



MATERIAL SAFETY DATA SHEET


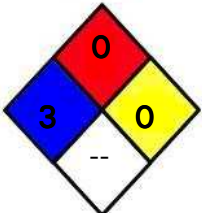
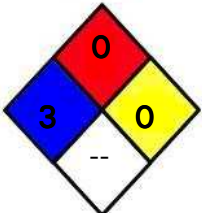
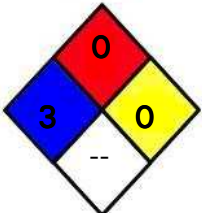
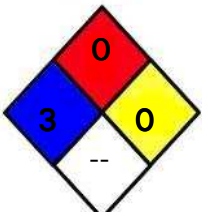
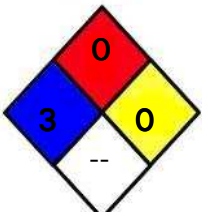
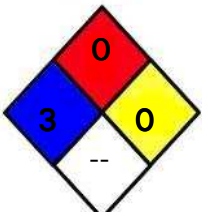
Section 1: Product & Company Identification

Product Name:	Actinomycin D
Product #:	A-1022
Synonyms:	Actinomycin C ₁ , Actinomycin IV, Dactinomycin
Supplier:	A.G. Scientific, Inc. 6450 Lusk Blvd E102 San Diego CA 92121 Tele# + 858-452-9925 Fax# + 858-452-9926
Emergency Tele#:	Chemtrec, Tele# in USA 1-800-424-9300, International 1-703-527-3887

Section 2: Composition / Information on Ingredients

Component	CAS#	EC #	%	Classification	R Phrases
	50-76-0	200-063-6	-		R28, 40, 42/43

Section 3: Hazards Identification

Symbols	 6 Toxic						
HMIS Classification	<p style="text-align: center;">FLAMMABILITY</p> <table style="margin: auto;"> <tr> <td style="text-align: center;">HEALTH</td> <td style="text-align: center;">  </td> <td style="text-align: center;">REACTIVITY</td> </tr> <tr> <td></td> <td style="text-align: center;">OTHER</td> <td></td> </tr> </table>	HEALTH		REACTIVITY		OTHER	
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HEALTH		REACTIVITY					
	OTHER						



Section 4: First Aid Measures

General Overview:	Avoid contact, wear suitable protective clothing, gloves and eye/face protection.
Inhalation:	May be harmful if inhaled. May cause respiratory tract irritation. If inhaled, remove to fresh air. If breathing is difficult, give oxygen. If not breathing give artificial respiration, seek medical attention.
Skin:	May be harmful if absorbed through skin. May cause skin irritation. May be fatal if absorbed through skin. Wash immediately with water for 15 minutes. Remove contaminated clothing. Wash contaminated clothing before reuse. Seek medical attention if symptoms appear.
Eyes:	May cause eye irritation. In case of contact, immediately flush eyes or skin with copious amounts of water for at least 15 minutes. Remove contacts. Assure adequate flushing of the eyes by separating the eyelids with fingers.
Ingestion:	May be fatal if swallowed. If swallowed, wash out mouth with water provided person is conscious. DO NOT induce vomiting. Seek medical attention if symptoms appear. Loosen tight clothing like collar, tie, belt or waistband.
	<i>See section 11 for more detailed information on health effects & symptoms</i>

SECTION 5: Fire Fighting Measures

Flammability of the product:	N/A
Extinguishing Media:	Dry Chemical Powder for SMALL FIRES and carbon dioxide or water spray, fog or foam for LARGE FIRES. Do not use water jet.
Hazardous thermal (de)composition products:	These products are carbon oxides (CO, CO ₂), nitrogen oxides (NO, NO ₂).
Special Fire Fighting Procedures:	Wear self-contained breathing apparatus (SCBA) and protective clothing to prevent contact with skin and eyes. Be sure to use an approved/certified respirator or equivalent.
Flash Point:	N/A

Section 6: Accidental Release Measures

Personal Precautions:	Use Personal Protection Equipment. Splash goggles. Full suit. Boots. Gloves. Avoid dust formation.
Environmental Precautions:	Do not let product enter drains.
Methods for Clean-up:	Sweep up & shovel into suitable disposal container. Ventilate area and wash spill site after material pickup is complete.

