

**Safety Data Sheet (SDS)** According to the OSHA Hazard Communication Standard 29 CFR 1910.1200

**Issuing Date:** 2015-02-05

**Revision Date:** 2023-08-03

**Version:** 5

## SECTION 1. Identification

### Product identifier

**Product No** 15021  
**Product name** Actinomycin D  
**UN number** UN3462

### Recommended use of the chemical and restrictions on use

**Identified uses** For Research Use Only. Not for Use in Diagnostic Procedures.

### Manufacturer, importer, supplier

**Manufacturer address** Cell Signaling Technology, Inc.  
 3 Trask Lane  
 Danvers, MA 01923  
 United States  
 TEL: +1 978 867 2300  
 FAX: +1 978 867 2400  
**Website** www.cellsignal.com  
**Email address** support@cellsignal.com  
**Emergency telephone number** In case of emergency call CHEMTREC 1-800-424-9300

## SECTION 2. Hazard(s) identification

### Classification

This substance/mixture is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

<b>Acute oral toxicity</b>	Category 2
<b>Carcinogenicity</b>	Category 1B
<b>Reproductive toxicity</b>	Category 1A

### GHS Label elements, including precautionary statements



**Signal Word**  
 Danger.

**Hazard statement(s)**

Fatal if swallowed.  
May cause cancer.  
May damage fertility or the unborn child.

**Precautionary Statement(s)**

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.  
Wash face, hands and any exposed skin thoroughly after handling.  
Do not eat, drink or smoke when using this product.  
IF exposed or concerned: Get medical advice/attention  
IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician. Rinse mouth.  
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Immediately call a POISON CENTER or doctor/physician.  
Store locked up.  
Dispose of contents/container to an approved waste disposal plant.

**Supplementary Hazard Information****Hazards not otherwise classified (HNOC)**

Not applicable.

<b>SECTION 3. Composition/information on ingredients</b>
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<b>Formula</b>	C <sub>62</sub> H <sub>86</sub> N <sub>12</sub> O <sub>16</sub>
<b>Molecular Weight</b>	1255.4 g/mol
<b>Synonyms</b>	Actinomycin D; Dactinomycin; COSMEGEN®; 2-amino-4,6-dimethyl-3-oxo-1-N,9-N-bis[(3R,6S,7R,10S,16S)-7,11,14-trimethyl-2,5,9,12,15-pentaoxo-3,10-di(propan-2-yl)-8-oxa-1,4,11,14-tetrazabicyclo[14.3.0]nonadecan-6-yl]phenoxazine-1,9-dicarboxamide

Chemical name	CAS No	Weight-%
dactinomycin	50-76-0	100

<b>SECTION 4. First-aid measures</b>
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<b>Eye contact</b>	Rinse thoroughly with plenty of water, also under the eyelids. Consult a physician.
<b>Skin contact</b>	Wash off immediately with soap and plenty of water. Consult a physician.
<b>Inhalation</b>	Move to fresh air. Call a physician or poison control center immediately.
<b>Ingestion</b>	Immediate medical attention is required. Call a physician or Poison Control Center immediately. Clean mouth with water and afterwards drink plenty of water. Never give anything by mouth to an unconscious person.

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

Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.

**Indication of any immediate medical attention and special treatment needed**

Treat symptomatically.

**Advice for emergency responders**

**General advice**  
**Protection of first-aiders**

Show this safety data sheet to the doctor in attendance.  
Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves

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**SECTION 5. Fire-fighting measures**

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**Extinguishing media**

**Suitable Extinguishing Media** Water spray, Carbon dioxide (CO<sub>2</sub>), Dry chemical, Alcohol-resistant foam.

**Specific hazards arising from the chemical**

No information available.

**Hazardous Combustion Products**

Carbon oxides (COx). Nitrogen oxides (NOx).

**Explosion Data**

**Sensitivity to Mechanical Impact** None.

**Sensitivity to Static Discharge** None.

**Protective Equipment and Precautions for Firefighters**

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

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**SECTION 6. Accidental release measures**

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**Personal precautions, protective equipment and emergency procedures**

**For non-emergency personnel** Evacuate personnel to safe areas. Ensure adequate ventilation. Keep people away from and upwind of spill/leak. Avoid contact with skin, eyes and clothing. Use personal protective equipment. Avoid dust formation.

