

**Safety Data Sheet (SDS)** According to the REACH Regulation (EC) No. 1907/2006

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

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

**Version:** 5

## SECTION 1: Identification of the substance/mixture and of the company/undertaking

### 1.1. Product identifier

**Product No** 15021  
**Product name** Actinomycin D

### Contains

<b>Chemical name</b> dactinomycin (100)	<b>Index No.</b> -	<b>CAS No</b> 50-76-0
<b>Formula</b> <b>Molecular Weight</b>	$C_{62}H_{86}N_{12}O_{16}$ 1255.4 g/mol	

### 1.2. Relevant identified uses of the substance or mixture and uses advised against

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

### 1.3. Details of the supplier of the safety data sheet

<b>Importer</b> Cell Signaling Technology Europe B.V. Dellaertweg 9b 2316 WZ Leiden The Netherlands TEL: +31 (0)71 7200 200 FAX: +31 (0)71 891 0019	<b>Manufacturer</b> Cell Signaling Technology, Inc. 3 Trask Lane Danvers, MA 01923 United States TEL: +1 978 867 2300 FAX: +1 978 867 2400
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**Website** www.cellsignal.com  
**E-mail Address** info@cellsignal.eu

### 1.4. Emergency telephone number

**CHEMTREC** 24 hours a day, 7 days a week, 365 days a year  
 +1 703 527 3887 (INTERNATIONAL) +1 800 424 9300 (NORTH AMERICA)

**Europe** 112

## SECTION 2: Hazards identification

### 2.1. Classification of the substance or mixture

**Regulation (EC) No. 1272/2008**

<b>Acute oral toxicity</b>	Category 2 - (H300)
<b>Carcinogenicity</b>	Category 1B - (H350)
<b>Reproductive toxicity</b>	Category 1A - (H360)

**2.2. Label elements**

**Signal word**  
Danger.

**Hazard statement(s)**

H300 - Fatal if swallowed.

H350 - May cause cancer.

H360 - May damage fertility or the unborn child.

**Precautionary statement(s)**

P201 - Obtain special instructions before use.

P202 - Do not handle until all safety precautions have been read and understood.

P264 - Wash face, hands and any exposed skin thoroughly after handling.

P270 - Do not eat, drink or smoke when using this product.

P280 - Wear protective gloves/protective clothing/eye protection/face protection.

P301 + P310 - IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.

P308 + P313 - IF exposed or concerned: Get medical advice/attention.

P330 - Rinse mouth.

P405 - Store locked up.

P501 - Dispose of contents/container to an approved waste disposal plant.

**2.3. Other hazards**

Avoid exposure during pregnancy.

For the full text of the H-phrases & EUH-phrases mentioned in this Section, see Section 16

## SECTION 3: Composition/information on ingredients

**3.1 Substances****Synonyms**

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

**Formula**

C<sub>62</sub>H<sub>86</sub>N<sub>12</sub>O<sub>16</sub>

Chemical name	CAS No	Weight-%	EC No	Classification (1272/2008)	REACH Registration Number
dactinomycin	50-76-0	100	200-063-6	Acute Tox. 2 (H300) Carc. 1B (H350) Repr. 1A (H360)	no data available

For the full text of the R-phrases mentioned in this Section, see Section 16

## SECTION 4: First aid measures

**4.1. Description of first aid measures**

<b>General advice</b>	Show this safety data sheet to the doctor in attendance.
<b>Inhalation</b>	Move to fresh air. Call a physician or poison control center immediately.
<b>Skin contact</b>	Wash off immediately with soap and plenty of water. Consult a physician.
<b>Eye contact</b>	Rinse thoroughly with plenty of water, also under the eyelids. Consult a physician.
<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.

**4.2. 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.

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

<b>Notes to physician</b>	Treat symptomatically.
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**SECTION 5: Firefighting measures**

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**5.1. Extinguishing media**

<b>Suitable Extinguishing Media</b>	Water spray. Carbon dioxide (CO <sub>2</sub> ). Dry chemical. Alcohol-resistant foam.
<b>Unsuitable Extinguishing Media</b>	No information available.

