

**1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND THE COMPANY/UNDERTAKING****Product Identifier****Material Name: Sirolimus Tablets (Greenstone LLC)**

**Trade Name:** Not applicable  
**Synonyms:** Sirolimus tablets  
**Chemical Family:** Macrocyclic lactone

**Relevant Identified Uses of the Substance or Mixture and Uses Advised Against****Intended Use:** Pharmaceutical product used as immunosuppressive agent**Details of the Supplier of the Safety Data Sheet**

Greenstone LLC  
100 Route 206 North  
Peapack, NJ 07977  
800-435-7095

**Emergency telephone number:**  
**CHEMTREC (24 hours): 1-800-424-9300**

**2. HAZARDS IDENTIFICATION****Classification of the Substance or Mixture****GHS - Classification**

Reproductive Toxicity: Category 1B

**Label Elements**

**Signal Word:** Danger  
**Hazard Statements:** H360FD - May damage fertility. May damage the unborn child.

**Precautionary Statements:** 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  
P308 + P313 - IF exposed or concerned: Get medical attention/advice  
P405 - Store locked up  
P501 - Dispose of contents/container in accordance with all local and national regulations

**Other Hazards**

An Occupational Exposure Value has been established for one or more of the ingredients (see Section 8).

**Note:** This document has been prepared in accordance with standards for workplace safety, which requires the inclusion of all known hazards of the product or its ingredients regardless of the potential risk. The precautionary statements and warning included may not apply in all cases. Your needs may vary depending upon the potential for exposure in your workplace.

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### 3. COMPOSITION/INFORMATION ON INGREDIENTS

**Hazardous**

| Ingredient                 | CAS Number | EU EINECS/ELINCS List | GHS Classification   | %       |
|----------------------------|------------|-----------------------|--|---------|
| Calcium sulfate            | 7778-18-9  | 231-900-3             | Not Listed   | *       |
| Ferric oxide red           | 1309-37-1  | 215-168-2             | Not Listed   | *       |
| Magnesium stearate         | 557-04-0   | 209-150-3             | Not Listed   | *       |
| Microcrystalline cellulose | 9004-34-6  | 232-674-9             | Not Listed   | *       |
| Polyethylene glycol        | 25322-68-3 | Not Listed            | Not Listed   | *       |
| Sirolimus                  | 53123-88-9 | Not Listed            | Repr.1B (H360FD)<br>Aquatic Acute 1 (H400)<br>Aquatic Chronic 1 (H410) | 0.1-0.6 |
| Sucrose                    | 57-50-1    | 200-334-9             | Not Listed   | *       |
| Lactose NF, monohydrate    | 64044-51-5 | Not Listed            | Not Listed   | *       |
| Talc (non-asbestiform)     | 14807-96-6 | 238-877-9             | Not Listed   | *       |
| Titanium dioxide           | 13463-67-7 | 236-675-5             | Not Listed   | *       |

| Ingredient                               | CAS Number   | EU EINECS/ELINCS List | GHS Classification | % |
|--|--------------|-----------------------|--------------------|---|
| Black Iron Oxide                         | 1317-61-9    | 215-277-5             | Not Listed         | * |
| Carnauba wax                             | 8015-86-9    | 232-399-4             | Not Listed         | * |
| DL-Alpha tocopherol                      | 10191-41-0   | 233-466-0             | Not Listed         | * |
| ETHYLENE OXIDE/PROPYLENE OXIDE COPOLYMER | 9003-11-6    | Not Listed            | Not Listed         | * |
| Ferric oxide yellow                      | 51274-00-1   | 257-098-5             | Not Listed         | * |
| Glyceryl monooleate                      | 25496-72-4   | 247-038-6             | Not Listed         | * |
| Pharmaceutical glaze                     | Not assigned | Not Listed            | Not Listed         | * |
| Povidone                                 | 9003-39-8    | Not Listed            | Not Listed         | * |

**Additional Information:**

\* Proprietary  
Ingredient(s) indicated as hazardous have been assessed under standards for workplace safety.  
In accordance with 29 CFR 1910.1200, the exact percentage composition of this mixture has been withheld as a trade secret.

