



Safety  
Data  
Sheet

# Rapamycin

Sections [1](#) [2](#) [3](#) [4](#) [5](#) [6](#) [7](#) [8](#) [9](#) [10](#) [11](#) [12](#) [13](#) [14](#) [15](#) [16](#)

SDS Rapamycin vers 08-2024

Page 1 of 9

## 1. Identification of the Substance and the Manufacturer

### 1.1. Product identifiers

Product name	Rapamycin	Formula	C <sub>51</sub> H <sub>79</sub> NO <sub>13</sub>
Product Code	RAP-001	Molecular weight	914.17 g /mol
CAS	53123-88-9	Mixture?	Substance
<a href="#">ECHA</a>	<a href="#">610-965-5</a>	<a href="#">PUBCHEM</a>	<a href="#">5284616</a>
<a href="#">HSDB</a>	<a href="#">7284</a>	<a href="#">RTECS</a>	VE6250000
<a href="#">Drug bank</a>	<a href="#">drugs/DB00877</a>	<a href="#">T3DB</a>	<a href="#">T3D2921</a>
<a href="#">Comptox EPA</a>	<a href="#">5023582</a>	<a href="#">CHEBI</a>	<a href="#">CHEBI:9168</a>

Synonyms and other names	Rapamune	AY22989	Sirolimusum
	(-)-Rapamycin	Antibiotic AY 22989	<a href="#">Sirolimus</a>
	1R,9S,12S,15R,16E,18R,19R,21R,23S,24E,26E,28E,30S,32S,35R)-1,18-dihydroxy-12-((2S)-1-((1S,3R,4R)-4-hydroxy-3-methoxycyclohexyl)propan-2-yl)-19,30-dimethoxy-15,17,21,23,29,35-hexamethyl-11,36-dioxa-4-azatricyclo(30.3.1.0(4,9))hexatriaconta-16,24,26,28-tetraene-2,3,10,14,20-pentone		

Source	From: <i>Streptomyces hygroscopicus</i> subsp <i>hygroscopicus</i>	Vers. Date	19 October, 2024
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### 1.2. Intended uses of the Substance and uses advised against

1.2.1. Intended use:		1.2.2. Uses advised against:
Research and development.	Manufacturing of substances.	Not a drug, Not a food additive Not to be used in humans or animals.
Laboratory reagent.	To be used by professionals only	
Reference material.		

### 1.3. Contacts

1.3.1. Details of the supplier of the SDS	
<p>FERMENTEK ltd 4 Yatziv street, POB 47120 Jerusalem 97800, Israel</p>	<p>Tel: +972 2 5853953 Fax: +972 2 5853943 eMail: <a href="mailto:Fermentek@Fermentek.com">Fermentek@Fermentek.com</a> <a href="mailto:Safety@Fermentek.com">Safety@Fermentek.com</a> Website: <a href="http://Fermentek.com">Fermentek.com</a></p>

This company is the manufacturer of the product and the supplier of the safety data sheet





# Rapamycin

Sections [1](#) [2](#) [3](#) [4](#) [5](#) [6](#) [7](#) [8](#) [9](#) [10](#) [11](#) [12](#) [13](#) [14](#) [15](#) [16](#)

SDS Rapamycin vers 08-2024

Page 2 of 9

## 1.3.2. Emergency Telephone number

For chemical emergency spill, leak, fire, exposure, or accident calls CHEMTREC day or night:  
Within USA and Canada: 1-800-424-9300. Outside USA and Canada: +1 703-527-3887

## 2. Hazards' identification.

### 2.1. Classification of the Substance .

#### 2.1.1. GHS Classification: According to EU Reg. 1272/2008 and US OSHA 1910.1200)

Carcinogenicity	Cat. 2	H351	Suspected of causing cancer
STOT/RE	Cat. 1	H372	Causes damage to organs through prolonged or repeated exposure: Kidney/Ureter/Bladder

### 2.2. GHS Label elements, including precautionary statements

2.2.1. Pictogram: {  } Signal word: {Danger}

#### 2.2.2. Hazard Statements

H351	Suspected of causing cancer
H372	Causes damage to organs through prolonged or repeated exposure: Kidney/Ureter/Bladder

#### 2.2.3. GHS Precautionary Statements

P203	Obtain, read and follow all safety instructions before use.
P261	Avoid breathing dust or mist.
P264	Wash {hands} thoroughly after handling.
P270	Do not eat, drink or smoke when using this product.
P272	Contaminated work clothing should not be allowed out of the workplace.
P280	Wear protective gloves/protective clothing/eye protection/face protection/hearing protection

#### 2.2.4. GHS Response Phrases:

H341: P318	If exposed or concerned, get medical advice.
H372:P319	Get medical help if you feel unwell.

