SAFETY DATA SHEET

1. Identification

Product identifier Ergoloid Mesylates

Other means of identification

- Catalog number 1239504
- Chemical name Dihydroergotoxine monomethanesulfonate (salt)
- Synonym(s) Co-dergocrine mesylate * Dihydrogenated ergot alkaloids

Recommended use Specified quality tests and assay use only.

Recommended restrictions Not for use as a drug. Not for administration to humans or animals.

Manufacturer/Importer/Supplier/Distributor information

- Company name U. S. Pharmacopeia
- Address 12601 Twinbrook Parkway
  Rockville
  MD
  20852-1790
  US
- Telephone RS Technical Services 301-816-8129
- Website www.usp.org
- E-mail RSTECH@usp.org
- Emergency phone number CHEMTREC within US & Canada 1-800-424-9300
  CHEMTREC outside US & Canada +1 703-527-3887

2. Hazard(s) identification

Note

This product is supplied in a small quantity which does not constitute a combustible dust hazard. The physical properties of this material indicate that in large quantities accumulated dust may be hazardous.

Physical hazards Not classified.

Health hazards Germ cell mutagenicity Category 1B
Reproductive toxicity Category 2

OSHA hazard(s) Not classified.

Label elements

Signal word Danger

Hazard statement May cause genetic defects. Suspected of damaging fertility or the unborn child.

Precautionary statement

Prevention Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Wear protective gloves/protective clothing/eye protection/face protection.

Response If exposed or concerned: Get medical advice/attention.

Storage Store locked up.

Disposal Dispose of contents/container in accordance with local/regional/national/international regulations. Not classified.

3. Composition/information on ingredients

Substance

Hazardous components

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>Common name and synonyms</th>
<th>CAS number</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ergoloid Mesylates</td>
<td>Co-dergocrine mesylate Dihydrogenated ergot alkaloids</td>
<td>8067-24-1</td>
<td>100</td>
</tr>
</tbody>
</table>
4. First-aid measures

**Inhalation**
Move to fresh air. Call a physician if symptoms develop or persist.

**Skin contact**
Rinse skin with water/shower. Get medical attention if irritation develops and persists.

**Eye contact**
Rinse with water. Get medical attention if irritation develops and persists.

**Ingestion**
Rinse mouth. If ingestion of a large amount does occur, call a poison control center immediately.

**Most important symptoms/effects, acute and delayed**

**Indication of immediate medical attention and special treatment needed**
Treatment of ergot alkaloid overdose should be symptomatic and supportive and may include the following:

1. Do NOT induce vomiting because of potential for CNS depression and seizures.
2. Consider gastric lavage within one hour of ingestion.
3. Administer activated charcoal as a slurry.
4. For vasoconstriction and hypertension, nitroprusside is recommended to reverse peripheral ischemia secondary to vasoconstriction and for the treatment of hypertension. Consider intravenous nitroglycerin or phenolamine in patients with evidence of significant end organ ischemia.
5. For hypotension, infuse isotonic fluid and place in Trendelenburg position. If hypotension persists, administer dopamine or norepinephrine.
6. For seizures, administer a benzodiazepine. If seizures are uncontrollable or recur, consider phenobarbital or propofol.
7. For abdominal cramps, administer oral atropine.
8. Monitor for hypotension, dysrhythmias, respiratory depression, and the need for endotracheal intubation; evaluate for hypoglycemia, electrolyte disturbances, and hypoxia. [Meditext 2008]

**General information**
Remove from exposure. Remove contaminated clothing. For treatment advice, seek guidance from an occupational health physician or other licensed health-care provider familiar with workplace chemical exposures. In the United States, the national poison control center phone number is 1-800-222-1222. If person is not breathing, give artificial respiration. If breathing is difficult, give oxygen if available. Persons developing serious hypersensitivity (anaphylactic) reactions must receive immediate medical attention.

5. Fire-fighting measures

**Suitable extinguishing media**
Use fire-extinguishing media appropriate for surrounding materials. Water. Foam. Dry chemical or CO2.

**Unsuitable extinguishing media**
None known.

**Specific hazards arising from the chemical**
Explosion hazard: 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 equipment and precautions for firefighters**
Wear suitable protective equipment.