**For the full text of the CLP/GHS abbreviations mentioned in this Section, see Section 16**

### 4. FIRST AID MEASURES

**Description of First Aid Measures**

- Eye Contact:** Flush with water while holding eyelids open for at least 15 minutes. Seek medical attention immediately.
- Skin Contact:** Remove contaminated clothing. Flush area with large amounts of water. Use soap. Seek medical attention.
- Ingestion:** Never give anything by mouth to an unconscious person. Wash out mouth with water. Do not induce vomiting unless directed by medical personnel. Seek medical attention immediately.
- Inhalation:** Remove to fresh air and keep patient at rest. Seek medical attention immediately.

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### Most Important Symptoms and Effects, Both Acute and Delayed

**Symptoms and Effects of Exposure:** For information on potential signs and symptoms of exposure, See Section 2 - Hazards Identification and/or Section 11 - Toxicological Information.  
**Medical Conditions Aggravated by Exposure:** None known

### Indication of the Immediate Medical Attention and Special Treatment Needed

**Notes to Physician:** None

## 5. FIRE FIGHTING MEASURES

**Extinguishing Media:** Extinguish fires with CO2, extinguishing powder, foam, or water.

### Special Hazards Arising from the Substance or Mixture

**Hazardous Combustion Products:** Formation of toxic gases is possible during heating or fire.

**Fire / Explosion Hazards:** Fine particles (such as dust and mists) may fuel fires/explosions.

### Advice for Fire-Fighters

During all firefighting activities, wear appropriate protective equipment, including self-contained breathing apparatus.

## 6. ACCIDENTAL RELEASE MEASURES

### Personal Precautions, Protective Equipment and Emergency Procedures

Personnel involved in clean-up should wear appropriate personal protective equipment (see Section 8). Minimize exposure.

### Environmental Precautions

Place waste in an appropriately labeled, sealed container for disposal. Care should be taken to avoid environmental release.

### Methods and Material for Containment and Cleaning Up

**Measures for Cleaning / Collecting:** Contain the source of spill if it is safe to do so. Collect spilled material by a method that controls dust generation. A damp cloth or a filtered vacuum should be used to clean spills of dry solids. Clean spill area thoroughly.

**Additional Consideration for Large Spills:** Non-essential personnel should be evacuated from affected area. Report emergency situations immediately. Cleanup operations should only be undertaken by trained personnel.

## 7. HANDLING AND STORAGE

### Precautions for Safe Handling

Minimize dust generation and accumulation. If tablets or capsules are crushed and/or broken, avoid breathing dust and avoid contact with eyes, skin, and clothing. When handling, use appropriate personal protective equipment (see Section 8). Wash thoroughly after handling. Refer to Section 12 - Ecological Information, for information on potential effects on the environment. Releases to the environment should be avoided. Review and implement appropriate technical and procedural waste water and waste disposal measures to prevent occupational exposure or environmental releases. Potential points of process emissions of this material to the atmosphere should be controlled with dust collectors, HEPA filtration systems or other equivalent controls.

### Conditions for Safe Storage, Including any Incompatibilities

**Storage Conditions:** Store as directed by product packaging.

**Specific end use(s):** Pharmaceutical drug product

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### 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

#### Control Parameters

Refer to available public information for specific member state Occupational Exposure Limits.

#### Calcium sulfate

|                                   |                        |
|-----------------------------------|------------------------|
| ACGIH Threshold Limit Value (TWA) | 10 mg/m <sup>3</sup>   |
| Australia TWA                     | 10 mg/m <sup>3</sup>   |
| Austria OEL - MAKs                | 5 mg/m <sup>3</sup>    |
| Belgium OEL - TWA                 | 10 mg/m <sup>3</sup>   |
| Bulgaria OEL - TWA                | 10.0 mg/m <sup>3</sup> |
| France OEL - TWA                  | 10 mg/m <sup>3</sup>   |
| Germany - TRGS 900 - TWAs         | 6 mg/m <sup>3</sup>    |
| Germany (DFG) - MAK               | 1.5 mg/m <sup>3</sup>  |
|                                   | 4 mg/m <sup>3</sup>    |
| Hungary OEL - TWA                 | 6 mg/m <sup>3</sup>    |
| Ireland OEL - TWAs                | 10 mg/m <sup>3</sup>   |
| Latvia OEL - TWA                  | 4 mg/m <sup>3</sup>    |
| OSHA - Final PELs - TWAs:         | 15 mg/m <sup>3</sup>   |
| Portugal OEL - TWA                | 10 mg/m <sup>3</sup>   |
| Slovakia OEL - TWA                | 6 mg/m <sup>3</sup>    |
| Slovenia OEL - TWA                | 6 mg/m <sup>3</sup>    |
| Spain OEL - TWA                   | 10 mg/m <sup>3</sup>   |

