

SAFETY DATA SHEET

Preparation Date: 5/12/2016

Revision Date: 5/12/2016

Revision Number: G1

1. IDENTIFICATION

Product identifier

Product code: T1152
Product Name: TELLURIUM, 200 MESH, POWDER

Other means of identification

Synonyms: No information available
CAS #: 13494-80-9
RTECS # WY2625000
CI#: Not available

Recommended use of the chemical and restrictions on use

Recommended use: Coloring agent in chinaware, porcelains, enamels, glass. Producing a black finish on silverware. In metal finishing. In the manufacture of special alloys of marked electrical resistance.

Uses advised against No information available

Supplier: Spectrum Chemical Mfg. Corp
 14422 South San Pedro St.
 Gardena, CA 90248
 (310) 516-8000

Order Online At: <https://www.spectrumchemical.com>

Emergency telephone number Chemtrec 1-800-424-9300
Contact Person: Martin LaBenz (West Coast)
Contact Person: Ibad Tirmiz (East Coast)

2. HAZARDS IDENTIFICATION

Classification

This chemical is considered hazardous according to the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Considered a dangerous substance or mixture according to the Globally Harmonized System (GHS)

| | |
|--|------------|
| Acute toxicity - Oral | Category 3 |
| Acute toxicity - Inhalation (Dusts/Mists) | Category 4 |
| Skin corrosion/irritation | Category 2 |
| Serious eye damage/eye irritation | Category 2 |
| Specific target organ toxicity (repeated exposure) | Category 2 |
| Combustible dust | - |

Label elements

Danger

Hazard statements

Toxic if swallowed
Harmful if inhaled
Causes skin irritation
Causes serious eye irritation
May cause damage to organs through prolonged or repeated exposure
May form combustible dust concentrations in air



Hazards not otherwise classified (HNOC)

Not Applicable

Other hazards

Not available

Precautionary Statements - Prevention

Wash face, hands and any exposed skin thoroughly after handling
Do not eat, drink or smoke when using this product
Use only outdoors or in a well-ventilated area
Do not breathe dust/fume/gas/mist/vapors/spray
Wear protective gloves
Wear eye/face protection
Keep away from all ignition sources including heat, sparks, and flame
Keep container closed and grounded
Prevent dust accumulations to minimize explosion hazard

Precautionary Statements - Response

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.
IF ON SKIN: Wash with plenty of water
If skin irritation occurs: Get medical advice/attention
Take off contaminated clothing and wash it before reuse
IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or doctor/physician if you feel unwell.
IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician
Rinse mouth

Precautionary Statements - Storage

Store locked up

Precautionary Statements - Disposal

Dispose of contents/container to an approved waste disposal plant

3. COMPOSITION/INFORMATION ON INGREDIENTS

3. COMPOSITION/INFORMATION ON INGREDIENTS

| Components | CAS-No. | Weight % |
|-------------------------|------------|----------|
| Tellurium 13494-80-9 | 13494-80-9 | 100 |

4. FIRST AID MEASURES

First aid measures

General Advice:

National Capital Poison Center in the United States can provide assistance if you have a poison emergency and need to talk to a poison specialist. Call 1-800-222-1222. First aider needs to protect himself. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves.

Skin Contact:

Wash off immediately with soap and plenty of water removing all contaminated clothing and shoes. Get medical attention. If skin irritation persists, call a physician.

Eye Contact:

Flush eyes with water for 15 minutes. Get medical attention.

Inhalation:

Move to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention. **WARNING!** It may be hazardous to the person providing aid to give mouth-to-mouth resuscitation when the inhaled or ingested material is toxic, infectious or corrosive. Do not use mouth-to-mouth resuscitation if victim ingested or inhaled the substance; induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device.

Ingestion:

Toxic if swallowed. Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person. Immediate medical attention is required. Call a physician or Poison Control Center immediately.

Most important symptoms and effects, both acute and delayed

Symptoms

Causes skin irritation. Causes serious eye irritation. May cause irritation of respiratory tract. May cause build-up of fluid in the lungs (pulmonary edema). May cause coughing and shortness of breath. Ingestion may cause vomiting and nausea. May cause constipation. May cause headache. May cause drowsiness or dizziness. Fatigue. Irritability. Weakness. Garlic odor of breath, sweat and urine. May cause metallic taste. Upset stomach. May affect the nervous system. May affect the liver. It may affect the kidneys.

