

**Order  
Number**

**Customer  
Number**

**1. Identification of the substance/preparation and of the company/undertaking**

**Product name** : Mitomycin C, *Streptomyces caespitosus* **Catalog #** : 475820  
**Supplier** : Manufactured by EMD Biosciences, Inc.  
 10394 Pacific Center Court  
 San Diego, CA 92121  
 (858)450-5558/(800)854-3417  
 FAX: (858)453-3552

**Chemical formula** : C<sub>15</sub>H<sub>18</sub>N<sub>4</sub>O<sub>5</sub>

**Synonym** : Not available.

**Emergency telephone number** : **Call Chemtrec®**  
 (800)424-9300 (within U.S.A.)  
 (703)527-3887 (outside U.S.A.)

**2. Composition / information on ingredients**

**Substance/Preparation** : Substance

Chemical name*	CAS No.	EC Number	Symbol	R-Phrases
1) Mitomycin C, <i>Streptomyces caespitosus</i>	50-07-7	200-008-6	T+	R28

**3. Hazards identification**

**Physical/chemical hazards** : Not applicable.

**Human health hazards** : DANGER!  
 MAY BE FATAL IF SWALLOWED.  
 POSSIBLE CANCER HAZARD.  
 MAY CAUSE CANCER BASED ON ANIMAL DATA.  
 MAY CAUSE DAMAGE TO THE FOLLOWING ORGANS: GASTROINTESTINAL TRACT.

**4. First-aid measures**

First-Aid measures

**Inhalation** : If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

**Ingestion** : If swallowed, do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Loosen tight clothing such as a collar, tie, belt or waistband. Get medical attention immediately.

**Skin Contact** : In case of contact, immediately flush skin with plenty of water. Remove contaminated clothing and shoes. Cold water may be used. Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention.

**Eye Contact** : Check for and remove any contact lenses. In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Cold water may be used. Get medical attention.

Effects and symptoms

**Ingestion** : Extremely hazardous in case of ingestion. May be fatal if swallowed.

**Aggravating conditions** : Repeated exposure to a highly toxic material may produce general deterioration of health by an accumulation in one or many human organs.

**5. Fire-fighting measures**

**Flammability of the Product** : May be combustible at high temperature.

Extinguishing Media

**Suitable** : SMALL FIRE: Use DRY chemical powder.  
 LARGE FIRE: Use water spray, fog or foam. Do not use water jet.

**Hazardous thermal (de)composition products** : These products are carbon oxides (CO, CO<sub>2</sub>), nitrogen oxides (NO, NO<sub>2</sub>...).

- Special fire-fighting procedures** : Fire fighters should wear positive pressure self-contained breathing apparatus (SCBA) and full turnout gear.
- Protection of fire-fighters** : Be sure to use an approved/certified respirator or equivalent.

## 6. Accidental release measures

- Personal precautions** : Splash goggles. Full suit. Boots. Gloves. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product.
- Small Spill and Leak** : Use appropriate tools to put the spilled solid in a convenient waste disposal container.
- Large Spill and Leak** : Poisonous solid.  
Stop leak if without risk. Do not get water inside container. Do not touch spilled material. Use water spray to reduce vapors. Prevent entry into sewers, basements or confined areas; dike if needed. Eliminate all ignition sources. Call for assistance on disposal.

## 7. Handling and storage

- Handling** : Keep locked up. Keep away from heat. Keep away from sources of ignition. Empty containers pose a fire risk, evaporate the residue under a fume hood. Ground all equipment containing material. Do not ingest. Do not breathe dust. Wear suitable protective clothing. If ingested, seek medical advice immediately and show the container or the label. Keep away from incompatibles such as oxidizing agents, acids, alkalis.
- Storage** : Keep container tightly closed. Keep container in a cool, well-ventilated area. Do not store above 4°C (39.2°F).
- Packaging materials**
- Recommended use** : Use original container.

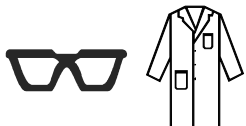
## 8. Exposure controls/personal protection

- Engineering measures** : Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below recommended exposure limits. If user operations generate dust, fume or mist, use ventilation to keep exposure to airborne contaminants below the exposure limit.
- Hygiene measures** : Wash hands, forearms, and face thoroughly after handling compounds and before eating, smoking, using lavatory, and at the end of day.

<u>Ingredient Name</u>	<u>Occupational Exposure Limits</u>
1) Mitomycin C, <i>Streptomyces caespitosus</i>	Not available.

### Personal protective equipment

- Respiratory system** : Wear appropriate respirator when ventilation is inadequate.
- Skin and body** : Lab coat.
- Eyes** : Safety glasses.
- Protective Clothing (Pictograms)** :



## 9. Physical and chemical properties

- Physical state** : Solid. (Solid powder.)
- Color** : Purple.
- Molecular Weight** : 334.3 g/mole
- Solubility** : Easily soluble in cold water, methanol.
- Flash point** : Not available.
- Explosive properties** : Risks of explosion of the product in presence of mechanical impact: Not available.  
Risks of explosion of the product in presence of static discharge: Not available.