#### Ferric oxide red

|                                   |                       |
|-----------------------------------|-----------------------|
| ACGIH Threshold Limit Value (TWA) | 5 mg/m <sup>3</sup>   |
| Australia TWA                     | 5 mg/m <sup>3</sup>   |
|                                   | 10 mg/m <sup>3</sup>  |
| Austria OEL - MAKs                | 5 mg/m <sup>3</sup>   |
|                                   | 10 mg/m <sup>3</sup>  |
| Belgium OEL - TWA                 | 5 mg/m <sup>3</sup>   |
| Bulgaria OEL - TWA                | 5.0 mg/m <sup>3</sup> |
| Denmark OEL - TWA                 | 3.5 mg/m <sup>3</sup> |
| Estonia OEL - TWA                 | 3.5 mg/m <sup>3</sup> |
| Finland OEL - TWA                 | 5 mg/m <sup>3</sup>   |
| France OEL - TWA                  | 5 mg/m <sup>3</sup>   |
| Greece OEL - TWA                  | 10 mg/m <sup>3</sup>  |
| Hungary OEL - TWA                 | 6 mg/m <sup>3</sup>   |
| Ireland OEL - TWAs                | 5 mg/m <sup>3</sup>   |
|                                   | 10 mg/m <sup>3</sup>  |
|                                   | 4 mg/m <sup>3</sup>   |
| Lithuania OEL - TWA               | 3.5 mg/m <sup>3</sup> |
| OSHA - Final PELs - TWAs:         | 10 mg/m <sup>3</sup>  |
|                                   | 15 mg/m <sup>3</sup>  |
| Poland OEL - TWA                  | 5 mg/m <sup>3</sup>   |
| Portugal OEL - TWA                | 5 mg/m <sup>3</sup>   |
| Romania OEL - TWA                 | 5 mg/m <sup>3</sup>   |
| Slovakia OEL - TWA                | 1.5 mg/m <sup>3</sup> |
| Spain OEL - TWA                   | 5 mg/m <sup>3</sup>   |
| Sweden OEL - TWAs                 | 3.5 mg/m <sup>3</sup> |

#### Magnesium stearate

|                     |                     |
|---------------------|---------------------|
| Lithuania OEL - TWA | 5 mg/m <sup>3</sup> |
| Sweden OEL - TWAs   | 5 mg/m <sup>3</sup> |

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### Microcrystalline cellulose

|                                   |                      |
|-----------------------------------|----------------------|
| ACGIH Threshold Limit Value (TWA) | 10 mg/m <sup>3</sup> |
| Australia TWA                     | 10 mg/m <sup>3</sup> |
| Belgium OEL - TWA                 | 10 mg/m <sup>3</sup> |
| Estonia OEL - TWA                 | 10 mg/m <sup>3</sup> |
| France OEL - TWA                  | 10 mg/m <sup>3</sup> |
| Ireland OEL - TWAs                | 10 mg/m <sup>3</sup> |
|                                   | 4 mg/m <sup>3</sup>  |
| Latvia OEL - TWA                  | 2 mg/m <sup>3</sup>  |
| OSHA - Final PELS - TWAs:         | 15 mg/m <sup>3</sup> |
| Portugal OEL - TWA                | 10 mg/m <sup>3</sup> |
| Romania OEL - TWA                 | 10 mg/m <sup>3</sup> |
| Spain OEL - TWA                   | 10 mg/m <sup>3</sup> |

### Polyethylene glycol

|                           |   |
|---------------------------|---|
| Austria OEL - MAKs        | 1000 mg/m <sup>3</sup>                                  |
| Germany - TRGS 900 - TWAs | 1000 mg/m <sup>3</sup>                                  |
| Germany (DFG) - MAK       | 1000 mg/m <sup>3</sup> average molecular weight 200-600 |
| Slovakia OEL - TWA        | 1000 mg/m <sup>3</sup>                                  |
| Slovenia OEL - TWA        | 1000 mg/m <sup>3</sup>                                  |