**Fire-fighting equipment/instructions**
Use water spray to cool unopened containers. As with all fires, evacuate personnel to a safe area. Firefighters should use self-contained breathing equipment and protective clothing.

**Specific methods**
Use standard firefighting procedures and consider the hazards of other involved materials.

6. Accidental release measures

**Personal precautions, protective equipment and emergency procedures**
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. Keep unnecessary personnel away. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ensure adequate ventilation. Avoid inhalation of dust from the spilled material. Wear appropriate personal protective equipment.

**Methods and materials for containment and cleaning up**
Sweep up or vacuum up spillage and collect in suitable container for disposal. Avoid the generation of dusts during clean-up. For waste disposal, see section 13 of the SDS. Clean surface thoroughly to remove residual contamination.

7. Handling and storage

**Precautions for safe handling**
As a general rule, when handling USP Reference Standards, avoid all contact and inhalation of dust, mists, and/or vapors associated with the material. Clean equipment and work surfaces with suitable detergent or solvent after use. After removing gloves, wash hands and other exposed skin thoroughly. Use of a designated area is recommended for handling of potent materials. Combustible dust clouds may be created where operations produce fine material (dust). Avoid significant deposits of material, especially on horizontal surfaces, which may become airborne and form combustible dust clouds and may contribute to secondary explosions.

**Conditions for safe storage, including any incompatibilities**
Store in tight container as defined in the USP-NF. This material should be handled and stored per label instructions to ensure product integrity.
8. Exposure controls/personal protection

Exposure limit values

<table>
<thead>
<tr>
<th>Material</th>
<th>Type</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ergoloid Mesylates (CAS</td>
<td>TWA</td>
<td>0.01 mg/m³</td>
</tr>
<tr>
<td>8067-24-1</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Biological limit values

Airborne exposure should be controlled primarily by engineering controls such as general dilution ventilation, local exhaust ventilation, or process enclosure. Local exhaust ventilation is generally preferred to general exhaust because it can control the contaminant at its source, preventing dispersion into the work area. An industrial hygiene survey involving air monitoring may be used to determine the effectiveness of engineering controls. Effectiveness of engineering controls intended for use with highly potent materials should be assessed by use of nontoxic surrogate materials. Avoid any open handling of this material, particularly for grinding, crushing, weighing, or other dust-generating or aerosol-generating procedures. Use a laboratory fume hood, vented enclosure, glovebox, or other effective containment.

Individual protection measures, such as personal protective equipment

Eye/face protection

Safety glasses with sideshields are recommended. Face shields or goggles may be required if splash potential exists or if corrosive materials are present. Approved eye protection (e.g., bearing the ANSI Z87 or CSA stamp) is preferred. Maintain eyewash facilities in the work area.

Skin protection

Hand protection

Chemically compatible gloves. For handling solutions, ensure that the glove material is protective against the solvent being used. Use handling practices that minimize direct hand contact. Employees who are sensitive to natural rubber (latex) should use nitrile or other synthetic nonlatex gloves. Use of powdered latex gloves should be avoided due to the risk of latex allergy. To reduce the risk of contamination of skin and surfaces, wear two pairs of gloves. Remove the outer gloves after handling and cleanup of the material, and remove the inner gloves only after removing other personal protective equipment.

Other

For handling of laboratory scale quantities, a disposable lab coat or isolation gown over street clothes is recommended. Where significant quantities are handled, work clothing and booties may be necessary to prevent take-home contamination.

Respiratory protection

Where respirators are deemed necessary to reduce or control occupational exposures, use NIOSH-approved respiratory protection and have an effective respirator program in place (applicable U.S. regulation OSHA 29 CFR 1910.134).

Thermal hazards

Not available.

General hygiene considerations

Handle in accordance with good industrial hygiene and safety practice.

9. Physical and chemical properties

Appearance

White to yellowish-white microcrystalline or amorphous powder.

Physical state

Solid.

Form

Powder.

Odor

Odorless or practically odorless.

Odor threshold

Not available.

pH

Not available.

Melting point/freezing point

384.8 - 402.8 °F (196 - 206 °C); also reported as 190 - 194 °C

Initial boiling point and boiling range

Not available.

Flash point

680.00 °F (360.00 °C) (hot plate)

Evaporation rate

Not available.