## 3. Composition/information on ingredients

Substance	^P
Substance Name:	Rapamycin
Concentration	<=100%
CAS Registry#:	53123-88-9
EC#:	610-965-5
Molecular Formula:	C <sub>51</sub> H <sub>79</sub> NO <sub>13</sub>





Safety  
Data  
Sheet

# Rapamycin

Sections [1](#) [2](#) [3](#) [4](#) [5](#) [6](#) [7](#) [8](#) [9](#) [10](#) [11](#) [12](#) [13](#) [14](#) [15](#) [16](#)

SDS Rapamycin vers 08-2024

Page 3 of 9

Molecular Weight:	914.17 g/mol
Classification	Carc:2 (H351), Stot:1(H372)
Mixture?	Substance

## 4. First Aid Measures.

### 4.1. Description of First Aid Measures.

General advice:	First-aiders need to protect themselves. If medical attention is required, show this safety data sheet to the doctor in attendance.
Ingestion:	If swallowed: give water to drink (two glasses at most). Seek medical advice immediately.

### 4.2. Most important symptoms and effects, both acute and delayed

General symptoms	<a href="#">See section 11</a>
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### 4.3. Indication of any immediate medical attention and special treatment needed

Note to physicians	No data available
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## 5. Fire-fighting measures.

### 5.1. Extinguishing media.

Suitable extinguishing media	Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.
Unsuitable extinguishing media	None known

### 5.2. Other information

Hazardous combustion products	Carbon oxides, Nitrogen oxides, $C_5H_7NO_{13}$
Advice for firefighters	Wear self-contained breathing apparatus for fire fighting if necessary. Wear protective suit.

## 6. Accidental release measures

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

Personal precautions	Use personal protective equipment as required. Keep people away from and upwind of spill/leak.
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### 6.2. Environmental precautions

Environmental precautions	Prevent further leakage or spillage if safe to do so. Prevent product from entering drains.
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**Safety  
Data  
Sheet**

# Rapamycin

Sections [1](#) [2](#) [3](#) [4](#) [5](#) [6](#) [7](#) [8](#) [9](#) [10](#) [11](#) [12](#) [13](#) [14](#) [15](#) [16](#)

SDS Rapamycin vers 08-2024

Page 4 of 9

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

Methods for containment:	Prevent further leakage or spillage if safe to do so. Cover the powder spill with a plastic sheet or tarp to minimize spreading. Dike far ahead of liquid spill for later disposal.
Methods for cleaning up:	Clean-up should be dealt with only by qualified personnel familiar with the specific substance. Cover liquid spill with sand, earth or other non-combustible absorbent material (e.g., sand, earth, diatomaceous earth, and vermiculite). Cover the powder spill with a plastic sheet or tarp to minimize spreading. Sweep up and shovel into suitable containers for disposal.

## 7. Handling and storage

### 7.1. Precautions for safe handling

Advice on safe handling:	Avoid contact with skin, eyes or clothing. Use personal protective equipment as required. Wash contaminated clothing before reuse. Do not breathe dust/fume/gas/mist/vapors/spray. Do not eat, drink or smoke when using this product.
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### 7.2. Conditions for safe storage, including any incompatibilities

Storage Conditions:	Keep container tightly closed in a dry and well-ventilated place. Keep out of the reach of children. Store at -20 °C.
Suitable packaging	Must only be kept in original packaging.
Incompatible materials:	None known based on information available.

## 8. Exposure Controls/Personal Protection

### Attention:

Usually, the product of concern would be present at the intended workplace in miniscule amounts, while surrounded by considerable amounts of other flammable, toxic or otherwise hazardous substances. Therefore, the employer/user should perform a risk assessment prior to the use of this product.

The type of protective equipment must be selected based on the amount and concentration of all dangerous materials being used in the workplace.