### Sirolimus

|                   |                      |
|-------------------|----------------------|
| Manufacturer OEL: | 0.2ug/m <sup>3</sup> |
|-------------------|----------------------|

### Sucrose

|                                   |                        |
|-----------------------------------|------------------------|
| ACGIH Threshold Limit Value (TWA) | 10 mg/m <sup>3</sup>   |
| Australia TWA                     | 10 mg/m <sup>3</sup>   |
| Belgium OEL - TWA                 | 10 mg/m <sup>3</sup>   |
| Bulgaria OEL - TWA                | 10.0 mg/m <sup>3</sup> |
| Estonia OEL - TWA                 | 10 mg/m <sup>3</sup>   |
| France OEL - TWA                  | 10 mg/m <sup>3</sup>   |
| Ireland OEL - TWAs                | 10 mg/m <sup>3</sup>   |
| Latvia OEL - TWA                  | 5 mg/m <sup>3</sup>    |
| Lithuania OEL - TWA               | 10 mg/m <sup>3</sup>   |
| OSHA - Final PELS - TWAs:         | 15 mg/m <sup>3</sup>   |
| Portugal OEL - TWA                | 10 mg/m <sup>3</sup>   |
| Slovakia OEL - TWA                | 6 mg/m <sup>3</sup>    |
| Spain OEL - TWA                   | 10 mg/m <sup>3</sup>   |

### Talc (non-asbestiform)

|                                   |                           |
|-----------------------------------|---------------------------|
| ACGIH Threshold Limit Value (TWA) | 2 mg/m <sup>3</sup>       |
| Australia TWA                     | 2.5 mg/m <sup>3</sup>     |
| Austria OEL - MAKs                | 2 mg/m <sup>3</sup>       |
| Belgium OEL - TWA                 | 2 mg/m <sup>3</sup>       |
| Bulgaria OEL - TWA                | 1.0 fiber/cm <sup>3</sup> |
|                                   | 6.0 mg/m <sup>3</sup>     |
|                                   | 3.0 mg/m <sup>3</sup>     |
| Czech Republic OEL - TWA          | 2.0 mg/m <sup>3</sup>     |
| Denmark OEL - TWA                 | 0.3 fiber/cm <sup>3</sup> |
| Finland OEL - TWA                 | 0.5 fiber/cm <sup>3</sup> |
| Greece OEL - TWA                  | 10 mg/m <sup>3</sup>      |
|                                   | 2 mg/m <sup>3</sup>       |
| Hungary OEL - TWA                 | 2 mg/m <sup>3</sup>       |

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|  |                        |
|--|------------------------|
| Ireland OEL - TWAs                       | 10 mg/m <sup>3</sup>   |
|  | 0.8 mg/m <sup>3</sup>  |
| Lithuania OEL - TWA                      | 2 mg/m <sup>3</sup>    |
|  | 1 mg/m <sup>3</sup>    |
| Netherlands OEL - TWA                    | 0.25 mg/m <sup>3</sup> |
| OSHA - Final PELs - Table Z-3 Mineral D: | 20 mppcf               |
| Poland OEL - TWA                         | 4.0 mg/m <sup>3</sup>  |
|  | 1.0 mg/m <sup>3</sup>  |
| Portugal OEL - TWA                       | 2 mg/m <sup>3</sup>    |
| Romania OEL - TWA                        | 2 mg/m <sup>3</sup>    |
| Slovakia OEL - TWA                       | 2 mg/m <sup>3</sup>    |
|  | 10 mg/m <sup>3</sup>   |
| Slovenia OEL - TWA                       | 2 mg/m <sup>3</sup>    |
| Spain OEL - TWA                          | 2 mg/m <sup>3</sup>    |
| Sweden OEL - TWAs                        | 2 mg/m <sup>3</sup>    |
|  | 1 mg/m <sup>3</sup>    |