Flammability (solid, gas)

Not applicable.

Upper/lower flammability or explosive limits

Flammability limit - lower (%)

Not available.

Flammability limit - upper (%)

Not available.

Explosive limit - lower (%)

Not available.

Explosive limit - upper (%)

Not available.

Vapor pressure

Not available.

Vapor density

Not available.
Relative density: Not available.
Solubility in water: Slightly soluble.
Partition coefficient (n-octanol/water): 2.615
Auto-ignition temperature: Not available.
Decomposition temperature: Not available.
Viscosity: Not available.

Other information
- Chemical family: Ergot derivative; Hydrogenated alkaloids.
- pH in aqueous solution: 4.2 - 5.2 (0.5% solution)
- Potential for dust explosion: Positive modified Hartmann tube test
- Solubility (other): Soluble in methanol and in ethanol; sparingly soluble in acetone.

10. Stability and reactivity
- Reactivity: No reactivity hazards known.
- Chemical stability: Stable at normal conditions.
- Possibility of hazardous reactions: No dangerous reaction known under conditions of normal use.
- Conditions to avoid: Heat, flames, and sparks.
- Incompatible materials: Strong oxidizing agents.
- Hazardous decomposition products: NOx, SOx. Irritating and/or toxic fumes or gases. Emits toxic fumes under fire conditions.

11. Toxicological information
- Information on likely routes of exposure
  - Ingestion: Based on available data, the classification criteria are not met.
  - Inhalation: Due to lack of data the classification is not possible.
  - Skin contact: Due to lack of data the classification is not possible.
  - Eye contact: Due to lack of data the classification is not possible.
- Delayed and immediate effects of exposure: Heart valve disorders. Neurological impairment.
- Cross sensitivity: Persons sensitive to one ergot derivative may be sensitive to this material also.
- Medical conditions aggravated by exposure: Bradycardia. Hypotension. Sepsis or other severe infection. Impaired liver function. Impaired kidney function. Psychosis.
- Acute toxicity
<table>
<thead>
<tr>
<th>Product</th>
<th>Species</th>
<th>Test Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ergoloid Mesylates (CAS 8067-24-1)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Acute</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Oral</td>
<td>Mouse</td>
<td>LD50 &gt; 1 mg/kg</td>
</tr>
<tr>
<td></td>
<td>Rat</td>
<td>LD50 &gt; 2000 mg/kg</td>
</tr>
<tr>
<td>Skin corrosion/irritation</td>
<td>Due to lack of data the classification is not possible.</td>
<td></td>
</tr>
<tr>
<td>Serious eye damage/eye irritation</td>
<td>Due to lack of data the classification is not possible.</td>
<td></td>
</tr>
<tr>
<td>Respiratory sensitization</td>
<td>Due to lack of data the classification is not possible.</td>
<td></td>
</tr>
<tr>
<td>Skin sensitization</td>
<td>Due to lack of data the classification is not possible.</td>
<td></td>
</tr>
<tr>
<td>Germ cell mutagenicity</td>
<td>May cause genetic defects.</td>
<td></td>
</tr>
</tbody>
</table>

Mutagenicity
- Ames test in S. typhimurium: Result: Negative.
- In vitro sister chromatid exchange assay in human lymphocytes: Result: Negative.
Mutagenicity
In vivo dominant lethal test in male rodents
Result: Positive.

Carcinogenicity
Due to lack of data the classification is not possible.
This material is not considered to be a carcinogen by IARC, NTP, or OSHA.

Reproductive toxicity
Suspected of damaging fertility or the unborn child.
Ergot alkaloids can decrease fetal blood supply and cause uterine contractions, possibly leading to miscarriage or fetal harm.

Reproductivity
1 mg/day Reproductivity and development study, administered during the second half of gestation.
Result: Eye and heart defects were observed in the fetuses.
Species: Rat

Specific target organ toxicity - single exposure
Due to lack of data the classification is not possible.

Specific target organ toxicity - repeated exposure
Due to lack of data the classification is not possible.

Aspiration hazard
Based on available data, the classification criteria are not met.

