

1 Identification

- **Product identifier**
- **Trade name:** Actinomycin D BioChemica
- **Article number:** A1489
- **CAS Number:**
50-76-0
- **EC number:**
200-063-6
- **Application of the substance / the mixture**
For lab use only. Not for drug, household or other uses.
Laboratory chemical
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
AppliChem GmbH
Ottoweg 4
D-64291 Darmstadt
- **Information department:** Dept. Compliance
- **Emergency telephone number:** +49(0)6151 93570 (Inside normal business hours)

Tel.: +49 (0)6151 93570
Fax.: +49 (0)6151 935711
msds@applichem.com

2 Hazard(s) identification

- **Classification of the substance or mixture**
Acute Tox. 2 H300 Fatal if swallowed.
 - **Label elements**
 - **GHS label elements**
The substance is classified and labeled according to the Globally Harmonized System (GHS).
 - **Hazard pictograms**
- 
- GHS06
- **Signal word** *Danger*
 - **Hazard-determining components of labeling:**
dactinomycin
 - **Hazard statements**
H300 Fatal if swallowed.
 - **Precautionary statements**
P264 Wash thoroughly after handling.
P301+P310 IF SWALLOWED: Immediately call a POISON CENTER/ doctor.
 - **Classification system:**
 - **NFPA ratings (scale 0 - 4)**



Trade name: Actinomycin D BioChemica

(Contd. of page 1)

· **HMIS-ratings (scale 0 - 4)**

HEALTH	3	Health = 3
FIRE	0	Fire = 0
REACTIVITY	0	Reactivity = 0

· **Other hazards**

· **Results of PBT and vPvB assessment**

· **PBT:** Not applicable.

· **vPvB:** Not applicable.

3 Composition/information on ingredients

· **Chemical characterization: Substances**

· **CAS No. Description**

50-76-0 dactinomycin

· **Identification number(s)** None

· **EC number:** 200-063-6

4 First-aid measures

· **Description of first aid measures**

· **After inhalation:** Supply fresh air or oxygen; call for doctor.

· **After skin contact:**

Wash off with plenty of water.

Immediately remove any clothing soiled by the product.

Seek medical treatment.

· **After eye contact:**

Rinse opened eye for several minutes under running water.

Seek medical treatment.

· **After swallowing:**

Rinse out mouth.

make victim drink water (maximum of 2 drinking glasses)

Do not induce vomiting; immediately call for medical help.

· **Information for doctor:**

· **Most important symptoms and effects, both acute and delayed** No further relevant information available.

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

No further relevant information available.

5 Fire-fighting measures

· **Extinguishing media**

· **Suitable extinguishing agents:**

CO₂, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.

· **Special hazards arising from the substance or mixture**

Formation of toxic gases is possible during heating or in case of fire.

In case of fire, the following can be released:

Nitrogen oxides (NO_x)

CO, CO₂

· **Advice for firefighters**

· **Protective equipment:** Wear self-contained respiratory protective device.

· **Additional information**

Dispose of fire debris and contaminated fire fighting water in accordance with official regulations.

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(Contd. on page 3)

Trade name: Actinomycin D BioChemica

(Contd. of page 2)

6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**
 - Avoid formation of dust.
 - Do not inhale dust.
 - Avoid substance contact.
 - Ensure adequate ventilation
- **Environmental precautions:** Do not allow to enter sewers/ surface or ground water.
- **Methods and material for containment and cleaning up:**
 - Pick up mechanically.
 - Avoid generation of dusts.
 - Ensure adequate ventilation.
 - Clean up affected area.
 - Dispose of the collected material according to regulations.
- **Reference to other sections**
 - See Section 7 for information on safe handling.
 - See Section 8 for information on personal protection equipment.
 - See Section 13 for disposal information.

7 Handling and storage

- **Handling:**
- **Precautions for safe handling**
 - Thorough dedusting.
 - Ensure good ventilation/exhaustion at the workplace.
 - Open and handle receptacle with care.
 - Any deposit of dust which cannot be avoided must be regularly removed.
- **Information about protection against explosions and fires:** Keep respiratory protective device available.
- **Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** No special requirements.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:**
 - Keep receptacle tightly sealed.
 - Open receptacle only under localized extractor facilities.
- **Recommended storage temperature:** 15-25 °C
- **Storage class:** 6.1 B
- **Specific end use(s)** No further relevant information available.

