

Cayman Chemical Company
 1180 E. Ellsworth Rd.
 Ann Arbor, MI 48108



Section 1. Identification of the Substance/Mixture and of the

1.1 Product Code: 13346

Product Name: Rapamycin

Synonyms: (7E,15E,17E,19E)-9,10,12,13,14,21,22,23,24,25,26,27,32,33,34aS-Hexadecahydro-9R,27-dihydroxy-3S-[(1R)-2-[(1S,3R,4R)-4-hydroxy-3-methoxycyclohexyl]-1-methylethyl]-10R,21S-dimethoxy-6R,8,12R,14S,20,26R-hexamethyl-23S,27R-epoxy-3H-pyrido[2,1-c][1,4]oxaazacyclohentriconine-1,5,11,28,29(4H,6H,31H)-pentone; Sirolimus;

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

Relevant identified uses: For research use only, not for human or veterinary use.

1.3 Details of the Supplier of the Safety Data Sheet

Company Name: Cayman Chemical Company

Emergency Contact: CHEMTREC Within USA and Canada: +1 (800)424-9300

Alternate Emergency Contact: CHEMTREC Outside USA and Canada: +1 (703)527-3887

Information: Cayman Chemical Company +1 (734)971-3335

Web site address: www.caymanchem.com

Section 2. Hazards Identification

GHS Classification	Placard	Key word	GHS hazard phrase
Germ Cell Mutagenicity, Category 2	Health hazard	Warning	Suspected of causing genetic defects
Toxic To Reproduction, Category 2	Health hazard	Warning	Suspected of damaging fertility or the unborn child
Target Organ Systemic Toxicity (repeated exposure), Category 1	Health hazard	Danger	Causes damage to {<target organs>} through prolonged or repeated exposure

GHS Hazard Phrases:
 H341: Suspected of causing genetic defects.
 H361: Suspected of damaging fertility or the unborn child.
 H372: Causes damage to organs through prolonged or repeated exposure.

GHS Precaution Phrases:
 P201: Obtain special instructions before use.
 P202: Do not handle until all safety precautions have been read and understood.
 P281: Use personal protective equipment as required.
 P264: Wash {hands} thoroughly after handling.
 P260: Do not breathe {dust/fume/gas/mist/vapours/spray}.

GHS Response Phrases:
 P308+313: IF exposed or concerned: Get medical attention/advice.
 P314: Get medical attention/advice if you feel unwell.

GHS Storage and Disposal Phrases:
 Please refer to Section 7 for Storage and Section 13 for Disposal information.

2.3 Adverse Human Health Effects and Symptoms:
 Causes damage to organs through prolonged or repeated exposure.
 Material may be irritating to the mucous membranes and upper respiratory tract.
 May be harmful by inhalation, ingestion, or skin absorption.
 May cause eye, skin, or respiratory system irritation.
 Suspected of causing genetic defects.
 Suspected of damaging fertility or the unborn child.
 To the best of our knowledge, the toxicological properties have not been thoroughly investigated.

Target Organs: No data available.

LD 50 / LC 50: Please refer to Section 11.

Medical Conditions Generally Aggravated By No data available.

Exposure:

Section 3. Composition/Information on Ingredients

Hazardous Components (Chemical Name)	CAS #	Concentration	EC#	Risk Phrases	RTECS #
1. Rapamycin	53123-88-9	100.0 %	610-965-5	R62-63-68	VE6250000

Section 4. First Aid Measures

4.1 Description of First Aid Measures:

- 4.1.1 In Case of Inhalation:** Remove to fresh air. If not breathing, give artificial respiration or give oxygen by trained personnel. Get immediate medical attention.
- 4.1.2 In Case of Skin Contact:** Immediately wash skin with soap and plenty of water for at least 20 minutes. Remove contaminated clothing. Get medical attention if symptoms occur. Wash clothing before reuse.
- 4.1.3 In Case of Eye Contact:** Hold eyelids apart and flush eyes with plenty of water for at least 20 minutes. Have eyes examined and tested by medical personnel.
- 4.1.4 In Case of Ingestion:** Wash out mouth with water provided person is conscious. Never give anything by mouth to an unconscious person. Get medical attention. Do NOT induce vomiting unless directed to do so by medical personnel.
- 4.2 Important Symptoms and Effects, Both Acute and Delayed:** No data available.
- 4.3 Indication of any immediate medical attention and special treatment needed:** No data available.

