### CHEMICAL IDENTITY

<table>
<thead>
<tr>
<th>LABEL IDENTITY</th>
<th>CADMIUM TELLURIDE</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHEMICAL NAME/SYNONYMS</td>
<td>CADMIUM MONOTELLURIDE</td>
</tr>
<tr>
<td>FORMULA</td>
<td>CdTe</td>
</tr>
<tr>
<td>CHEMICAL FAMILY</td>
<td>METAL TELLURIDE</td>
</tr>
<tr>
<td>CAS REGISTRY NUMBER</td>
<td>1306-24-8, LISTED IN THE TSCA INVENTORY</td>
</tr>
<tr>
<td>HAZARDOUS INGREDIENTS</td>
<td>CADMIUM TELLURIDE</td>
</tr>
<tr>
<td>%: 100</td>
<td>TLV: 0.05mg/m3 (as Cd)</td>
</tr>
<tr>
<td></td>
<td>OSHA/PEL: 200mg/M3 (as Cd)</td>
</tr>
<tr>
<td>Reportable Chemical Sara Title III</td>
<td>0.1mg/m3</td>
</tr>
</tbody>
</table>

### PHYSICAL AND CHEMICAL PROPERTIES

<table>
<thead>
<tr>
<th>COLOR, FORM AND ODOR</th>
<th>Black, slightly gray powder/pieces</th>
</tr>
</thead>
<tbody>
<tr>
<td>BOILING POINT</td>
<td>1121</td>
</tr>
<tr>
<td>DENSITY (gm/cc)</td>
<td>5.80 @ 15 (6.2 @ 15)</td>
</tr>
<tr>
<td>VAPOR PRESSURE @ 20°</td>
<td>NA</td>
</tr>
<tr>
<td>% VOLATILE BY VOLUME (%)</td>
<td>NA</td>
</tr>
<tr>
<td>REACTION WITH WATER</td>
<td>NA</td>
</tr>
<tr>
<td>EVAPORATION RATE (H2O=1)</td>
<td>NA</td>
</tr>
<tr>
<td>SOLUBILITY IN WATER</td>
<td>Practically Insoluble</td>
</tr>
<tr>
<td>MELTING POINT</td>
<td>1041 (1091)</td>
</tr>
<tr>
<td>OTHER</td>
<td>Oxidizes upon prolonged exposure to moist air. Practically insoluble in acid, decomposes in HNO3</td>
</tr>
</tbody>
</table>

### FIRE AND EXPLOSION HAZARD DATA

| FLASH POINT                      | NA                                 |
|AUTOIGNITION TEMPERATURE (°C)    | NA                                 |
|FLAMMABILITY                     | Non-flammable                      |
|EXTINGUISHING MEDIA              | Use dry chemical, CO₂. DO NOT USE WATER! |
|SPECIAL FIRE FIGHTING PROCEDURES | Wear a self-contained breathing apparatus and full protective clothing to prevent contact with skin and eyes. |
|UNUSUAL FIRE & EXPLOSION HAZARDS | Material may emit toxic fumes of Cd and Te if involved in a fire, or upon contact with acids or acidic fumes. |
HEALTH HAZARD INFORMATION

TOXICITY DATA

ipr-mus LD50: 2100/mg/kg
ipr-rat LD50: 2820/mg/kg

HMIS RATING:
- HEALTH: 4
- FLAMMABILITY: 0
- REACTIVITY: 2
- PERSONAL PROTECTION: X

ROUTES OF ENTRY

INHALATION:
SKIN:
INGESTION:

MEDICAL CONDITIONS AGGRAVATED BY OVEREXPOSURE: Respiratory, skin disorders

EFFECTS OF OVEREXPOSURE (acute and chronic):

INHALATION: a respiratory irritant. Coughing, sneezing, difficulty breathing and pulmonary edema possible. May cause irritation of the mucous membranes of the nose and throat.

DERMAL: irritation. Inflammation, redness possible, may cause dermatitis.


OTHER: *SEE ATTACHED SHEET*

CARCINOGENICITY: YES (Tellurium-suspect) NTP: Yes
IARC MONOGRAPHS: Yes OSHA REGULATE: Yes

EMERGENCY FIRST AID PROCEDURES:

INGESTION: Administer water or milk and induce vomiting, seek medical attention

INHALATION: Remove to fresh air, give oxygen if necessary, seek medical attention

SKIN CONTACT: Wash affected area with soap and water, seek medical attention

EYE CONTACT: Flush eyes for at least 15 minutes with lukewarm water, seek medical attention.

