
	None	None	

3. HEALTH HAZARDS INFORMATION

EMERGENCY OVERVIEW

Signal Word: WARNING!
COMBUSTIBLE MATERIAL!
Inhalation and ingestion may cause alcohol intolerance (Antabuse Effect).
Skin, eye and respiratory tract irritant.

Potential Health Effects

Inhalation Exposure to dust particles generated from this material may cause irritation of the respiratory tract. Inhalation may cause alcohol intolerance.

Ingestion May cause alcohol intolerance (Antabuse Effect). May cause headache, dizziness, nausea, vomiting, gastrointestinal irritation. May cause metallic taste. May cause weakness.

Skin contact	May cause skin defatting with prolonged exposure. May be absorbed through the skin and produce effects similar to those caused by inhalation and/or ingestion.
Eye Contact	Causes mild eye irritation. Signs/symptoms can include redness, swelling, pain, and tearing.

4. EMERGENCY FIRST AID PROCEDURES

Inhalation	Remove person to fresh air. If not breathing, give artificial respiration. If breathing is difficult, get immediate medical attention.
Ingestion	If swallowed, call a physician immediately. Only induce vomiting at the instruction of a doctor. Never give anything by mouth to an unconscious person
Skin	In case of contact, immediately flush skin with plenty of soap and water for at least 15 minutes. Get medical attention. Remove contaminated clothing and launder before reuse. Get medical attention if irritation persists.
Eyes	In case of contact, immediately flush eyes with plenty of water for at least 15 minutes and get medical attention if irritation persists.
Note to Physician	Treat symptomatically. Exposure by ingestion, inhalation or skin absorption may cause alcohol intolerance (Antabuse Effect)

5. FIRE AND EXPLOSION HAZARD MEASURES

Flash Point	248°F / 120°C
Flash Point Method	Closed Cup
DOT Category	Not regulated
Extinguishing Media	Water fog, carbon dioxide, foam, dry chemical
Auto Ignition Temperature	Not determined
Flammable Limits	Not determined
Special Fire Fighting Procedures	Fight fire from a safe distance and from a protected location. Use water spray to cool fire exposed surfaces. Decomposition in fire may produce toxic gases. Do not allow runoff to enter waterways.
Special Protective Equipment	Full protective clothing and approved self-contained breathing apparatus required for fire-fighting personnel.
Unusual Fire and Explosion Hazards	Toxic emissions may result if product is involved in a fire.

6. ACCIDENTAL RELEASE MEASURES

Procedures	Wear protective equipment specified. Avoid the generation of dust. Sweep, vacuum, or shovel and place into closable container for disposal.
Clean up Methods	Isolate area and remove sources of friction, impact, heat, low level electrical current, and RF energy. Isolate spill and stop leak where safe. Remove ignition

sources and work with non-sparking tools. Scoop up and remove. Ventilate area. Do NOT spread spilled product with water.

7. HANDLING AND STORAGE

Handling	Avoid contact with eyes, skin and clothing. Avoid generating or breathing dust. Wash thoroughly with soap and water after handling. Wash hands before eating, drinking, and chewing gum, using tobacco or using the toilet. Reclose containers of unused product. Keep containers tightly closed when not in use. Do not reuse this container.
Storage	Store closed containers in a cool, dry, well-ventilated area. Store away from strong oxidizing materials. Avoid exposure to direct sunlight.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Engineering Controls	General; local exhaust ventilation as necessary to control any air contaminants to within their exposure limits during the use of this product. If air is to be recirculated, it must be filtered properly. Avoid dust generation
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Exposure Limits

Tellurium Diethyl dithiocarbamate
White Mineral Oil

OES – TWA – 0.1mg/m³ (Te)
5mg/m³



Respiratory



Use in a well-ventilated area. Use approved NIOSH respiratory protection if TLV exceeded or over exposure is likely. Appropriate respiratory protection shall be worn when applied engineering controls are not adequate to protect against inhalation exposure. Firefighting; use a Positive Pressure Demand Full Face Self Contained Breathing Apparatus.