Section 5. Fire Fighting Measures

- 5.1 Suitable Extinguishing Media:** Use alcohol-resistant foam, carbon dioxide, water, or dry chemical spray. Use water spray to cool fire-exposed containers.
- Unsuitable Extinguishing Media:** A solid water stream may be inefficient.
- 5.2 Flammable Properties and Hazards:** No data available.
- Flash Pt:** No data.
- Autoignition Pt:** No data available.
- Explosive Limits:** LEL: No data. UEL: No data.
- Hazardous Combustion Products:** No data available.
- 5.3 Fire Fighting Instructions:** As in any fire, wear self-contained breathing apparatus pressure-demand (NIOSH approved or equivalent), and full protective gear to prevent contact with skin and eyes.

Section 6. Accidental Release Measures

- 6.1 Protective Precautions, Protective Equipment and Emergency Procedures:** Avoid raising and breathing dust, and provide adequate ventilation. As conditions warrant, wear a NIOSH approved self-contained breathing apparatus, or respirator, and appropriate personal protection (rubber boots, safety goggles, and heavy rubber gloves).
- 6.2 Environmental Precautions:** Take steps to avoid release into the environment, if safe to do so.
- 6.3 Methods and Material For Containment and Cleaning Up:** Contain spill and collect, as appropriate. Transfer to a chemical waste container for disposal in accordance with local regulations.

Section 7. Handling and Storage

- 7.1 Precautions To Be Taken in Handling:** Avoid breathing dust/fume/gas/mist/vapours/spray. Avoid prolonged or repeated exposure.
- 7.2 Precautions To Be Taken in Storing:** Keep container tightly closed. Store in accordance with information listed on the product insert.

Hazard Label Information: Avoid contact with skin and eyes. Do not reuse this container. Use with adequate ventilation. Wash thoroughly after handling.

Section 8. Exposure Controls/Personal Protection

Hazardous Components (Chemical Name)	CAS #	OSHA PEL	ACGIH TLV	Other Limits
1. Rapamycin	53123-88-9	No data.	No data.	No data.
Hazardous Components (Chemical Name)	CAS #	Britain EH40	France VL	Europe
1. Rapamycin	53123-88-9	No data.	No data.	No data.

Protective Equipment Summary - Hazard Label Information: Compatible chemical-resistant gloves Eye wash station in work area Lab coat Safety glasses Safety shower in work area Vent Hood

8.2.1 Engineering Controls (Ventilation etc.): Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits.

8.2.2.1 Eye Protection: Safety glasses

8.2.2.2 Protective Gloves: Compatible chemical-resistant gloves

Other Protective Clothing: Lab coat

8.2.2.3 Respiratory Equipment (Specify Type): NIOSH approved respirator, as conditions warrant.

Work/Hygienic/Maintenance Practices: Do not take internally. Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Wash thoroughly after handling.

8.2.3 Environmental Exposure Controls: No data available.

Section 9. Physical and Chemical Properties

9.1 Information on Basic Physical and Chemical Properties

Physical States: Gas Liquid Solid

Appearance and Odor: A crystalline solid

Melting Point: 183.00 C - 185.00 C

Boiling Point: No data.

Flash Pt: No data.

Evaporation Rate: No data.

Vapor Pressure (vs. Air or mm Hg): No data.

Vapor Density (vs. Air = 1): No data.

Specific Gravity (Water = 1): No data.

Solubility in Water: No data.

Solubility Notes: ~0.25 mg/ml in EtOH; ~10 mg/ml in DMF & DMSO;

Autoignition Pt: No data.