REACTIVITY DATA

STABILITY
Unstable

CONDITIONS CONTRIBUTING TO UNSTABILITY
Heat, air, moisture/water

INCOMPATIBILITY (MATERIALS TO AVOID)
Strong acids, Strong bases

HAZARDOUS DECOMPOSITION PRODUCTS
Cd, Te, CdO, TeO2

HAZARDOUS POLYMERIZATION
Will Not Occur

CONDITIONS TO AVOID
Heat, air, moisture/water, incompatible materials
SAFE HANDLING AND USE

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED:
Wear self-contained breathing apparatus and full protective clothing, isolate area spill occurred and ensure proper ventilation is available and that no water/moisture are kept out of the area. Vacuum up the spill and place in container for proper disposal. Take care not to raise dust.

WASTE DISPOSAL METHOD:
Consult federal, state and local regulations for proper disposal.

SPECIAL PROTECTIVE INFORMATION

RESPIRATORY PROTECTION
NIOSH approved dust-mist-fume cartridge respirator

LOCAL EXHAUST
Maintain below TLV

MECHANICAL (general)
Not recommended

SPECIAL
Handle in dry, inert controlled atmosphere

OTHER
NA

PROTECTIVE GLOVES
Neoprene

EYE PROTECTION
Safety glasses

OTHER PROTECTIVE EQUIPMENT
Wear protective clothing to prevent contamination of skin and clothes

SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING/STORAGE:
Store in tightly closed container in a cool dry place. Wash hands and face thoroughly after handling and before meals.

TRANSPORTATION REQUIREMENTS
DOT CLASS: Not Classified
UN NUMBER: 2570
IMCO CLASS: 6.1
OTHER:

PRECAUTIONARY LABELING
NONE

THE ABOVE INFORMATION IS ACCURATE TO THE BEST OF OUR KNOWLEDGE. HOWEVER, SINCE DATA, SAFETY STANDARDS AND GOVERNMENT REGULATIONS ARE SUBJECT TO CHANGE THE CONDITIONS OF HANDLING AND USE, OR MISUSE ARE BEYOND OUR CONTROL, ANGSTROM SCIENCES MAKE NO WARRANTY, EITHER EXPRESSED OR IMPLIED, WITH RESPECT TO THE COMPLETENESS OR CONTINUING ACCURACY OF THE INFORMATION CONTAINED HEREIN AND DISCLAIMS ALL LIABILITY FOR THE RELIANCE THEREON. USER SHOULD SATISFY HIMSELF THAT HE HAS ALL CURRENT DATA RELEVANT TO HIS PARTICULAR USE.

NA= NOT APPLICABLE ND= NO DATA FOUND
Cadmium compounds are experimental carcinogens. The oral toxicity of Cd and its compounds is high. However, when these materials are ingested, the irritant and emetic action is so violent that little of the Cd is absorbed and fatal poisoning does not occur as a rule. Cases of human Cd poisoning have been reported from ingestion of food or beverages prepared or stored in Cd plated containers. The inhalation of fumes or dusts of Cd primarily effects the respiratory tract; the kidneys may also be affected. Even brief exposure to high concentrations may result in pulmonary edema and death. Usually the edema is not massive, with little pleural effusion. In fatal cases, fatty degeneration of the liver and acute inflammatory changes in the kidneys have been noted. Ingestion of Cd results in gastro-intestinal type of poisoning in its symptoms. Inhalation of dust or fumes may cause dryness of the throat, cough, headache, a sense of constriction in the chest, shortness of breath (syspnea) and vomiting. More severe exposure results in the marked lung changes, with persistent cough, pain in the chest, severe dyspnea and prostration which may terminate fatally. X-ray changes are usually similar to those seen in bronchi-pneumonia. The urine is frequently dark.

These symptoms are usually delayed for some hours after exposure, and fatal concentrations may be breathed without sufficient discomfort to warn the workpersons to leave the exposure. There is some evidence of teratogenicity. Ingestion of Cd results in sudden nausea, salivation, vomiting, diarrhea and abdominal pain and discomfort. Symptoms begin almost immediately after ingestion. A yellow discoloration of the teeth has been reported in workers exposed to Cd. Cadmium oxide fumes can cause metal fume fever resembling that caused by zinc oxide fumes.

Elemental tellurium has relatively low toxicity. It is converted in the body to dimethyl telluride which imparts a garlic like odor to the breath and sweat. Heavy exposures may, in addition, result in headache, drowsiness, metallic taste, loss of appetite and nausea. Various tellurium salts may also produce similar symptoms. Large doses can be fatal, as was the case following accidental administration of sodium tellurium.