SAFETY DATA SHEET

1. Identification

Product identifier: Dextroamphetamine Sulfate

Other means of identification:
- Catalog number: 1180004
- Chemical name: Benzeneethanamine, alpha-methyl-, (S)-, sulfate (2:1)
- Synonym(s): Dexamphetamine sulfate

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

Physical hazards: Not classified.

Health hazards:
- Acute toxicity, oral: Category 2
- Reproductive toxicity: Effects on or via lactation
- Specific target organ toxicity, single exposure: Category 1 (Central Nervous System, Cardiovascular system)

OSHA hazard(s): Not classified.

Label elements:
- Signal word: Danger
- Hazard statement: Fatal if swallowed. May cause harm to breast-fed children. Causes damage to organs (Central Nervous System, Cardiovascular system).
- Precautionary statement:
  - Prevention: Avoid contact during pregnancy/while nursing. Wash thoroughly after handling. Do not eat, drink or smoke when using this product.
  - Response: If exposed: Call a poison center/doctor/medical professional. Rinse mouth.
  - Storage: Store locked up.
  - Disposal: Dispose of contents/container to an approved disposal site.

Hazard(s) not otherwise classified (HNOC): 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>Dextroamphetamine Sulfate</td>
<td>Dexamphetamine sulfate</td>
<td>51-63-8</td>
<td>100</td>
</tr>
</tbody>
</table>

Material name: Dextroamphetamine Sulfate

USP SDS US
6607  Version #: 02  Revision date: 11-16-2012  Issue date: 04-12-2006
4. First-aid measures

**Inhalation**
Remove 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. Call a physician or poison control center immediately. Do not induce vomiting without advice from poison control center. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs.

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

**Indication of immediate medical attention and special treatment needed**
Do not induce vomiting. Administer activated charcoal as a slurry. For seizures, administer diazepam intravenously. Monitor for hypotension, dysrhythmias, respiratory depression, and need for endotracheal intubation. For severe hypertension, treat with intravenous benzodiazepines. If unresponsive to sedation, administer intravenous nitroprusside. For arterial spasms, administer heparinization and intravenous or intra-arterial nitroprusside. For delirium, administer benzodiazepines. For hypothermia, administer intravenous diazepam and external cooling. For rhabdomyolysis, administer saline or diuretics to maintain urine output. Urinary alkalization is NOT recommended. For ventricular arrhythmia, obtain ECG, institute continuous cardiac monitoring, and administer oxygen. Evaluate for hypoxia, acidosis, and electrolyte disorders. For monomorphic ventricular tachycardia, administer lidocaine and amiodarone or sotalol. For delirium, administer benzodiazepines. For hypothermia, administer intravenous diazepam and external cooling. For rhabdomyolysis, administer saline or diuretics to maintain urine output. Urinary alkalization is NOT recommended. For ventricular arrhythmia, obtain ECG, institute continuous cardiac monitoring, and administer oxygen. Evaluate for hypoxia, acidosis, and electrolyte disorders. For monomorphic ventricular tachycardia, administer lidocaine and amiodarone or sotalol. (Meditext) Provide general supportive measures and treat symptomatically.

**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**
Water spray, dry chemical, carbon dioxide, or foam as appropriate for surrounding fire and materials.

**Unsuitable extinguishing media**
None known.

**Specific hazards arising from the chemical**
No unusual fire or explosion hazards noted.

**Special protective equipment and precautions for firefighters**
Wear suitable protective equipment.

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

**Specific methods**
Cool containers exposed to flames with water until well after the fire is out.

6. Accidental release measures

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

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.

**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>Dextroamphetamine Sulfate (CAS 51-63-8)</td>
<td>TWA</td>
<td>8 micrograms/m3</td>
</tr>
</tbody>
</table>

**Biological limit values**
No biological exposure limits noted for the ingredient(s).
Appropriate engineering controls

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. This material is extremely potent. 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 cloth lab coat is recommended. Where significant quantities are handled, work clothing 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