### Titanium dioxide

|                                   |                        |
|-----------------------------------|------------------------|
| ACGIH Threshold Limit Value (TWA) | 10 mg/m <sup>3</sup>   |
| Australia TWA                     | 10 mg/m <sup>3</sup>   |
| Austria OEL - MAKs                | 5 mg/m <sup>3</sup>    |
| Belgium OEL - TWA                 | 10 mg/m <sup>3</sup>   |
| Bulgaria OEL - TWA                | 10.0 mg/m <sup>3</sup> |
| Denmark OEL - TWA                 | 6 mg/m <sup>3</sup>    |
| Estonia OEL - TWA                 | 5 mg/m <sup>3</sup>    |
| France OEL - TWA                  | 10 mg/m <sup>3</sup>   |
| Greece OEL - TWA                  | 10 mg/m <sup>3</sup>   |
|                                   | 5 mg/m <sup>3</sup>    |
| Ireland OEL - TWAs                | 10 mg/m <sup>3</sup>   |
|                                   | 4 mg/m <sup>3</sup>    |
| Latvia OEL - TWA                  | 10 mg/m <sup>3</sup>   |
| Lithuania OEL - TWA               | 5 mg/m <sup>3</sup>    |
| OSHA - Final PELs - TWAs:         | 15 mg/m <sup>3</sup>   |
| Poland OEL - TWA                  | 10.0 mg/m <sup>3</sup> |
| Portugal OEL - TWA                | 10 mg/m <sup>3</sup>   |
| Romania OEL - TWA                 | 10 mg/m <sup>3</sup>   |
| Spain OEL - TWA                   | 10 mg/m <sup>3</sup>   |
| Sweden OEL - TWAs                 | 5 mg/m <sup>3</sup>    |

### Exposure Controls

#### Engineering Controls:

Engineering controls should be used as the primary means to control exposures. General room ventilation is adequate unless the process generates dust, mist or fumes. Keep airborne contamination levels below the exposure limits listed above in this section.

#### Personal Protective Equipment:

Refer to applicable national standards and regulations in the selection and use of personal protective equipment (PPE). Contact your safety and health professional or safety equipment supplier for assistance in selecting the correct protective clothing/equipment based on an assessment of the workplace conditions, other chemicals used or present in the workplace and specific operational processes.

#### Hands:

Impervious disposable gloves (e.g. Nitrile, etc.) (double recommended) if skin contact with drug product is possible and for bulk processing operations. (Protective gloves must meet the standards in accordance with EN374, ASTM F1001 or international equivalent.)

#### Eyes:

Wear safety glasses or goggles if eye contact is possible. (Eye protection must meet the standards in accordance with EN166, ANSI Z87.1 or international equivalent.)

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**Skin:** Impervious disposable protective clothing is recommended if skin contact with drug product is possible and for bulk processing operations. (Protective clothing must meet the standards in accordance with EN13982, ANSI 103 or international equivalent.)

**Respiratory protection:** Under normal conditions of use, if the applicable Occupational Exposure Limit (OEL) is exceeded, wear an appropriate respirator with a protection factor sufficient to control exposures to below the OEL (e.g. particulate respirator with a full mask, P3 filter). (Respirators must meet the standards in accordance with EN136, EN143, ASTM F2704-10 or international equivalent.)

### 9. PHYSICAL AND CHEMICAL PROPERTIES

|   |                    |                          |                             |
|---|--------------------|--------------------------|-----------------------------|
| <b>Physical State:</b>                                      | Tablet             | <b>Color:</b>            | Tan, White, Yellow to Beige |
| <b>Odor:</b>  | No data available. | <b>Odor Threshold:</b>   | No data available.          |
| <b>Molecular Formula:</b>                                   | Mixture            | <b>Molecular Weight:</b> | Mixture                     |
| <b>Solvent Solubility:</b>                                  | No data available  |                          |                             |
| <b>Water Solubility:</b>                                    | No data available  |                          |                             |
| <b>pH:</b>  | No data available. |                          |                             |
| <b>Melting/Freezing Point (°C):</b>                         | No data available  |                          |                             |
| <b>Boiling Point (°C):</b>                                  | No data available. |                          |                             |
| <b>Partition Coefficient: (Method, pH, Endpoint, Value)</b> |                    |                          |                             |
| <b>DL-Alpha tocopherol</b>                                  | No data available  |                          |                             |
| <b>Lactose NF, monohydrate</b>                              | No data available  |                          |                             |
| <b>Carnauba wax</b>   | No data available  |                          |                             |
| <b>ETHYLENE OXIDE/PROPYLENE OXIDE COPOLYMER</b>             | No data available  |                          |                             |
| <b>Glyceryl monooleate</b>                                  | No data available  |                          |                             |
| <b>Microcrystalline cellulose</b>                           | No data available  |                          |                             |
| <b>Pharmaceutical glaze</b>                                 | No data available  |                          |                             |
| <b>Povidone</b>   | No data available  |                          |                             |
| <b>Talc (non-asbestiform)</b>                               | No data available  |                          |                             |
| <b>Titanium dioxide</b>                                     | No data available  |                          |                             |
| <b>Black Iron Oxide</b>                                     | No data available  |                          |                             |
| <b>Ferric oxide yellow</b>                                  | No data available  |                          |                             |
| <b>Magnesium stearate</b>                                   | No data available  |                          |                             |
| <b>Calcium sulfate</b>                                      | No data available  |                          |                             |
| <b>Sucrose</b>  | No data available  |                          |                             |
| <b>Polyethylene glycol</b>                                  | No data available  |                          |                             |