Eyes	Wear safety glasses or goggles to protect against exposure.
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Skin	Normal work coveralls. Launder contaminated clothing before reuse.
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Gloves	Use gloves as a standard industrial handling procedure. Appropriate chemical resistant gloves should be worn. All cleanable impervious glove types are acceptable.
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9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Yellow powder
Odour	Slight
Specific Gravity	1.44 @ 20°C
Density	1.48 g/cm ³
Bulk Density	Not determined

Solubility in water	<0.1 mg/l @ 23°C
pH	Not determined
Other Solubility	Soluble in benzene, chloroform, Carbon Disulfide, Organic liquids, including fats and oils.
Boiling point	Not determined
Melting Point	100°C min
Molecular Weight	721
Molecular Formula	C ₂₀ H ₄₀ N ₄ S ₈ Te

10. STABILITY AND REACTIVITY

Chemical Stability	Stable when stored at room temperature in closed, original container. Stable under normal conditions of handling, use and transportation.
Conditions to avoid	Avoid contact with heat, sparks, open flame, and static discharge. Avoid contact with strong oxidants such as liquid chlorine and concentrated oxygen.
Incompatibility	Strong oxidizers Acids.
Hazardous Polymerization	Will not occur
Hazardous Decomposition Products	Carbon monoxide. Oxides of nitrogen and sulphur. Toxic metal fumes. Toxic metal oxide fumes
Additional Guidelines	Not determined

11. TOXICOLOGICAL INFORMATION

Acute oral LD 50 (mg/kg)	Practically non-toxic
Acute Dermal LD 50 (mg/kg)	Not determined
Acute Inhalation LC50 (mg/l)	Not determined
Principle routes of Exposure	Dermal - skin. Inhalation. Eyes.
Ingestion	May cause alcohol intolerance (Antabuse Effect) May cause headache, dizziness, nausea, vomiting, gastrointestinal irritation. May cause metallic taste. May cause weakness.
Skin contact	May cause skin defatting with prolonged exposure. May be absorbed through the skin and product effects similar to those caused by inhalation and/or ingestion.
Inhalation	Exposure to dust particles generated from this material may cause irritation of the respiratory tract. Inhalation may cause alcohol intolerance
Eye Contact	Causes mild eye irritation. Signs/symptoms can include redness, swelling, pain, and tearing.

Aggravated Conditions	Alcohol consumption problems. Pulmonary disorders.
Carcinogenicity	This product or one of its ingredients present 0.1% or more is NOT listed as a carcinogen or suspected carcinogen by NTP, IARC, or OSHA. Carcinogenic: Category 3 NOTE: May react with nitrosating agents during rubber vulcanization to form nitrosamines. Some nitrosamines are suspect human carcinogens.
Primary Irritation Effect	Slightly irritating
Genotoxicity	Not determined
Reproductive/Developmental Toxicity	Not determined

12. ECOLOGICAL INFORMATION

Acute Fish Toxicity	Not determined
Acute Crustacean Toxicity	Not determined
Octonal/Water Coefficient	Log P = 4.39 [Calculated].
Chemical Fate Information	Not determined
Other Information	Similar compounds exhibit at least moderate toxicity to aquatic species.

13. DISPOSAL CONSIDERATIONS

Waste Disposal	This product, if disposed as received, is a non-hazardous waste. Bury in a licensed landfill or burn in an approved incinerator according to federal, state, and local regulations. Federal, state and local disposal laws and regulations will determine the proper waste disposal/recycling/reclamation procedure. Disposal requirements are dependent on the hazard classification and will vary by location and the type of disposal selected.
Contaminated Packaging	If empty container retains product residues, all label precautions must be observed. Transport with all closures in place. Return for reuse or dispose according to national or local regulations. Do NOT reuse container. Dispose of container according to national or local regulations.