Indication of any immediate medical attention and special treatment needed

Notes to Physician:

Treat symptomatically

Protection of first-aiders

First-Aid Providers: Avoid exposure to blood or body fluids. Wear gloves and other necessary protective clothing. Dispose of contaminated clothing and equipment as bio-hazardous waste

5. FIRE-FIGHTING MEASURES

Extinguishing Media

Suitable Extinguishing Media:

Special powder against metal fire.

Unsuitable Extinguishing Media:

Water.

Specific hazards arising from the chemical

Hazardous Combustion Products:

Tellurium fumes

Specific hazards: May be combustible at high temperatures
Avoid generating dust
Fine dust dispersed in air in sufficient concentrations, and in the presence of an ignition source is a potential dust explosion hazard

Special Protective Actions for Firefighters

Specific Methods: No information available.

Special Protective Equipment for Firefighters: As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal Precautions: Ensure adequate ventilation. Keep people away from and upwind of spill/leak. Use personal protective equipment. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Avoid contact with skin, eyes and clothing. Remove all sources of ignition. Avoid dust formation. Avoid dispersal of dust in the air. Dust deposits should not be allowed to accumulate on surfaces, as these may form an explosive mixture if they are released into the atmosphere in sufficient concentration. Nonsparking tools should be used.

Environmental precautions Prevent further leakage or spillage if safe to do so. Prevent entry into waterways, sewers. Do not let product enter drains. Should not be released into the environment.

Methods and material for containment and cleaning up

Methods for containment Stop leak if you can do it without risk. Cover with plastic sheet to prevent spreading.

Methods for cleaning up Sweep up and shovel into suitable containers for disposal. Use only non-sparking tools. Clean contaminated surface thoroughly.

7. HANDLING AND STORAGE

Precautions for safe handling

Technical Measures/Precautions:

Provide sufficient air exchange and/or exhaust in work rooms. Minimize dust generation and accumulation. Avoid dust formation. Dry powders can build static electricity charges when subjected to friction of transfer and mixing operations. All equipment used when handling the product must be grounded. Routine housekeeping should be instituted to ensure that dusts do not accumulate on surfaces. Keep away from incompatible materials.

Safe Handling Advice

Wear personal protective equipment. Avoid contact with skin, eyes and clothing. Avoid dust formation. Do not ingest. Do not breathe dust. Keep away from heat and sources of ignition. Handle in accordance with good industrial hygiene and safety practice.

Conditions for safe storage, including any incompatibilities

Technical Measures/Storage Conditions:

Keep container tightly closed in a dry and well-ventilated place. Store at room temperature in the original container. Store away from incompatible materials.

Incompatible Materials:

Oxidizing agents. Chlorine. Chlorine trifluoride. Fluorine. Metals. Zinc. Cadmium. Potassium. Platinum. Sodium. Tin.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

National occupational exposure limits

U.S Occupational Exposure Limits: Not determined

United States

| Components | OSHA | NIOSH | ACGIH | AIHA WHEEL |
|-------------------------|---------------------------|-----------------------------|-----------------------------|------------|
| Tellurium 13494-80-9 | 0.1 mg/m ³ TWA | = 0.1 mg/m ³ TWA | = 0.1 mg/m ³ TWA | None |

Canada

Canada Occupational Exposure Limits: Not determined

| Components | Alberta | British Columbia | Ontario | Quebec |
|-------------------------|-----------------------------|-----------------------------|---------------------------|-----------------------------|
| Tellurium 13494-80-9 | = 0.1 mg/m ³ TWA | = 0.1 mg/m ³ TWA | 0.1 mg/m ³ TWA | 0.1 mg/m ³ TWAEV |

Australia and Mexico

Occupational Exposure Limits for Australia and Mexico: Not determined

| Components | Australia | Mexico |
|-------------------------|-----------|-----------------------------|
| Tellurium 13494-80-9 | None | = 0.1 mg/m ³ TWA |

Appropriate engineering controls

Engineering measures to reduce exposure:

Ensure adequate ventilation. Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below recommended exposure limits. If user operations generate dust, fume or mist, use ventilation to keep exposure to airborne contaminants below the exposure limit. Ensure that dust-handling systems (such as exhaust ducts, dust collectors, vessels, and processing equipment) are designed in a manner to prevent the escape of dust into the work area (i.e. there is no leakage from the equipment) It is recommended that all dust control equipment such as local exhaust ventilation and material transport systems involved in the handling of this product contain explosion relief vents or an explosion suppression system or an oxygen-deficient environment

Individual protection measures, such as personal protective equipment

Personal Protective Equipment

Eye protection: Goggles

Skin and body protection: Long sleeved clothing. Chemical resistant apron. Gloves.