8 Exposure controls/personal protection

- **Additional information about design of technical systems:** No further data; see item 7.
- **Control parameters**
- **Components with limit values that require monitoring at the workplace:** Not required.
- **Additional information:** The lists that were valid during the creation were used as basis.
- **Exposure controls**
- **Personal protective equipment:**
- **General protective and hygienic measures:**
 - Immediately remove all soiled and contaminated clothing.
 - Wash hands before breaks and at the end of work.
 - Vacuum clean contaminated clothing. Do not blow or brush off contamination.
 - Avoid contact with the eyes and skin.
- **Breathing equipment:**
 - In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use respiratory protective device that is independent of circulating air.

(Contd. on page 4)

Trade name: Actinomycin D BioChemica

(Contd. of page 3)

Filter P3

Protection of hands:



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation. Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

Material of gloves

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.

Penetration time of glove material

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

For the permanent contact gloves made of the following materials are suitable:

Nitrile rubber, NBR

Recommended thickness of the material: ≥ 0.11 mm

Value for the permeation: Level ≥ 480 min

As protection from splashes gloves made of the following materials are suitable:

Nitrile rubber, NBR

Recommended thickness of the material: ≥ 0.11 mm

Value for the permeation: Level ≥ 480 min

Eye protection:



Tightly sealed goggles

Body protection:

Use protective suit.

Protective clothing should be selected specifically for the working place, depending on concentration and quantity of the hazardous substances handled.

9 Physical and chemical properties

Information on basic physical and chemical properties

General Information

Appearance:

Form: Crystalline powder

Color: Red

Odor: Recognizable

pH-value: Not applicable.

Change in condition

Melting point/Melting range: 241-243 °C (466-469 °F)

Boiling point/Boiling range: Undetermined.

Flash point: Not applicable.

Flammability (solid, gaseous): Product is not flammable.

Danger of explosion: Product does not present an explosion hazard.

Explosion limits:

Lower: Not determined.

Upper: Not determined.

Vapor pressure: Not applicable.

(Contd. on page 5)

Trade name: Actinomycin D BioChemica

(Contd. of page 4)

- **Density:** Not determined.
- **Solubility in / Miscibility with Water at 10 °C (50 °F):** 40 g/l
- **Viscosity:**
 - Dynamic:** Not applicable.
 - Kinematic:** Not applicable.
- **Solvent content:**
 - Organic solvents:** 0.0 %
 - VOC content:** 0.0 g/l / 0.00 lb/gl
- **Other information** No further relevant information available.

10 Stability and reactivity

- **Reactivity** No further relevant information available.
- **Chemical stability**
- **Thermal decomposition / conditions to be avoided:** Heating
- **Possibility of hazardous reactions** No dangerous reactions known.
- **Conditions to avoid** No further relevant information available.
- **Incompatible materials:** strong oxidants
- **Hazardous decomposition products:** In the event of fire: See chapter 5

11 Toxicological information

- **Information on toxicological effects**
 - **Acute toxicity:**
 - **LD/LC50 values that are relevant for classification:**
- | Components | Type | Value | Species |
|-----------------------------|------|-----------|---------|
| 50-76-0 dactinomycin | | | |
| Oral | LD50 | 7.2 mg/kg | (rat) |
- **Primary irritant effect:**
 - **on the skin:** Irritant to skin and mucous membranes.
 - **on the eye:** Irritating effect.
 - **Sensitization:** No sensitizing effects known.
 - **Additional toxicological information:** Danger through skin absorption.

- **Carcinogenic categories**

- **IARC (International Agency for Research on Cancer)**

50-76-0	dactinomycin	3
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- **NTP (National Toxicology Program)**

Substance is not listed.

- **OSHA-Ca (Occupational Safety & Health Administration)**

Substance is not listed.

12 Ecological information

- **Persistence and degradability** No further relevant information available.
- **Behavior in environmental systems:**
- **Bioaccumulative potential** No further relevant information available.
- **Mobility in soil** No further relevant information available.

(Contd. on page 6)

Trade name: Actinomycin D BioChemica

(Contd. of page 5)

- **Additional ecological information:**
- **General notes:**
Water hazard class 3 (Assessment by list): extremely hazardous for water
Danger to drinking water if even extremely small quantities leak into the ground.
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **Other adverse effects** No further relevant information available.

