



## TOKU-E COMPANY MATERIAL SAFETY DATA SHEET

EMERGENCY PHONE (USA only): +1-800-535-5053      INF.: +86-21-5206 9530

### I. Substance identification

Actinomycin D from Streptomyces species

### II. Composition/ information on ingredients

CAS No.: 50-76-0

FW:  $C_{62}H_{86}N_{12}O_{16}$

### III. Hazard identification

Label precautionary statements

High toxic (USA definition)

Very toxic (European definition)

Very toxic if swallowed. Limited evidence of a carcinogenic effect.

May cause sensitization by inhalation and skin contact.

Possible carcinogen (US) Target organ(s): Bone marrow. Liver.

Calif. Prop. 65 carcinogen & reproductive hazard.

In case of accident or if you feel unwell, seek medical advice immediately (show label when possible). Wear suitable protective clothing, gloves and eye/ face protection.

### IV. First-aid measures

In case of contact, immediately flush eyes or skin with copious amounts of water at least 15 minutes while removing contaminated clothing and shoes. Assure adequate flushing of eyes by separating eyelids with fingers. If inhaled, remove to fresh air. If not breathing give artificial respiration. If breathing is difficult, give oxygen. If swallowed, wash out mouth with water (provided person is conscious). Call a physician immediately. Wash all contaminated clothing before reuse.

### V. Fire extinguishing measures

Extinguishing media: Water spray. Carbon dioxide, dry chemical powder or appropriate foam.

Wear self-contained breathing apparatus and protective clothing to prevent contact with eyes and skin.

Unusual fire and explosion hazards: Emits toxic fumes under fire conditions.

### VI. Accidental release measures

Evacuate area. Wear self-contained breathing apparatus, rubber boots and heavy rubber gloves. Sweep up, avoid raising dust, place in a bag and hold for waste disposal. Ventilate area and wash spill site after material pickup is complete.

#### VII. Handling and storage

Wear appropriate government-approved respirator, compatible chemical-resistant gloves, chemical safety goggles, and all other protective clothing. Use only in a chemical fume hood. Safety shower and eye bath. Do not breathe dust. Avoid contact with eyes, clothing or skin. Avoid prolonged or repeated exposure. Wash thoroughly after handling.  
Store at 2-8°C. Keep tightly closed.

#### VIII. Physical properties

Appearance: Deep red solid powder  
PH: N/A  
Melting point: 251°C  
Solubility: N/A

#### IX. Stability and reactivity

Stable. Avoid strong oxidizing agents, strong acids, and strong bases. Hazardous combustion or decomposition products thermal decomposition may produce carbon monoxide, carbon dioxide, and nitrogen oxides.  
Hazardous polymerization will not occur.

#### X. Toxicological information

May cause skin irritation. May be harmful if absorbed through the skin. May cause eye irritation. May be harmful if inhaled. Material may be irritating to mucous membranes and upper respiratory tract. May be fatal if swallowed. May cause allergic reaction.

Signs and symptoms of exposure: Inhalation may result in spasm, inflation and edema of the larynx and bronchi, chemical pneumonitis, and pulmonary edema.

Exposure can cause anemia, drowsiness, and weakness.

Target organ(s): Bone marrow. Liver. Kidneys.

##### Toxicity data:

Oral Rat LD50: 7.2 MG/KG

Intraperitoneal Rat LD50: 100 UG/KG

Subcutaneous Rat LD50: 800 UG/KG

Intravenous Rat LD50: 460 UG/KG

Oral Mouse LD50: 13 MG/KG

Intraperitoneal Mouse LD50: 750 UG/KG

Subcutaneous Mouse LD50: 1025 UG/KG

Oral Bird (wild) LD50: 1 MG/KG

##### Irritation data:

Skin Rabbit 24H: 5 MG



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Chronic exposure: This product is or contains a component that has been reported to be possibly carcinogenic based on its IARC, ACGIH, NTP, or EPA classification.

IARC carcinogen list:

Rating: Group 3

NTP carcinogen list:

Rating: Clear evidence (Intraperitoneal Rat)

Other toxicological information: Reproductive toxin may cause mutations or teratogenesis (harm to fetus).

Only selected registry of toxic effects of chemical substances (RTECS) data is presented here. See actual entry in trees for complete information.

XI. Ecological information:

Data not yet available.

XII. Disposal considerations

Contact a licensed professional waste disposal service to dispose of this material. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber. Observe all federal, state and local environmental regulations.

XIII. Transport information

Proper shipping name: Toxic solids, organic, n.o.s.

UN No.: 2811

Class: 6.1

Packing Group: Packing Group II

Hazard label: Toxic substances.

PIH: Not PIH

XIV. Regulatory information

European information

Very toxic

R: 28 40 42/43

Very toxic if swallowed. Limited evidence of a carcinogenic effect. May cause sensitization by inhalation and skin contact.

S: 22 28 36/37 45

Do not breathe dust. After contact with skin, wash immediately with plenty of soap-suds. Wear suitable protective clothing and gloves. In case of accident or if you feel unwell, seek medical advice immediately (show label where possible).

US information

Highly toxic (USA)

Very toxic if swallowed. Limited evidence of a carcinogenic effect. May cause sensitization by inhalation and skin contact.



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Do not breathe dust. After contact with skin, wash immediately with plenty of soap-suds. Wear suitable protective clothing and gloves. In case of accident or if you feel unwell, seek medical advice immediately (show label where possible). Possible carcinogen (US) Target organ(s): Bone marrow. Liver. Calif. Prop. 65 carcinogen & reproductive hazard.

SARA listed: No

California Prop. 65: This product is or contains chemical(s) know to the state of California to cause cancer. This product is or contains chemical(s) known to the state of California to cause developmental toxicity.

Canada information

This product has been classified in accordance with the hazard criteria of the CPR, and the MSDS contains all the information required by the CPR.

DSL: Yes

NDSL: No

#### X V . Other information

The information and recommendations set forth herein are believed to be completed and faithful. However, it is the user's responsibility to determine the suitability for his/ her purpose prior to use. Toku-E Company assumes no additional liability and responsibility resulting from use and/ or reliance on this information.