All recommendations included in this document are advisory in nature





# Rapamycin

Sections [1](#) [2](#) [3](#) [4](#) [5](#) [6](#) [7](#) [8](#) [9](#) [10](#) [11](#) [12](#) [13](#) [14](#) [15](#) [16](#)

SDS Rapamycin vers 08-2024

Page 5 of 9

## 8.1. Control parameters

Control parameters	Components with workplace control parameters
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## 8.2. Exposure controls

Appropriate engineering controls	Showers, Eyewash stations, Ventilation systems Avoid contact with skin, eyes, and clothing. Wash hands before breaks and immediately after handling the product. Use fume-hood for routine work.
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## 8.3. Personal protective equipment

[PPE=Personal Protection Equipment]	
PPE: Respiratory protection	Where risk assessment shows air-purifying respirators are appropriate use a full-face particle respirator type N100 (US) or type P3 (EN 143) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).
PPE: Hand Protection:	Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal techniques to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices, and wash and dry hands
PPE: Eye Protection:	Use a face shield and safety glasses. Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166 (EU)
PPE: Skin and Body Protection:	Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands. The selected protective gloves have to satisfy the specifications of Regulation (EU) 2016/425 and the standard EN 374 derived from it.

## 9. Physical and chemical properties

The information given here does not purport specification of warranty of any kind. It is designed only as guidance for safe handling, use, processing, storage, transportation, disposal, and release and is not to be considered a warranty or quality specification.

### 9.1. Physical/chemical properties

Physical State at room temperature	Solid
Appearance	White to slight yellow powder





**Safety  
Data  
Sheet**

# Rapamycin

Sections [1](#) [2](#) [3](#) [4](#) [5](#) [6](#) [7](#) [8](#) [9](#) [10](#) [11](#) [12](#) [13](#) [14](#) [15](#) [16](#)

SDS Rapamycin vers 08-2024

Page 6 of 9

No further safety relevant data are available

## 10. Stability and reactivity

Reactivity:	No information available.
Chemical stability:	Stable under normal conditions.
Conditions to avoid	Heat, flames and sparks. Sunlight.
Incompatible materials	Strong reducers and oxidizers
Possibility of Hazardous Reactions	None under normal processing
Hazardous combustion products	See section 5

## 11. Toxicological information

### 11.1. Information on toxicological effects

To the best of our knowledge, the toxicological effects of this product have not been thoroughly studied yet.

#### 11.1.1. Acute Toxicity

Acute toxicity:	Oral, Mouse, LD50>2500 mg/kg Intraperitoneal, Mouse, LD50=597 mg/kg
Skin corrosion/irritation:	No data available
Serious eye damage/eye irritation:	No data available
Respiratory or skin sensitization/corrosion:	No data available

#### 11.1.2. Chronic toxicity

Chronic toxicity	No data available
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#### 11.1.3. CRM (Carcinogene, Mutagene, Reproductive hazards)

Germ cell mutagenicity:	Mutations observed in rodent and human cells
Carcinogenicity:	IARC: Group 3: "Unclassifiable as to carcinogenicity in humans" There is no evidence at present that it causes cancer in humans.
Reproductive toxicity / Teratogenicity:	No data available

### 11.2. Additional information

RTECS number	VE6250000
General symptoms	Kidney/Ureter/Bladder - changes in blood vessels or in circulation of kidney Kidney/Ureter/Bladder - renal function tests depressed





# Rapamycin

Sections [1](#) [2](#) [3](#) [4](#) [5](#) [6](#) [7](#) [8](#) [9](#) [10](#) [11](#) [12](#) [13](#) [14](#) [15](#) [16](#)

SDS Rapamycin vers 08-2024

Page 7 of 9

Nutritional and Gross Metabolic - weight loss or decreased weight gain.

## 12. Ecological Information

Eco-Toxicity No data available

Other adverse effects No data available

## 13. Disposal Considerations

### 13.1. Waste treatment methods

Waste Disposal Dispose of in accordance with local regulations

Contaminated packaging Dispose of as unused product

## 14. Transport information

### 14.1. UN Number, Proper Shipping Name, Transport Hazard Class, packing group

	IATA	IMDG	ADR/RID	US/DOT
UN Number, Proper shipment name	Not classified ( Rapamycin)	Not classified ( Rapamycin)	Not classified ( Rapamycin)	Not classified ( Rapamycin)
Transport hazard Class, Packing group	Not hazardous for transport Not regulated	Not hazardous for transport Not regulated	Not hazardous for transport Not regulated	Not hazardous for transport Not regulated
Comments		Not marine pollutant		

## 15. Regulatory information

### 15.1. Safety, health, and environmental regulations/legislation

USA EPA / TSCA This product is not listed on the USA EPA TSCA (it is for research)

EU ECHA Status This product is registered with the EU ECHA, Number 610-965-5  
REACH: PreRegistered.  
ANNEX III (criteria for 1 - 10 tonne registered substances): Not Listed