Respiratory protection: Effective dust mask. Use a dust respirator under conditions where exposure to the substance is apparent (e.g. generation of high concentration of dust (dust clouds), inadequate ventilation, development of respiratory tract irritation), and engineering controls are not feasible. Be sure to use an approved/certified respirator or equivalent. .

Hygiene measures: Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product. When using, do not eat, drink or smoke.

9. PHYSICAL AND CHEMICAL PROPERTIES

| | | |
|--|---|---|
| Physical state: Solid | Appearance: Powder. | Color: Brown. Dark gray. Grayish White. |
| Odor: Odorless. | Taste No information available | Formula: Te |
| Molecular/Formula weight: 127.60 | Flammability: No information available | Flashpoint (°C/°F): No information available. |
| Flash Point Tested according to: Not available | Autoignition Temperature (°C/°F): No information available | Lower Explosion Limit (%): No information available |
| Upper Explosion Limit (%): No information available | pH: No information available | Melting point/range(°C/°F): 450 °C/842 °F |
| Decomposition temperature(°C/°F): No information available | Boiling point/range(°C/°F): 990 °C/1814 °F | Bulk density: No information available |
| Density (g/cm3): No information available | Specific gravity: 6.11-6.27 | Vapor pressure @ 20°C (kPa): No information available |
| Evaporation rate: No information available | Vapor density: No information available | VOC content (g/L): No information available |
| Odor threshold (ppm): No information available | Partition coefficient (n-octanol/water): No information available | Viscosity: No information available |
| Miscibility: No information available | Solubility: Insoluble in Benzene Insoluble in Carbon disulfide Insoluble in water | |

10. STABILITY AND REACTIVITY

Reactivity

Reactive with oxidizing agents

Reactive with metals

The reaction between zinc and tellurium is accompanied by incandescence (cadmium less so)

Tellurium is attacked by fluorine, chlorine fluoride or chlorine trifluoride with incandescence (producing flame)

Chemical stability

Stability:

Stable under recommended storage conditions

Possibility of Hazardous Reactions:

Hazardous polymerization does not occur

Conditions to avoid:

Heat. Ignition sources. Avoid dust formation. Dust may form explosive mixture in air. Fine dust dispersed in air in sufficient concentrations, and in the presence of an ignition source is a potential dust explosion hazard. Incompatible materials.

Incompatible Materials:

Oxidizing agents. Chlorine. Chlorine trifluoride. Fluorine. Metals. Zinc. Cadmium. Potassium. Platinum. Sodium. Tin.

Hazardous decomposition products:

Tellurium fumes.

Other Information

Corrosivity:

No information available

Special Remarks on Corrosivity: No information available

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Principal Routes of Exposure:

Ingestion. Inhalation.

Acute Toxicity

Component Information

Tellurium - 13494-80-9

LD50/oral/rat = 83 mg/kg Oral LD50 Rat

LD50/oral/mouse = 20 mg/kg

LD50/dermal/rabbit = No information available

LD50/dermal/rat = No information available

LC50/inhalation/rat = >2420 mg/m³ Inhalation LC50 Rat 4 h

LC50/inhalation/mouse = No information available

Other LD50 or LC50 information = 45 mg/kg oral LD50 Guinea pig
67 mg/kg oral LD50 Rabbit

Product Information

LD50/oral/rat =

VALUE- Acute Tox Oral = 83mg/kg

LD50/oral/mouse =

Value - Acute Tox Oral = 20mg/kg

LD50/dermal/rabbit

VALUE-Acute Tox Dermal = No information available

LD50/dermal/rat

VALUE -Acute Tox Dermal = No information available

LC50/inhalation/rat

VALUE-Vapor = No information available

VALUE-Gas = No information available

VALUE-Dust/Mist = >2420mg/m³ (4-hr.)

LC50/Inhalation/mouse

VALUE-Vapor = No information available

VALUE - Gas = No information available

VALUE - Dust/Mist = No information available

Symptoms

Skin Contact: Causes skin irritation.

Eye Contact: Causes serious eye irritation.

Inhalation May cause nose, throat, and lung irritation. Higher exposures may cause a build-up of fluid in the lungs (pulmonary). Symptoms may include coughing and shortness of breath. May cause garlic odor to breath. May cause metallic taste in mouth. May cause nausea and headache. May cause fatigue. May cause dizziness. May cause drowsiness/sleepiness. May cause muscle weakness. May cause a sharp garlic odor o the breath, sweat and urine. May cause dry mouth, thirst.