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SECTION 7: Handling & Storage

Storage:	+4°C. Keep container tightly closed and in a well ventilated area. Do not store above +4°C. Protect from light.
Handling:	Use only in area provided with appropriate exhaust ventilation. Keep away from heat and source of ignition. Empty containers pose a fire risk, evaporate residue under fume hood. Ground all equipment containing material. Do not breathe dust.

SECTION 8: Exposure controls / Personal Protection

Respiratory Protection:	 <p>Wear appropriate government (NIOSH/MSHA) approved respirator. Do not breathe vapor.</p>
Skin and Body:	  <p>Chemical-resistant gloves and lab coat/other protective clothing. Avoid prolonged or repeated exposure. Wash thoroughly after handling.</p>
Eyes:	 <p>Safety goggles.</p>

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Ventilation/Engineering Measures:	Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below recommended exposure limits.
Hygiene:	Wash hands after handling compound and before eating, smoking, using lavatory and at the end of the day.
Other:	Contains no substances with occupational exposure limit values.

SECTION 9: Physical and Chemical Properties

Appearance & Odor:	Powder
Color:	Dark red
Formula:	C ₆₂ H ₈₆ N ₁₂ O ₁₆
Molecular Wt.	1255.50 g/mol
Melting Pt.	251 °C (484 °F)
Boiling Pt.	N/A
Density:	N/A
Vapor Pressure:	N/A
Evaporation Rate:	N/A
Vapor Density:	N/A
Water Solubility:	N/A
Flash Point:	N/A
Autoignition Temp:	N/A

SECTION 10: Stability and Reactivity

Stability:	Stable
Hazardous decomposition products:	Hazardous decomposition products formed under fire conditions.
Materials to Avoid:	Strong oxidizing agents, strong acids, strong bases.
Conditions to avoid:	N/A

SECTION 11: Toxicological Information

RTECS#:	AU1575000
ACUTE Toxicity:	TOXIC LD ₅₀ Oral- rat- 7.2 mg/kg REMARKS: Diarrhea Blood: Other changes Delayed target organ effects Highly toxic by ingestion Reproductive hazard Target organs: Bone marrow, Liver, Kidney
CHRONIC Toxicity:	Repeat or prolonged exposure is not known to aggravate medical conditions.

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<p>Chronic Exposure: Carcinogen:</p> <p>Mutagen: Teratogen: Reproductive:</p>	<p>This product is or contains a component that is not classifiable as to its carcinogenicity based on its IARC, ACGIH, NTP or EPA classification. Laboratory experiments have shown mutagenic effects.</p> <p>N/A</p> <p>Genotoxicity in vitro- rat- Intraperitoneal: DNA damage Genotoxicity in vitro- rat- liver DNA damage</p> <p>Over exposure may cause reproductive disorder(s) based on tests with laboratory animals.</p> <p>IARC: 3 - Group 3: Not classifiable as to its carcinogenicity to humans (Dactinomycin)</p> <p>ACGIH: No components of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.</p> <p>NTP: No components of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.</p> <p>OSHA: No components of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.</p>
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SECTION 12: Ecological Information

Ecotoxicity:	N/A
Mobility:	N/A
Persistence and degradability:	N/A
Bioaccumulative potential:	N/A
Other adverse effects:	N/A
Corrosivity Characteristic:	N/A
General Notes:	Do not allow undiluted product or large quantities of it to reach groundwater , water course or sewer system. Do not allow materials to be released into the environment without proper government permits.