## 16. Other information

### 16.1. Version information

Version date:8-2024 REPROTOX was removed, based on [HSDB 7284](#). Toxicity recalculated

### 16.2. Department issuing this SDS

Quality systems and regulatory affairs





## 16.3. General 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 here is designed only as 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 explicitly specified in the text.*

## 16.4. The users'/employers' responsibility:

*Usually, the product of concern would be present at the intended workplace in miniscule amounts, while surrounded by considerable amounts of other flammable, toxic or otherwise hazardous substances.*

*Therefore, the employer/user should perform a risk assessment by prior to the use of this product. The type of protective equipment must be selected based on the amount and concentration of all dangerous materials being used in the workplace.*

*All recommendations included in this document are advisory in nature.*

## 16.5. No © copyright



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## 16.6. End of SDS








# Rapamycin

Sections [1](#) [2](#) [3](#) [4](#) [5](#) [6](#) [7](#) [8](#) [9](#) [10](#) [11](#) [12](#) [13](#) [14](#) [15](#) [16](#)

SDS Rapamycin vers 08-2024

Page 9 of 9

## 16.7. Appendix A : Abbreviations and acronyms:

	<i>This symbol means, the text looking like a hyperlink, is a clickable link indeed. Of course, these are only active on glass screens, not on paper.</i>
<i>From /Synthetic /Semisynthetic</i>	<i>“From” means the compound was extracted from biomass, whether algal, fungal, microbial or plant material “Synthetic” means this compound has been manufactured by chemical conversion of another compound. Often, certain product is made by the method of microbial fermentation, purified, and then chemically converted into another compound. It may be called “semisynthetic”.</i>
<i>Mixture/Substance/ Complex</i>	<i>Substance means a single compound. , Mixture means there are two or more pure substances mixed purposely. Complex is a mixture of two or more substances which naturally occur together and are sold unseparated</i>
<i>Acute Tox.:</i>	<i>Acute toxicity</i>
<i>CAS:</i>	<i>Chemical Abstracts Service</i>
<i>ChEBI</i>	<i>Chemical Entities of Biological Interest</i>
<i>Comptox</i>	<i>CompTox Chemicals Dashboard Resource Hub (EPA)</i>
<i>DOT:</i>	<i>US Department of Transportation</i>
<i>ECHA</i>	<i>European Chemicals Agency</i>
<i>EINECS:</i>	<i>European Inventory of Existing Commercial Chemical Substances</i>
<i>EPA</i>	<i>United States Environmental Protection Agency</i>
<i>Eye Dam.:</i>	<i>Serious eye damage/eye irritation</i>
<i>HSDB</i>	<i>Hazardous Substances Data Bank</i>
<i>HMIS:</i>	<i>Hazardous Materials Identification System (USA)</i>
<i>IATA:</i>	<i>International Air Transport Association</i>
<i>IMDG:</i>	<i>International Maritime Code for Dangerous Goods</i>
<i>LC50:</i>	<i>Lethal concentration, Median</i>
<i>LD50:</i>	<i>Lethal dose, Median</i>
<i>LDL0</i>	<i>Letal dose, least published</i>
<i>NDG</i>	<i>Not dangerous goods (for transport)</i>
<i>NFPA:</i>	<i>National Fire Protection Association USA</i>
<i>NIOSH:</i>	<i>National Institute for Occupational Safety</i>
<i>NOAEL</i>	<i>No-Observed-Adverse-Effects-Level. Highest dose which yielded no results at toxicity test</i>
<i>OSHA:</i>	<i>Occupational Safety &amp; Health</i>
<i>PBT:</i>	<i>Persistent, Bioaccumulative, and Toxic</i>
<i>PEL:</i>	<i>Permissible Exposure Limit</i>
<i>PubChem</i>	<i>An open chemistry database at the National Institutes of Health (NIH). “</i>
<i>REL:</i>	<i>Recommended Exposure Limit</i>
<i>Repr.:</i>	<i>Reproductive toxicity, incl. hazards to reproductive systems, and pregnancy and the offspring.</i>
<i>RTECS:</i>	<i>Registry of Toxic Effects of Chemical Substances. Not free.</i>
<i>Skin Irrit:</i>	<i>Skin corrosion/irritation</i>
<i>STOT/SE</i>	<i>Specific target organ toxicity/Single exposure</i>
<i>STOT/RE</i>	<i>Specific target organ toxicity/Repeated exposure</i>
<i>T3DB</i>	<i>Toxin and Toxin Target Database</i>
<i>TDL0</i>	<i>Toxic dose, least published</i>