**Other information** No information available.

**Environmental precautions**

See Section 12 for additional information.

**Methods and material for containment and cleaning up**

**Methods for containment** Prevent further leakage or spillage if safe to do so.  
**Methods for cleaning up** Take up mechanically, placing in appropriate containers for disposal.

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**SECTION 7. Handling and storage**

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**Precautions for safe handling**

Handle in accordance with good industrial hygiene and safety practice. Wear personal protective equipment. Avoid contact with skin, eyes and clothing. Remove and wash contaminated clothing before re-use. Avoid dust formation in confined areas. Ensure adequate ventilation. Wash thoroughly after handling. Do not eat, drink or smoke when using this product.

**Conditions for safe storage, including any incompatibilities**

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<b>Technical measures/Storage conditions</b>	Keep containers tightly closed in a dry, cool and well-ventilated place.
<b>Packaging material</b>	No information available.
<b>Incompatible products</b>	Strong oxidizing agents, Strong acids, Strong bases.

## SECTION 8. Exposure controls/personal protection

### Control parameters

This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies

### Appropriate engineering controls

Showers, eyewash stations, and ventilation systems.

### Individual protection measures, such as personal protective equipment

Personal protective equipment (PPE) needs to be selected depending on the implemented engineering controls, frequency/duration of work activities and the concentrations of the hazardous substance.

<b>Eye/face protection</b>	Safety glasses with side-shields
<b>Skin and body protection</b>	Wear protective gloves/clothing.
<b>Respiratory protection</b>	Respirator must be worn if exposed to dust.
<b>Hygiene measures</b>	Handle in accordance with good industrial hygiene and safety practice.

## SECTION 9. Physical and chemical properties

### Information on basic physical and chemical properties

<b>Physical state</b>	Solid
<b>Appearance</b>	Powder
<b>Color</b>	Red / Orange
<b>Odor</b>	No information available
<b>Odor Threshold</b>	No information available

<u>Property</u>	<u>Values</u>	<u>Remarks</u>	<u>Method</u>
<b>pH</b>	No information available		
<b>Melting point/freezing point</b>	241.5 - 243 °C	(with decomposition)	
<b>Boiling point or initial boiling point and boiling range</b>	No information available		
<b>Flash point</b>	No information available	-	
<b>Evaporation rate</b>	No information available		
<b>Flammability</b>	No information available		
<b>Upper flammability limit</b>	No information available		
<b>Lower flammability limit</b>	No information available		
<b>Vapor pressure</b>	No information available		
<b>Relative vapor density</b>	No information available		
<b>Density and/or relative density</b>	No information available		
<b>Solubility</b>	No information available.		
<b>Solubility in other solvents</b>	No information available.		
<b>Partition coefficient: n-octanol/water</b>	No information available		
<b>Autoignition temperature</b>	No information available		
<b>Decomposition temperature</b>	No information available		
<b>Viscosity</b>	No information available		
<b>Viscosity, dynamic</b>	No information available		

### Other information

<b>Softening point</b>	No information available
<b>Molecular Weight</b>	1255.4 g/mol
<b>VOC content</b>	No information available
<b>Liquid Density</b>	No information available
<b>Bulk density</b>	No information available

## SECTION 10. Stability and reactivity

### Reactivity

No information available.

### Chemical stability

Stable under recommended storage conditions.

### Possibility of hazardous reactions

<b>Hazardous reactions</b>	None under normal processing.
<b>Hazardous polymerization</b>	None under normal processing.

### Conditions to Avoid

No information available.

### Incompatible Materials

Strong oxidizing agents. Strong acids. Strong bases.

### Hazardous Decomposition Products

Nitrogen oxides (NOx); Carbon oxides (COx)

## SECTION 11. Toxicological information

### Information on likely routes of exposure

<b>Inhalation</b>	May be harmful if inhaled.
<b>Eye contact</b>	Contact with eyes may cause irritation.
<b>Skin contact</b>	May be harmful in contact with skin.
<b>Ingestion</b>	May be fatal if swallowed. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea. May cause adverse liver effects.