12. Ecological information

Ecotoxicity

<table>
<thead>
<tr>
<th>Product</th>
<th>Species</th>
<th>Test Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ergoloid Mesylates (CAS 8067-24-1)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Acute</td>
<td>Algae</td>
<td>IC50 Algae 50 mg/l, 72 hours</td>
</tr>
<tr>
<td></td>
<td>Crustacea</td>
<td>EC50 Daphnia magna 59 mg/l, 48 hours</td>
</tr>
<tr>
<td>Aquatic</td>
<td>Acute</td>
<td>LC50 Rainbow Trout &gt; 76 mg/l, 96 hours</td>
</tr>
<tr>
<td>Fish</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Persistence and degradability
No data is available on the degradability of this product.

Bioaccumulative potential
Not available.

Mobility in soil
Not available.

Other adverse effects
Not available.

13. Disposal considerations

Disposal instructions
Dispose in accordance with all applicable regulations. Under RCRA, it is the responsibility of the user of the product to determine, at the time of disposal, whether the product meets RCRA criteria for hazardous waste.

Local disposal regulations
Not available.

Hazardous waste code
Not available.

Waste from residues / unused products
Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).

Contaminated packaging
Empty containers should be taken to an approved waste handling site for recycling or disposal. Since emptied containers may retain product residue, follow label warnings even after container is emptied.

14. Transport information

DOT
Not regulated as a hazardous material by DOT.

IATA
Not regulated as a dangerous good.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code
No information available.

15. Regulatory information

US federal regulations
CERCLA/SARA Hazardous Substances - Not applicable.

One or more components are not listed on TSCA.
Material name: Ergoloid Mesylates

Superfund Amendments and Reauthorization Act of 1986 (SARA)

**Hazard categories**
- Immediate Hazard - No
- Delayed Hazard - Yes
- Fire Hazard - No
- Pressure Hazard - No
- Reactivity Hazard - No

**SARA 302 Extremely hazardous substance**
No

**SARA 311/312 Hazardous chemical**
No

**Other federal regulations**
- **Safe Drinking Water Act (SDWA)**
  Not regulated.
- **Food and Drug Administration (FDA)**
  Not regulated.

**US state regulations**
- **California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65)**: This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins.

**International Inventories**

<table>
<thead>
<tr>
<th>Country(s) or region</th>
<th>Inventory name</th>
<th>On inventory (yes/no)*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Australia</td>
<td>Australian Inventory of Chemical Substances (AICS)</td>
<td>No</td>
</tr>
<tr>
<td>Canada</td>
<td>Domestic Substances List (DSL)</td>
<td>No</td>
</tr>
<tr>
<td>Canada</td>
<td>Non-Domestic Substances List (NDSL)</td>
<td>No</td>
</tr>
<tr>
<td>China</td>
<td>Inventory of Existing Chemical Substances in China (IECSC)</td>
<td>No</td>
</tr>
<tr>
<td>Europe</td>
<td>European Inventory of Existing Commercial Chemical Substances (EINECS)</td>
<td>No</td>
</tr>
<tr>
<td>Europe</td>
<td>European List of Notified Chemical Substances (ELINCS)</td>
<td>No</td>
</tr>
<tr>
<td>Japan</td>
<td>Inventory of Existing and New Chemical Substances (ENCS)</td>
<td>No</td>
</tr>
<tr>
<td>Korea</td>
<td>Existing Chemicals List (ECL)</td>
<td>No</td>
</tr>
<tr>
<td>New Zealand</td>
<td>New Zealand Inventory</td>
<td>No</td>
</tr>
<tr>
<td>Philippines</td>
<td>Philippine Inventory of Chemicals and Chemical Substances (PICCS)</td>
<td>No</td>
</tr>
<tr>
<td>United States &amp; Puerto Rico</td>
<td>Toxic Substances Control Act (TSCA) Inventory</td>
<td>No</td>
</tr>
</tbody>
</table>

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

**16. Other information, including date of preparation or last revision**

**Issue date**
07-22-2008

**Revision date**
05-01-2014

**Version #**
02

**Further information**
Refer to NFPA 654, Standard for the Prevention of Fire and Dust Explosions from the Manufacturing, Processing, and Handling of Combustible Particulate Solids, for safe handling.

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**Revision Information**
This document has undergone significant changes and should be reviewed in its entirety.