## 10. Stability and reactivity

- Stability** : The product is stable.
- Conditions to avoid** : Sensitive to light.
- Materials to avoid** : Reactive with oxidizing agents, acids, alkalis.
- Hazardous Decomposition Products** : These products are carbon oxides (CO, CO<sub>2</sub>), nitrogen oxides (NO, NO<sub>2</sub>...).

## 11. Toxicological information

**RTECS #** : CN0700000

### Local effects

**Skin irritation** : Not available.

**Acute toxicity** : LD50: Not available.  
LC50: Not available.

**Chronic toxicity** : Repeated exposure to a highly toxic material may produce general deterioration of health by an accumulation in one or many human organs.

**Other Toxic Effects on Humans** : Toxic for humans or animal life.  
Extremely hazardous in case of ingestion.

May cause tumors.

Not available.

### Specific effects

**Carcinogenic effects** : Classified 2B (Possible for human.) by IARC. Classified None. by NIOSH.

**Mutagenic effects** : Not available.

**Reproduction toxicity** : Not available.

**Teratogenic effects** : Not available.

## 12. Ecological information

**Ecotoxicity** : Not available.

**Toxicity of the Products of Biodegradation** : The products of degradation are less toxic than the product itself.

## 13. Disposal considerations

**Methods of disposal; Waste of residues; Contaminated packaging** : Waste must be disposed of in accordance with federal, state and local environmental control regulations.

## 14. Transport information

### International transport regulations

**UN number** : UN2811

### Land - Road/Railway

**Proper shipping name** : Toxic solid, organic, n.o.s.\*

**ADR/RID Class** : CLASS 6.1: Toxic substance.

**Packing Group** : II

**ADR/RID label** :



### Sea

**Proper shipping name** : Toxic solid, organic, n.o.s.\*

**IMDG Class** : CLASS 6.1: Toxic substance.

**Packing Group** : II

**IMDG label** :



### Air

**Proper shipping name** : Toxic solid, organic, n.o.s.\*

**UN/ID Number** : UN2811


**IATA-DGR Class** : CLASS 6.1: Toxic substance.

IATA label : 

Special Provisions for Transport : Not available.

## 15. Regulatory information

### EU Regulations

Hazard symbol(s) : 

Classification : Very toxic

Risk Phrases : R28- Very toxic if swallowed.

Safety Phrases : S28.1- After contact with skin, wash immediately with plenty of water.  
S36/37- Wear suitable protective clothing and gloves.  
S45- In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

Contains : - Mitomycin C, *Streptomyces caespitosus*

### U.S. Federal Regulations

TSCA 5(a)2 proposed significant rules: Mitomycin C, *Streptomyces caespitosus*  
TSCA 5(a)2 final significant rules: Mitomycin C, *Streptomyces caespitosus*  
TSCA 8(b) inventory: Mitomycin C, *Streptomyces caespitosus*  
TSCA 12(b) annual export notification: Mitomycin C, *Streptomyces caespitosus*  
SARA 302/304/311/312 extremely hazardous substances: Mitomycin C, *Streptomyces caespitosus*  
SARA 302/304 emergency planning and notification: Mitomycin C, *Streptomyces caespitosus*  
SARA 302/304/311/312 hazardous chemicals: Mitomycin C, *Streptomyces caespitosus*  
SARA 311/312 MSDS distribution - chemical inventory - hazard identification: Mitomycin C, *Streptomyces caespitosus*: immediate health hazard, delayed health hazard  
SARA 313 toxic chemical notification and release reporting: No products were found.  
Clean Water Act (CWA) 307: No products were found.  
Clean Water Act (CWA) 311: No products were found.  
Clean air act (CAA) 112 accidental release prevention: No products were found.  
Clean air act (CAA) 112 regulated flammable substances: No products were found.  
Clean air act (CAA) 112 regulated toxic substances: No products were found.

### HCS Classification

: CLASS: May cause cancer.  
CLASS: Highly toxic.  
CLASS: Target organ effects.

### State Regulations

: California prop. 65: This product contains the following ingredients for which the State of California has found to cause cancer which would require a warning under the statute: Mitomycin C, *Streptomyces caespitosus*  
Pennsylvania RTK: Mitomycin C, *Streptomyces caespitosus* (special hazard, environmental hazard, generic environmental hazard)  
Massachusetts RTK: Mitomycin C, *Streptomyces caespitosus*  
New Jersey: Mitomycin C, *Streptomyces caespitosus*

### WHMIS (Canada)

: CLASS D-1A: Material causing immediate and serious toxic effects (VERY TOXIC).  
CLASS D-2A: Material causing other toxic effects (VERY TOXIC).  
CEPA NDSL: Mitomycin C, *Streptomyces caespitosus*

## 16. Other information

### Hazardous Material Information System (U.S.A.)

Health	*	4
Fire Hazard		1
Reactivity		0
Personal Protection		a

### National Fire Protection Association (U.S.A.)



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