Ingestion May cause upset stomach. May cause abdominal pain. Ingestion may cause nausea, vomiting. May cause constipation. May cause garlicky odor of breath or sweat. May cause metallic taste.

Aspiration hazard No information available

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Chronic Toxicity Prolonged or repeated ingestion or inhalation may affect the liver. Prolonged or repeated inhalation may affect the kidneys. Prolonged or repeated ingestion may affect the kidneys. Repeated exposure can cause garlic odor to breath, nausea, vomiting, loss of appetite and upset stomach, metallic taste, and irritability. Prolonged or repeated skin contact may cause dryness of the skin. Prolonged or repeated inhalation may affect the blood (changes in red blood cell count). Prolonged or repeated exposure may affect the nervous system.

Sensitization: No information available

Mutagenic Effects: No information available

Carcinogenic effects: Not considered carcinogenic

| Components | IARC | ACGIH - Carcinogens | NTP | OSHA HCS - Carcinogens | Australia - Notifiable Carcinogenic Substances | Australia - Prohibited Carcinogenic Substances |
|------------|------------|---------------------|------------|------------------------|--|--|
| Tellurium | Not listed | Not listed | Not listed | Not listed | Not listed | Not listed |

Reproductive toxicity No data is available

Reproductive Effects: No information available
Developmental Effects: No information available
Teratogenic Effects: No information available

Specific Target Organ Toxicity

STOT - single exposure No information available
STOT - repeated exposure May cause damage to organs through prolonged or repeated exposure.
Target Organs: Liver. Kidneys. Nervous system. Lungs.

12. ECOLOGICAL INFORMATION

Ecotoxicity

Ecotoxicity effects: No data available.

Persistence and degradability: No information available

Bioaccumulative potential: No information available

Mobility: No information available

13. DISPOSAL CONSIDERATIONS

Disposal Methods

Waste from residues / unused products:

Waste must be disposed of in accordance with Federal, State and Local regulation.

Contaminated packaging:

Empty containers should be taken for local recycling, recovery or waste disposal

| Components | RCRA - F Series Wastes | RCRA - K Series Wastes | RCRA - P Series Wastes | RCRA - U Series Wastes |
|------------|------------------------|------------------------|------------------------|------------------------|
| Tellurium | None | None | None | None |

14. TRANSPORT INFORMATION

DOT

UN-No: UN3288
Proper Shipping Name: Toxic solid, inorganic, n.o.s.(tellurium)
Hazard Class: 6.1
Subsidiary Risk: No information available
Packing Group: III
ERG No: 151
Marine Pollutant: No data available
DOT RQ (lbs): No information available
Special Provisions: No Information available
Symbol(s): G

TDG (Canada)

UN-No: UN3288
Proper Shipping Name: Toxic solid, inorganic, n.o.s.
Hazard Class: 6.1
Subsidiary Risk: No information available
Packing Group: III
Marine Pollutant: No Information available

ADR

UN-No: UN3288
Proper Shipping Name: Toxic solid, inorganic, n.o.s.
Hazard Class: 6.1
Packing Group: III
Subsidiary Risk: No information available

IMO / IMDG

UN-No: UN3288
Proper Shipping Name: Toxic solid, inorganic, n.o.s.
Hazard Class: 6.1
Subsidiary Risk: No information available
Packing Group: III
Marine Pollutant: No information available

14. TRANSPORT INFORMATION

EMS: F-A

RID

UN-No: UN3288
 Proper Shipping Name: Toxic solid, inorganic, n.o.s.
 Hazard Class: 6.1
 Subsidiary Risk: No information available
 Packing Group: III

ICAO

UN-No: UN3288
 Proper Shipping Name: Toxic solid, inorganic, n.o.s.
 Hazard Class: 6.1
 Subsidiary Risk: No information available
 Packing Group: III

IATA

UN-No: UN3288
 Proper Shipping Name: Toxic solid, inorganic, n.o.s.
 Hazard Class: 6.1
 Subsidiary Risk: No information available
 Packing Group: III
 ERG Code: 6L
 Special Provisions: No information available

15. REGULATORY INFORMATION

International Inventories

| Components | U.S. TSCA | KOREA KECL | Philippines (PICCS) | Japan ENCS | CHINA | Australia (AICS) | EINECS-No. |
|------------|-----------|------------------|---------------------|-------------|---------|------------------|-------------------|
| Tellurium | Present | Present KE-33095 | Present | Not present | Present | Present | Present 236-813-4 |