14. TRANSPORT

<u>DOT</u>	Not regulated
<u>IATA</u>	Not regulated
<u>IMDG</u>	Not regulated
<u>TDG (Canada)</u>	Not regulated

15. REGULATORY INFORMATION

NOT CLASSIFIED AS HAZARDOUS ACCORDING TO THE EEC DANGEROUS SUBSTANCE DIRECTIVE AND THE DANGEROUS PREPARATION DIRECTIVE.

Risk Phrase(s)	None
Safety Phrase(s)	None
FDA Status 21 CFR	Not regulated for use in food contact applications under FDA 21 CFR.
TSCA	Listed
Canadian DSL	Listed
EINECS/ELINCS	Listed

US Regulations

SARA Section 302	Not applicable
SARA 311/312 Hazard Categories	Immediate Delayed
SARA 313 Chemical	Not applicable
RCRA Status	Not a RCRA waste

Canadian Regulations

WHMIS Hazard Class



D2B TOXIC MATERIALS/Material Causing Other Toxic Effects

NPRI Not Listed

16. HAZARD RATING SYSTEM

NFPA Rating (Scale 0-4)

- 0 - Minimal Hazard
- 1 - Slight Hazard
- 2 - Moderate Hazard
- 3 - Serious Hazard
- 4 - Severe Hazard

HEALTH	1
FIRE	1
REACTIVITY	0

HMIS Classification (Scale 0-4)

- 0 - Minimal Hazard
- 1 - Slight Hazard
- 2 - Moderate Hazard
- 3 - Serious Hazard
- 4 - Severe Hazard

HEALTH	1
FIRE	1
REACTIVITY	0

17. OTHER INFORMATION

Although reasonable precautions have been taken in the preparation of the data contained herein, it is offered solely for your information, consideration and investigation. SunBoss Chemicals Corp. extends no warranty and assumes no responsibility for the accuracy or sufficiency of the content and expressly disclaims all liability for reliance thereon. This safety data sheet provides guidelines for the safe handling of this product; it does not and cannot advise on all possible situations, therefore, your specific use of this product should be evaluated to determine if additional precautions are required. It is the responsibility of the user to comply with all Federal, State and local laws and regulations. Individuals exposed to this product should read and understand this information and be provided pertinent training prior to working with this product.

Abbreviations and Acronyms

ACGIH: American Conference of Governmental Industrial Hygienists Inc.

CAS: Chemical Abstracts Service (Division of American Chemical Society)
DOT: Department of Transportation (USA)
EINECS: European Inventory of Existing Commercial Chemical Substances
HMIS: Hazardous Materials Identification System (USA)
IARC: Internal Agency for Research on Cancer
IATA: International Air Transport Association
IMDG: International Marine Code for Dangerous Goods
LD50: Lethal Dose Medium
LC50: Lethal Concentration Medium
EC50: Effective Concentration Medium
NIOSH: National Institute for Occupational Safety and Health
NFPA: National Fire Protection Association (USA)
NPRI: National Pollutant Release Inventory (Canada)
NTP: National Toxicology Program
OSHA: Occupational Safety and Health Administration (USA)
PEL: Permissible Exposure Limits
TDG: Transportation of Dangerous Goods (Canada)
TLV: Threshold Limit Value
TWA: Time Weighted Average
WHMIS: Workplace Hazardous Materials Information Systems (Canada)

18. REVISION DATE

Revision number: 5

Date of Issue: September 9, 2014

Changes: Number and format of headings changed; Updates to Sections 1: Identification of Substance - EC information added; 2: Health Hazards Information; 8: Specific Personal Protection Equipment - pictograms added; 14: Transport information - pictograms added; 15: Regulatory information - EC information added; 16: Hazard Rating System - table added; 17: Abbreviations and Acronyms added