**5.2. Special hazards arising from the substance or mixture**

Thermal decomposition can lead to release of irritating gases and vapors.

<b>Hazardous Combustion Products</b>	Carbon oxides (COx). Nitrogen oxides (NOx).
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**5.3. Advice for firefighters**

Wear self-contained breathing apparatus and protective suit. Use personal protective equipment.

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**SECTION 6: Accidental release measures**

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

<b>For non-emergency personnel</b>	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.
<b>For emergency responders</b>	Use personal protection recommended in Section 8.

**6.2. Environmental precautions**

Should not be released into the environment. Prevent further leakage or spillage if safe to do so. Local authorities should be advised if significant spillages cannot be contained.

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

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

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**6.4. Reference to other sections**

See Sections 8 & 13 for additional information.

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**SECTION 7: Handling and storage**

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**7.1. 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.

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

Keep container tightly closed in a dry and well-ventilated place.

**7.3. Specific end use(s)**

Use as a laboratory reagent.

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**SECTION 8: Exposure controls/personal protection**

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**8.1. Control parameters**

Contains no substances with occupational exposure limit values.

**8.2. Exposure controls****Appropriate engineering controls**

Showers, eyewash stations, and ventilation systems.

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

<b>Eye/face protection</b>	Safety glasses with side-shields
<b>Skin protection</b>	Wear protective gloves and protective clothing
<b>Hand protection</b>	Impervious gloves.
<b>Other</b>	Wear suitable protective clothing.
<b>Respiratory protection</b>	Respirator must be worn if exposed to dust.

**Environmental Exposure Controls**

No information available.

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**SECTION 9: Physical and chemical properties**

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**9.1. Information on basic physical and chemical properties**

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

<b>Property</b>	<b>Values</b>	<b>Remarks • Method</b>
<b>pH</b>	No information available	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	No information available

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Flash point	No information available	No information available.
Evaporation rate	No information available	No information available
Flammability	No information available	No information available
Upper/lower flammability or explosive limits	No information available	No information available
Vapor pressure	No information available	No information available
Relative vapor density	No information available	No information available
Density and/or relative density	No information available	No information available
Solubility	No information available.	No information available
Partition coefficient: n-octanol/water	No information available	No information available
Autoignition temperature	No information available	No information available
Decomposition temperature	No information available	No information available.
Viscosity	No information available	No information available
Explosive properties	No information available	No information available
Oxidizing properties	No information available	No information available

**9.2. Other information**

Softening point	No information available
Molecular Weight	1255.4 g/mol
Solubility in other solvents	Soluble in dimethyl sulfoxide (DMSO) @ 50 mg/mL, Ethanol, propylene glycol
VOC content	No information available
Liquid Density	No information available

**SECTION 10: Stability and reactivity****10.1. Reactivity**

No information available.

**10.2. Chemical stability**

Stable under normal conditions.

**10.3. Possibility of hazardous reactions**

Hazardous polymerization	Hazardous polymerization does not occur.
Hazardous reactions	None under normal processing.

**10.4. Conditions to avoid**

None known based on information supplied.

**10.5. Incompatible materials**

Strong oxidizing agents, Strong acids, Strong bases.

**10.6. Hazardous decomposition products**

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

**SECTION 11: Toxicological information****11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008**

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

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not well defined.

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

#### 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.

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

<b>Skin corrosion/irritation</b>	No information available.
<b>Serious eye damage/eye irritation</b>	No information available.
<b>Sensitization</b>	No information available.
<b>Mutagenic effects</b>	Some in vivo tests have shown mutagenic effects. In vitro tests have shown mutagenic effects.
<b>Carcinogenicity</b>	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	European Union	IARC
dactinomycin		3

**Legend:**

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

<b>Reproductive toxicity</b>	May cause harm to the unborn child. Experiments have shown reproductive toxicity effects on laboratory animals.
<b>STOT - single exposure</b>	No information available.
<b>STOT - repeated exposure</b>	No information available.
<b>Target Organ Effects</b>	Liver, Reproductive system, Hematopoietic System, Eyes, Skin.
<b>Aspiration Hazard</b>	No information available.