13 Disposal considerations

- **Waste treatment methods**
- **Recommendation:** Chemicals must be disposed of in compliance with the respective national regulations.
- **Uncleaned packagings:**
- **Recommendation:**
Disposal must be made according to official regulations.
Packagings that cannot be cleansed are to be disposed of in the same manner as the product.

14 Transport information

- **UN-Number**
- **DOT, ADR, IMDG, IATA** UN2811
- **UN proper shipping name**
- **DOT, ADR** Toxic solids, organic, n.o.s. (dactinomycine)
- **IMDG, IATA** TOXIC SOLID, ORGANIC, N.O.S. (dactinomycine)
- **Transport hazard class(es)**
- **DOT**
- 
- **Class** 6.1 Toxic substances
- **Label** 6.1
- **ADR**
- 
- **Class** 6.1 (T2) Toxic substances
- **Label** 6.1
- **IMDG, IATA**
- 
- **Class** 6.1 Toxic substances
- **Label** 6.1
- **Packing group**
- **DOT, ADR, IMDG, IATA** I

(Contd. on page 7)

Trade name: Actinomycin D BioChemica

(Contd. of page 6)

· Environmental hazards:	
· Marine pollutant:	No
· Special precautions for user	Warning: Toxic substances
· Danger code (Kemler):	66
· EMS Number:	F-A,S-A
· Stowage Category	B
· Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code	Not applicable.
· Transport/Additional information:	
· ADR	
· Excepted quantities (EQ)	Code: E5 Maximum net quantity per inner packaging: 1 g Maximum net quantity per outer packaging: 300 g
· IMDG	
· Limited quantities (LQ)	0
· Excepted quantities (EQ)	Code: E5 Maximum net quantity per inner packaging: 1 g Maximum net quantity per outer packaging: 300 g
· UN "Model Regulation":	UN 2811 TOXIC SOLIDS, ORGANIC, N.O.S. (DACTINOMYCINE), 6.1, I

15 Regulatory information

- Safety, health and environmental regulations/legislation specific for the substance or mixture
- Sara

· **Section 355 (extremely hazardous substances):**

Substance is not listed.

· **Section 313 (Specific toxic chemical listings):**

Substance is not listed.

· **TSCA (Toxic Substances Control Act):**

Substance is not listed.

· **Proposition 65**

· **Chemicals known to cause cancer:**

Substance is listed.

· **Chemicals known to cause reproductive toxicity for females:**

Substance is not listed.

· **Chemicals known to cause reproductive toxicity for males:**

Substance is not listed.

· **Chemicals known to cause developmental toxicity:**

Substance is listed.

· **Carcinogenicity categories**

· **EPA (Environmental Protection Agency)**

Substance is not listed.

· **TLV (Threshold Limit Value established by ACGIH)**

Substance is not listed.

· **NIOSH-Ca (National Institute for Occupational Safety and Health)**

Substance is not listed.

(Contd. on page 8)

Trade name: Actinomycin D BioChemica

(Contd. of page 7)

· **GHS label elements**

The substance is classified and labeled according to the Globally Harmonized System (GHS).

· **Hazard pictograms**



GHS06

· **Signal word** *Danger*

· **Hazard-determining components of labeling:**

dactinomycin

· **Hazard statements**

H300 Fatal if swallowed.

· **Precautionary statements**

P264 Wash thoroughly after handling.

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

· **Chemical safety assessment:** *A Chemical Safety Assessment has not been carried out.*

16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· **Department issuing SDS:** *Dept. Compliance*

· **Contact:** *Mr. Th. Stöckle*

· **Date of preparation / last revision** *10/06/2016 / 1*

· **Abbreviations and acronyms:**

RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)

ICAO: International Civil Aviation Organisation

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

ACGIH: American Conference of Governmental Industrial Hygienists

EINECS: European Inventory of Existing Commercial Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

NFPA: National Fire Protection Association (USA)

HMIS: Hazardous Materials Identification System (USA)

VOC: Volatile Organic Compounds (USA, EU)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

NIOSH: National Institute for Occupational Safety

OSHA: Occupational Safety & Health

TLV: Threshold Limit Value

PEL: Permissible Exposure Limit

REL: Recommended Exposure Limit

Acute Tox. 2: Acute toxicity – Category 2

· *** Data compared to the previous version altered.**