### Information on toxicological effects

This material should only be handled by, or under the close supervision of, those properly qualified in the handling and use of potentially hazardous chemicals. It should be borne in mind that the toxicological and physiological properties of this compound is not well defined.

Chemical name	LD50 Oral	LD50 Dermal	LC50 Inhalation
dactinomycin	7.2 mg/kg (Rat)	-	-

### Delayed and immediate effects as well as chronic effects from short and long-term exposure

<b>Symptoms</b>	Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.
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**Sensitization  
Mutagenic effects**

No information available.  
Some in vivo tests have shown mutagenic effects. In vitro tests have shown mutagenic effects.

**Carcinogenicity**

Laboratory experiments on animals have reported the development of tumors

The table below indicates whether each agency has listed any ingredient as a carcinogen

Chemical name	IARC	NTP	OSHA
dactinomycin 50-76-0	3	-	-

**Legend:**

IARC: (International Agency for Research on Cancer) *Group 3: Unclassifiable as to carcinogenicity in humans*

**Reproductive toxicity**

May cause harm to the unborn child. Experiments have shown reproductive toxicity effects on laboratory animals.

**STOT - single exposure**

No information available.

**STOT - repeated exposure**

No information available.

**Target Organ Effects**

Liver, Reproductive system, Hematopoietic System, Eyes, Skin.

**Neurological effects**

No information available.

**Aspiration Hazard**

No information available.

## SECTION 12. Ecological information

**Ecotoxicity****Persistence and degradability**

No information available

**Mobility**

No information available

**Bioaccumulation**

No information available.

**Other adverse effects**

No information available.

## SECTION 13. Disposal considerations

**Waste Disposal Methods**

Dispose of in accordance with all applicable national environmental laws and regulations.

**Disposal considerations**

Do not empty into drains; dispose of this material and its container in a safe way. Dispose of wastes in an approved waste disposal facility.

## SECTION 14. Transport information

**DOT****UN number**

UN3462

**UN proper shipping name**

Toxins, extracted from living sources, solid, n.o.s. (actinomycin D)

**Transport hazard class(es)**

6.1

**Packing group** II

**IATA**

**UN number** UN3462  
**UN proper shipping name** Toxins, extracted from living sources, solid, n.o.s. (actinomycin D)  
**Transport hazard class(es)** 6.1  
**Packing group** II

## SECTION 15. Regulatory information

**North American Inventory Listing**

Chemical name	TSCA 8(b)	TSCA 12(b)	DSL	NDSL
dactinomycin	Not Listed	Not Listed	Not Listed	Not Listed

**Canadian Workplace Hazardous Materials Information System (WHMIS) Classification**

	Class D1A - Very Toxic Materials at $\geq 1\%$ Class D2A - Very Toxic Material at $\geq 0.1\%$ Class D2B - Toxic Material at $\geq 1\%$ Class E - Corrosive Material at $\geq 1\%$
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**SARA 313**

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.

**SARA 311/312 Hazard Categories**

<b>Acute Health Hazard</b>	Yes
<b>Chronic Health Hazard</b>	Yes
<b>Fire Hazard</b>	No
<b>Sudden Release of Pressure Hazard</b>	No
<b>Reactive Hazard</b>	No

**Clean Water Act**

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42).

**CERCLA**

This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material.

**California Proposition 65**

This product contains chemicals known to the State of California to cause cancer or reproductive toxicity

Chemical name	California Prop. 65
dactinomycin	Carcinogen Developmental

**U.S. State Right-to-Know Regulations**

This product contains the following U.S. State Right to Know chemicals:

Chemical name	New Jersey	Massachusetts	Pennsylvania
dactinomycin	Not Listed	Listed	Listed

**U.S. FIFRA Label Information**

This product does not contain any substances regulated as pesticides.

**US Commerce Department - Export Administration Regulations Information**

This product does not contain any substances regulated under the Chemical Weapons Convention (CWC).

**U.S. Drug Enforcement Administration Information**

This product does not contain any substances regulated under the DEA.

<b>SECTION 16. Other information</b>
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**Issuing Date:** 2015-02-05

**Revision Date:** 2023-08-03

**Disclaimer**

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

End of Safety Data Sheet