#### 11.2. Information on other hazards

No information available.

## SECTION 12: Ecological information

#### 12.1. Toxicity

No information available.

<b>Unknown Aquatic Toxicity</b>	100% of the mixture consists of components of unknown hazards to the aquatic environment.
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#### 12.2. Persistence and degradability

No information available

#### 12.3. Bioaccumulative potential

**Bioaccumulation** No information available.

**Bioconcentration factor (BCF)** No information available.

**12.4. Mobility in soil**

No information available.

**12.5. Results of PBT and vPvB assessment**

No information available.

**12.6. Endocrine disrupting properties**

No information available

**12.7. Other adverse effects**

No information available

## **SECTION 13: Disposal considerations**

**13.1. Waste treatment methods**

<b>Waste from residues / unused products</b>	Dispose of in accordance with local regulations.
<b>Contaminated packaging</b>	Empty containers should be taken to an approved waste handling site for recycling or disposal.
<b>Other information</b>	Waste codes should be assigned by the user based on the application for which the product was used.

## **SECTION 14: Transport information**

**IMDG/IMO**

<b>14.1 UN number</b>	UN3462
<b>14.2 UN proper shipping name</b>	Toxic solid, corrosive, organic, n.o.s. (dactinomycin)
<b>14.3 Transport hazard class(es)</b>	6.1
<b>14.4 Packing group</b>	II
<b>14.5 Environmental hazards</b>	None
<b>14.6 Special precautions for user</b>	None
<b>14.7 Maritime transport in bulk according to IMO instruments</b>	Not regulated

**ADR/RID**

<b>14.1 UN number</b>	UN3462
<b>14.2 UN proper shipping name</b>	Toxins, extracted from living sources, solid, n.o.s. (actinomycin D)
<b>14.3 Transport hazard class(es)</b>	6.1
<b>14.4 Packing group</b>	II
<b>14.5 Environmental hazards</b>	None
<b>14.6 Special precautions for user</b>	None

**IATA**

<b>14.1 UN number</b>	UN3462
<b>14.2 UN proper shipping name</b>	Toxins, extracted from living sources, solid, n.o.s. (actinomycin D)
<b>14.3 Transport hazard class(es)</b>	6.1

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14.4 Packing group	II
14.5 Environmental hazards	None
14.6 Special precautions for user	None

## SECTION 15: Regulatory information

### 15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

#### Candidate List of Substances of Very High Concern for Authorization Information

This product does not contain Substances of Very High Concern (SVHC).

#### SEVESO Directive Information

H2 - Acute Toxic [50 tonnes (Lower-tier) 200 tonnes (Upper-tier)]

#### International inventories

TSCA 8(b)	-
DSL/NDSL	-
EINECS/ELINCS	Complies
ENCS	-
IECSC	-
KECL	-
PICCS	-
AICS	-

#### International inventories legend

**TSCA** - United States Toxic Substances Control Act Section 8(b) Inventory  
**DSL/NDSL** - Canadian Domestic Substances List/Non-Domestic Substances List  
**EINECS/ELINCS** - European Inventory of Existing Commercial Chemical Substances/EU List of Notified Chemical Substances  
**ENCS** - Japan Existing and New Chemical Substances  
**IECSC** - China Inventory of Existing Chemical Substances  
**KECL** - Korean Existing and Evaluated Chemical Substances  
**PICCS** - Philippines Inventory of Chemicals and Chemical Substances  
**AICS** - Australian Inventory of Chemical Substances

### 15.2. Chemical safety assessment

For this substance a chemical safety assessment has not been carried out

## SECTION 16: Other information

### Full text of H-Statements referred to under Sections 2 and 3

H300 - Fatal if swallowed  
H350 - May cause cancer  
H360 - May damage fertility or the unborn child

**Classification procedure:** Expert judgment and weight of evidence determination.

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

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#### 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.