SECTION 13: Disposal Considerations

Residue Waste or Unused product:	<i>Only professional staff trained in such techniques must undertake waste disposal. Observe all appropriate federal, provincial or state and local regulations.</i>
Contaminated Packaging:	Do not re-use empty containers. Dispose of as unused product.





SECTION 14: Transportation Information

UN ID#:	UN2811
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<p>ADR / RID (LAND):</p> <p>Proper shipping name: Hazard Class: Packaging Group: Proper shipping name: Label:</p> <p>DOT regulations:</p> <p>Hazard Class: Identification number: Packaging Group: Proper shipping name: Label:</p>	<p></p> <p>UN2811 6.1 II TOXIC SOLIDS, ORGANIC, N.O.S. (ACTINOMYCIN D) 6</p> <p></p> <p>6.1 UN2811 II TOXIC SOLIDS, ORGANIC, N.O.S. (ACTINOMYCIN D) 6</p>
<p>IMDG/IMO (SEA):</p> <p>Hazard Class: Identification number: Packaging Group: Proper shipping name: Label: Marine Pollutant:</p>	<p></p> <p>6.1 UN2811 II TOXIC SOLIDS, ORGANIC, N.O.S. (ACTINOMYCIN D) 6 No</p>
<p>IATA/DGR (AIR):</p> <p>IATA Class: UN/ID Number: Label: Packaging Group: Proper shipping name:</p>	<p></p> <p>6.1 2811 6 II TOXIC SOLIDS, ORGANIC, N.O.S. (ACTINOMYCIN D)</p>
<p>Special Provisions:</p>	<p>N/A</p>

SECTION 15: Regulatory Information

<p>EU Regulations:</p>	<p>Very Toxic</p>
<p>SYMBOLS:</p>	<p> T+ Very toxic</p>

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Risk Phrases:	R28, 40,42/43: Very toxic if swallowed. Limited evidence of carcinogenic effect. May cause sensitization by inhalation and skin contact.
Safety Phrases:	S22, 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 the label where possible).
CAS# EC#	CAS# [50-76-0] 200-063-6
US Regulations:	TSCA. No products were found.
HCS Classification:	Not controlled under the HCS (United States).
U.S. Federal Regulations:	<p>OSHA Hazards: Target Organ Effect, Highly toxic by ingestion</p> <p>SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.</p> <p>311/312: Acute Health Hazard, Chronic Health Hazard</p> <p>SARA 313 toxic chemicals notification and release reporting: This material does not contain any chemical components with SARA Clean Water Act (CWA) 307: No products were found.</p> <p>Clean Water Act (CWA) 311: No products were found.</p> <p>Clean Air Act (CAA) 112 accidental release prevention: No products were found.</p> <p>Clean Air Act (CAA) 112 regulated flammable substances: No products were found.</p> <p>Clean Air Act (CAA) 112 regulated toxic substances: No products were found.</p> <p>Massachusetts Right To Know Components: Dactinomycin CAS-No.50-76-0 Revision Date 1993-04-24</p> <p>Pennsylvania Right To Know Components: Dactinomycin CAS-No. 50-76-0 Revision Date 1993-04-24</p> <p>New Jersey Right To Know Components: Dactinomycin CAS-No. 50-76-0 Revision Date 1993-04-24</p> <p>California Prop. 65 Components: WARNING! This product contains a chemical known to the State of California to cause cancer. WARNING! This product contains a chemical known to the State of California to cause birth defects or other reproductive harm. Dactinomycin CAS-No.50-76-0 Revision Date 2007-09-28</p>
WHMIS (Canada):	Not controlled under the WHMIS (Canada) No products were found.

SECTION 16: Other Information

LIABILITY STATEMENT: *The above information is believed to be correct but does not purport to be all-inclusive and shall be used only as a guide. A.G. Scientific shall not be held liable for any damages resulting from handling or from contact with the above product. A.G. Scientific products are for research purposes only. Not for human use or consumption.*