U.S. Regulations

Tellurium

Massachusetts RTK: Present
 New Jersey RTK Hazardous Substance List: 1777
 Pennsylvania RTK: Environmental hazard
 Pennsylvania RTK - Environmental Hazard List Present
 Pennsylvania RTK - Special Hazardous Substances Present
 Minnesota - Hazardous Substance List: Present
 New York Release Reporting - List of Hazardous Substances:
 = 1 lb RQ

California Prop. 65: Safe Drinking Water and Toxic Enforcement Act of 1986.

Chemicals Known to the State of California to Cause Cancer:

This product does not contain a chemical requiring a warning under California Prop. 65. (See table below)

Chemicals Known to the State of California to Cause Reproductive Toxicity:

This product does not contain a chemical requiring a warning under California Prop. 65. (See table below)

| Components | Carcinogen | Developmental Toxicity | Male Reproductive Toxicity | Female Reproductive Toxicity: |
|------------|------------|------------------------|----------------------------|-------------------------------|
| Tellurium | Not Listed | Not Listed | Not Listed | Not Listed |

CERCLA/SARA

Product code: T1152

Product name: TELLURIUM, 200
MESH, POWDER

10 / 12

| Components | CERCLA - Hazardous Substances and their Reportable Quantities | Section 302 Extremely Hazardous Substances and TPQs | Section 302 Extremely Hazardous Substances and RQs | Section 313 - Chemical Category | Section 313 - Reporting de minimis |
|------------|---|---|--|---------------------------------|------------------------------------|
| Tellurium | None | None | None | None | None |

U.S. TSCA

| Components | TSCA Section 5(a)2 - Chemicals With Significant New Use Rules (SNURS) | TSCA 8(d) -Health and Safety Reporting |
|------------|---|--|
| Tellurium | Not Applicable | Not Applicable |

Canada

WHMIS hazard class:

D1B Toxic materials

D2B Toxic materials

Canada Controlled Products Regulation:

This product has been classified according to the hazard criteria of the CPR (Controlled Products Regulation) and the MSDS contains all of the information required by the CPR.

| Components | WHMIS Ingredient Disclosure List - |
|------------|------------------------------------|
| Tellurium | 1 % |

Inventory

| Components | Canada (DSL) | Canada (NDSL) |
|------------|--------------|---------------|
| Tellurium | Present | Not Listed |

| Components | CEPA Schedule I - Toxic Substances |
|------------|------------------------------------|
| Tellurium | Not listed |

| Components | CEPA - 2010 Greenhouse Gases Subject to Mandatory Reporting |
|------------|---|
| Tellurium | Not listed |

EU Classification

R-phrases

R25 - Toxic if swallowed.

R20 - Harmful by inhalation.

R36 - Irritating to eyes.

R38 - Irritating to skin.

S-phrases

S45 - In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

S26 - In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

S36/37/39 - Wear suitable protective clothing, gloves and eye/face protection.

| Components | Classification | Concentration Limits: | Safety Phrases |
|------------|----------------|-----------------------|----------------|
| Tellurium | | No information | |

The product is classified in accordance with Annex VI to Directive 67/548/EEC

Indication of danger:

T - Toxic

Xn - Harmful.

Xi - Irritant.



16. OTHER INFORMATION

Preparation Date: 5/12/2016
Revision Date: 5/12/2016
Prepared by: Sonia Owen

Disclaimer:

All chemicals may pose unknown hazards and should be used with caution. This Safety Data Sheet (SDS) applies only to the material as packaged. If this product is combined with other materials, deteriorates, or becomes contaminated, it may pose hazards not mentioned in this SDS. The physical properties reported in this SDS are obtained from the literature and do not constitute product specifications. Information contained herein does not constitute a warranty, whether expressed or implied, as to the safety, merchantability or fitness of the goods for a particular purpose. Spectrum Chemicals & Laboratory Products, Inc. assumes no responsibility for results obtained or for incidental or consequential damages, including lost profits, arising from the use of these data. No warranty against infringement of any patent, copyright or trademark is made or implied. It shall be the user's responsibility to develop proper methods of handling and personal protection based on the actual conditions of use. While this SDS is based on technical data judged to be reliable, Spectrum assumes no responsibility for the completeness or accuracy of the information contained herein.

End of Safety Data Sheet