

1 Identification

- **Product identifier**
- **Trade name:** Tunicamycin
- **Article number:** A2242
- **CAS Number:**
11089-65-9
- **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.
Acute Tox. 2 H310 Fatal in contact with skin.
Acute Tox. 2 H330 Fatal if inhaled.
Repr. 1A H360 May damage fertility or the unborn child.
- **Label elements**
- **GHS label elements**
The substance is classified and labeled according to the Globally Harmonized System (GHS).
- **Hazard pictograms**

GHS06 GHS08
- **Signal word** *Danger*
- **Hazard-determining components of labeling:**
Tunicamycin
- **Hazard statements**
H300+H310+H330 Fatal if swallowed, in contact with skin or if inhaled.
H360 May damage fertility or the unborn child.
- **Precautionary statements**
P280 Wear protective gloves/protective clothing/eye protection/face protection.
P260 Do not breathe dust/fume/gas/mist/vapors/spray.
P201 Obtain special instructions before use.
P309+P311 IF exposed or if you feel unwell: Call a POISON CENTER or doctor/physician.

(Contd. on page 2)

Trade name: Tunicamycin

(Contd. of page 1)

- **Classification system:**
- **NFPA ratings (scale 0 - 4)**



- **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**
11089-65-9 Tunicamycin
- **Identification number(s)** None

4 First-aid measures

- **Description of first aid measures**
- **After inhalation:** Supply fresh air or oxygen; call for doctor.
- **After skin contact:**
Call a doctor immediately.
Immediately wash with water and soap and rinse thoroughly.
- **After eye contact:** Rinse opened eye for several minutes under running water. Then consult a doctor.
- **After swallowing:**
Do not induce vomiting; immediately call for medical help.
Call a doctor immediately.
- **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** No further relevant information available.
- **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.

6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**
Avoid formation of dust.

(Contd. on page 3)

Trade name: Tunicamycin

(Contd. of page 2)

- 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.*
 - Dispose contaminated material as waste according to item 13.*
 - Ensure adequate ventilation.*
 - Clean up affected area.*
- **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.*
- **Protective Action Criteria for Chemicals**

· **PAC-1:**

Substance is not listed.

· **PAC-2:**

Substance is not listed.

· **PAC-3:**

Substance is not listed.

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.*
 - Accessible for authorised persons only.*
 - **Recommended storage temperature:** *2-8 °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:**
 - Keep away from foodstuffs, beverages and feed.*
 - Immediately remove all soiled and contaminated clothing.*
 - Wash hands before breaks and at the end of work.*

(Contd. on page 4)

Trade name: Tunicamycin

(Contd. of page 3)

Store protective clothing separately.
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.
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:** Safety glasses

• **Body protection:**

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:	Solid
Color:	White
Odor:	Characteristic
Odor threshold:	Not determined.

• **pH-value:** Not applicable.

• **Change in condition**

Melting point/Melting range:	234 °C (453 °F)
Boiling point/Boiling range:	Undetermined.

• **Flash point:** Not applicable.

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

• **Ignition temperature:**

Decomposition temperature:	Not determined.
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• **Auto igniting:** Not determined.

(Contd. on page 5)

Trade name: Tunicamycin

(Contd. of page 4)

- | | |
|---|--|
| · Danger of explosion: | <i>Product does not present an explosion hazard.</i> |
| · Explosion limits: | |
| Lower: | <i>Not determined.</i> |
| Upper: | <i>Not determined.</i> |
| · Vapor pressure: | <i>Not applicable.</i> |
| · Density: | <i>Not determined.</i> |
| · Relative density | <i>Not determined.</i> |
| · Vapor density | <i>Not applicable.</i> |
| · Evaporation rate | <i>Not applicable.</i> |
| · Solubility in / Miscibility with Water: | <i>Insoluble.</i> |
| · Partition coefficient (n-octanol/water): | <i>Not determined.</i> |
| · Viscosity: | |
| Dynamic: | <i>Not applicable.</i> |
| Kinematic: | <i>Not applicable.</i> |
| · Solvent content: | |
| Organic solvents: | <i>0.0 %</i> |
| VOC content: | <i>0.0 g/l / 0.00 lb/gl</i> |
| · Other information | <i>No further relevant information available.</i> |

10 Stability and reactivity

- **Reactivity** *No further relevant information available.*
- **Chemical stability**
- **Thermal decomposition / conditions to be avoided:** *No decomposition if used according to specifications.*
- **Possibility of hazardous reactions** *Reacts with acids, alkalis and oxidizing agents.*
- **Conditions to avoid** *No further relevant information available.*
- **Incompatible materials:** *strong oxidants*
- **Hazardous decomposition products:** *No dangerous decomposition products known.*

11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity:**
- **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)**

Substance is not listed.

· **NTP (National Toxicology Program)**

Substance is not listed.

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

Substance is not listed.

US

(Contd. on page 6)

Trade name: Tunicamycin

(Contd. of page 5)

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.
- **Additional ecological information:**
- **General notes:**
Do not allow product to reach ground water, water course or sewage system, even in small quantities.
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.
Must not be disposed of together with household garbage. Do not allow product to reach sewage system.
- **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 | UN3462 |
| · UN proper shipping name | |
| · DOT, ADR | Toxins, extracted from living sources, solid, n.o.s. (Tunicamycin) |
| · IMDG, IATA | TOXINS, EXTRACTED FROM LIVING SOURCES, SOLID, N.O.S. (Tunicamycin) |
| · Transport hazard class(es) | |
| · DOT | |
| |  |
| · Class | 6.1 Toxic substances |
| · Label | 6.1 |
| · ADR | |
| |  |
| · Class | 6.1 (T2) Toxic substances |

(Contd. on page 7)

Trade name: Tunicamycin

(Contd. of page 6)

· Label	6.1
· IMDG, IATA	
	
· Class	6.1 Toxic substances
· Label	6.1
· Packing group	
· DOT, ADR, IMDG, IATA	II
· Environmental hazards:	
· Marine pollutant:	No
· Special precautions for user	Warning: Toxic substances
· 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: E4 Maximum net quantity per inner packaging: 1 g Maximum net quantity per outer packaging: 500 g
· IMDG	
· Limited quantities (LQ)	500 g
· Excepted quantities (EQ)	Code: E4 Maximum net quantity per inner packaging: 1 g Maximum net quantity per outer packaging: 500 g
· UN "Model Regulation":	UN 3462 TOXINS, EXTRACTED FROM LIVING SOURCES, SOLID, N.O.S. (TUNICAMYCIN), 6.1, II

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 not 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.

(Contd. on page 8)

Trade name: Tunicamycin

(Contd. of page 7)

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

Substance is not listed.

· **Cancerogenity 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.

· **GHS label elements**

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

· **Hazard pictograms**



GHS06 GHS08

· **Signal word Danger**

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

Tunicamycin

· **Hazard statements**

H300+H310+H330 Fatal if swallowed, in contact with skin or if inhaled.

H360 May damage fertility or the unborn child.

· **Precautionary statements**

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

P260 Do not breathe dust/fume/gas/mist/vapors/spray.

P201 Obtain special instructions before use.

P309+P311 IF exposed or if you feel unwell: Call a POISON CENTER or doctor/physician.

· **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** 10/21/2016 / 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

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)

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

(Contd. on page 9)

Trade name: Tunicamycin

Acute Tox. 2: Acute toxicity – Category 2
Repr. 1A: Reproductive toxicity – Category 1A

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

(Contd. of page 8)