Explosive Properties: No data available.

Oxidizing Properties: No data available.

9.2 Other Information

Percent Volatile: No data.

Formula: C₅₁H₇₉NO₁₃

Molecular Weight: 914.20

Section 10. Stability and Reactivity

- 10.1 Reactivity:** No data available.
- 10.2 Stability:** Unstable [] Stable [X]
- 10.3 Stability Note(s):** Stable if stored in accordance with information listed on the product insert.
- 10.4 Conditions To Avoid:** No data available.
- 10.3 Polymerization:** Will occur [] Will not occur [X]
- 10.5 Incompatibility - Materials To Avoid:** strong oxidizing agents
- 10.6 Hazardous Decomposition Or Byproducts:** carbon dioxide
carbon monoxide
nitrogen oxides

Section 11. Toxicological Information

- 11.1 Information on Toxicological Effects:** The toxicological effects of this product have not been thoroughly studied.
- Rapamycin - Toxicity Data: Oral LD50 (mouse): >2,500 mg/kg; Intraperitoneal LD50 (rat): 18,220 µg/kg; Intravenous TDLo (rat): 450 µg/kg; Oral TDLO (human): 4.2 mg/kg/8W (intermittent);
- Chronic Toxicological Effects:** Rapamycin - Investigated as a mutagen and tumorigen. Only select Registry of Toxic Effects of Chemical Substances (RTECS) data is presented here. See actual entry in RTECS for complete information.
Rapamycin RTECS Number: VE6250000

Hazardous Components (Chemical Name)	CAS #	NTP	IARC	ACGIH	OSHA
1. Rapamycin	53123-88-9	n.a.	n.a.	n.a.	n.a.

Section 12. Ecological Information

- 12.1 Toxicity:** Avoid release into the environment.
Runoff from fire control or dilution water may cause pollution.

Section 13. Disposal Considerations

- 13.1 Waste Disposal Method:** Dispose in accordance with local, state, and federal regulations.

Section 14. Transport Information

- 14.1 LAND TRANSPORT (US DOT)**
- DOT Proper Shipping Name** Not dangerous goods.
- 14.1 LAND TRANSPORT (European ADR/RID)**
- ADR/RID Shipping Name** Not dangerous goods.
- 14.3 AIR TRANSPORT (ICAO/IATA)**
- ICAO/IATA Shipping Name** Not dangerous goods.
- Additional Transport Information:** Transport in accordance with local, state, and federal regulations.

Section 15. Regulatory Information

European Community Hazard Symbol codes Xn: Harmful; Reproductive Hazard: 3; Mutagenic Hazard: 3

European Community Risk and Safety Phrases

- R62 - Risk of impaired fertility.
- R63 - Possible risk of harm to the unborn child.
- R68 - Possible risk of irreversible effects
- S22 - Do not breathe dust.
- S24/25 - Avoid contact with skin and eyes.



SAFETY DATA SHEET

Rapamycin

S36/37/39 - Wear suitable protective clothing, gloves and eye/face protection.

S45 - In case of accident or if you feel unwell, seek medical advice immediately (show the label whenever possible.)

US EPA SARA Title III

Hazardous Components (Chemical Name)	CAS #	Sec.302 (EHS)	Sec.304 RQ	Sec.313 (TRI)	Sec.110
1. Rapamycin	53123-88-9	No	No	No	No

Other US EPA or State Lists

Hazardous Components (Chemical Name)	CAS #	CAA HAP,ODC	CWA NPDES	TSCA	CA PROP.65
1. Rapamycin	53123-88-9	No	No	No	No

Regulatory Information Statement:

This SDS was prepared in accordance with Regulation (EC) No.1272/2008 and European Directive 67/548/EEC as amended.

Section 16. Other Information

Revision Date: 09/12/2013

Company Policy or Disclaimer

DISCLAIMER: This information is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes.

N.A.=Not available, N.P.=Not applicable, N.D.=Not determined, N.E.=Not established, N.R.=Not required