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>White crystalline powder.</td>
</tr>
<tr>
<td>Physical state</td>
<td>Solid.</td>
</tr>
<tr>
<td>Form</td>
<td>Powder.</td>
</tr>
<tr>
<td>Odor</td>
<td>Odorless.</td>
</tr>
<tr>
<td>Odor threshold</td>
<td>Not available.</td>
</tr>
<tr>
<td>pH</td>
<td>5 - 6 (5% solution)</td>
</tr>
<tr>
<td>Melting point/freezing point</td>
<td>&gt; 572 °F (&gt; 300 °C)</td>
</tr>
<tr>
<td>Initial boiling point and boiling</td>
<td>Not available.</td>
</tr>
<tr>
<td>range</td>
<td></td>
</tr>
<tr>
<td>Flash point</td>
<td>&gt; 199.94 °F (&gt; 93.30 °C)</td>
</tr>
<tr>
<td>Evaporation rate</td>
<td>Not available.</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>Not applicable.</td>
</tr>
<tr>
<td>Upper/lower flammability or explosive limits</td>
<td></td>
</tr>
<tr>
<td>Flammability limit - lower (%)</td>
<td>Not available.</td>
</tr>
<tr>
<td>Flammability limit - upper (%)</td>
<td>Not available.</td>
</tr>
<tr>
<td>Explosive limit - lower (%)</td>
<td>Not available.</td>
</tr>
<tr>
<td>Explosive limit - upper (%)</td>
<td>Not available.</td>
</tr>
<tr>
<td>Vapor pressure</td>
<td>&lt; 0.0000001 kPa at 25 °C</td>
</tr>
<tr>
<td>Vapor density</td>
<td>Not available.</td>
</tr>
<tr>
<td>Relative density</td>
<td>Not available.</td>
</tr>
<tr>
<td>Solubility in water</td>
<td>Soluble.</td>
</tr>
<tr>
<td>Partition coefficient (n-octanol/water)</td>
<td>Not available.</td>
</tr>
<tr>
<td>Auto-ignition temperature</td>
<td>Not available.</td>
</tr>
<tr>
<td>Decomposition temperature</td>
<td>Not available.</td>
</tr>
<tr>
<td>Viscosity</td>
<td>Not available.</td>
</tr>
</tbody>
</table>
Other information

Chemical family: Phenethylamine derivative.
Molecular formula: C₉H₁₃N.1/₂H₂O₄S
Molecular weight: 368.49
Solubility (other): Slightly soluble in alcohol; insoluble in ether.

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: None under normal conditions.
Incompatible materials: Strong alkalis. Calcium salts.
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: Fatal if swallowed.
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.


Chronic effects: Weight loss. Psychological dependence.
Cross sensitivity: Persons sensitive to one sympathomimetic may be sensitive to this material also.
Acute toxicity: Fatal if swallowed.

Test Results

<table>
<thead>
<tr>
<th>Product</th>
<th>Species</th>
<th>Test Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dextroamphetamine Sulfate (CAS 51-63-8)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Oral LD50</td>
<td>Mouse</td>
<td>10 mg/kg</td>
</tr>
<tr>
<td></td>
<td>Rat</td>
<td>32 mg/kg</td>
</tr>
<tr>
<td>Skin corrosion/irritation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Serious eye damage/eye irritation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Respiratory sensitization</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Skin sensitization</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Germ cell mutagenicity</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mutagenicity</td>
<td></td>
<td></td>
</tr>
<tr>
<td>25 mg/kg in vivo micronucleus test</td>
<td>Positive</td>
<td></td>
</tr>
<tr>
<td>In vitro DNA adduct test (E. coli - 40 micromoles)</td>
<td>Positive</td>
<td></td>
</tr>
<tr>
<td>Carcinogenicity</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reproductive toxicity</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reproductive test</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Result: Behavioral alterations occurred.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Reproductivity
Reproductivity test
Result: Fetotoxicity and maternal toxicity observed.
Species: Mouse

Specific target organ toxicity - single exposure
Causes damage to organs (Central Nervous System, Cardiovascular system).

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
No ecotoxicity data noted for the ingredient(s).

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
This product, in its present state, when discarded or disposed of, is not a hazardous waste according to Federal regulations (40 CFR 261.4 (b)(4)). 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. Dispose in accordance with all applicable regulations.

Local disposal regulations
Not available.

Hazardous waste code
Not regulated.

Waste from residues / unused products
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
UN number
UN2811
UN proper shipping name
Toxic, solid, organic, n.o.s. (Dextroamphetamine Sulfate)
Transport hazard class(es)
6.1
Subsidiary class(es)
Not available.
Packing group
II

IATA
UN number
UN2811
UN proper shipping name
Toxic, solid, organic, n.o.s. (Dextroamphetamine Sulfate)
Transport hazard class(es)
6.1
Subsidiary class(es)
-
Packing group
II
Environmental hazards
No

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

15. Regulatory information

US federal regulations
DEA Schedule II Controlled Substance
CERCLA/SARA Hazardous Substances - Not applicable.

One or more components are not listed on TSCA.
Superfund Amendments and Reauthorization Act of 1986 (SARA)

**Hazard categories**
- Immediate Hazard - Yes
- Delayed Hazard - No
- 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.
- Drug Enforcement Administration (DEA) (21 CFR 1308.11-15)
  - Schedule II - 1100
- 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>Yes</td>
</tr>
<tr>
<td>Canada</td>
<td>Domestic Substances List (DSL)</td>
<td>Yes</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>Yes</td>
</tr>
<tr>
<td>Europe</td>
<td>European Inventory of Existing Commercial Chemical Substances (EINECS)</td>
<td>Yes</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>Yes</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

<table>
<thead>
<tr>
<th>Issue date</th>
<th>04-12-2006</th>
</tr>
</thead>
<tbody>
<tr>
<td>Revision date</td>
<td>11-16-2012</td>
</tr>
<tr>
<td>Version #</td>
<td>02</td>
</tr>
<tr>
<td>Further information</td>
<td>Not available.</td>
</tr>
</tbody>
</table>

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Revision Information

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