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### 9. PHYSICAL AND CHEMICAL PROPERTIES

#### Ferric oxide red

No data available

#### Sirolimus

Measured Log P >4.63

**Decomposition Temperature (°C):** No data available.

**Evaporation Rate (Gram/s):** No data available

**Vapor Pressure (kPa):** No data available

**Vapor Density (g/ml):** No data available

**Relative Density:** No data available

**Viscosity:** No data available

#### Flammability:

**Autoignition Temperature (Solid) (°C):** No data available

**Flammability (Solids):** No data available

**Flash Point (Liquid) (°C):** No data available

**Upper Explosive Limits (Liquid) (% by Vol.):** No data available

**Lower Explosive Limits (Liquid) (% by Vol.):** No data available

### 10. STABILITY AND REACTIVITY

**Reactivity:** No data available

**Chemical Stability:** Stable under normal conditions of use.

#### Possibility of Hazardous Reactions

**Oxidizing Properties:** No data available

**Conditions to Avoid:** Fine particles (such as dust and mists) may fuel fires/explosions.

**Incompatible Materials:** As a precautionary measure, keep away from strong oxidizers

**Hazardous Decomposition Products:** No data available

### 11. TOXICOLOGICAL INFORMATION

#### Information on Toxicological Effects

**General Information:** The information included in this section describes the potential hazards of the individual ingredients.

**Known Clinical Effects:** Adverse effects associated with therapeutic use include hypersensitivity reactions, nausea, weakness, skin rash, weight loss, inflammation of the mouth (stomatitis), itching sensation (pruritus), decreased red blood cell count (anemia), decreased white blood cells (leukopenia).

#### Acute Toxicity: (Species, Route, End Point, Dose)

##### Microcrystalline cellulose

Rat Oral LD50 > 5000 mg/kg

Rabbit Dermal LD50 > 2000 mg/kg

##### Povidone

Rat Oral LD50 100 g/kg

##### Talc (non-asbestiform)

Rat Oral LD50 > 1600 mg/kg

##### Titanium dioxide



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Rat Oral LD50 > 7500 mg/kg  
Rat Subcutaneous LD50 50 mg/kg

#### Black Iron Oxide

Rat Oral LD50 >1000 mg/kg

#### Magnesium stearate

Rat Oral LD50 > 2000 mg/kg  
Rat Inhalation LC50 > 2000 mg/m<sup>3</sup>

#### Sucrose

Rat Oral LD50 29.7 g/kg

#### Sirolimus

Mouse Oral LD50 > 2500 mg/kg  
Rat Oral LD50 > 800mg/kg

**Acute Toxicity Comments:** A greater than symbol (>) indicates that the toxicity endpoint being tested was not achievable at the highest dose used in the test.

#### Irritation / Sensitization: (Study Type, Species, Severity)

##### Microcrystalline cellulose

Skin Irritation Rabbit Non-irritating  
Eye Irritation Rabbit Non-irritating

##### Polyethylene glycol

Eye Irritation Rabbit Mild  
Skin Irritation Rabbit Mild

#### Repeated Dose Toxicity: (Duration, Species, Route, Dose, End Point, Target Organ)

##### Sirolimus

Monkey No route specified 0.05 mg/kg/day NOEL Lymphoid tissue, Spleen, Thymus, Gastrointestinal System

#### Reproduction & Development Toxicity: (Duration, Species, Route, Dose, End Point, Effect(s))

##### Sirolimus

Reproductive & Fertility Rat No route specified 0.1 mg/kg/day NOEL Embryotoxicity, Fetotoxicity

#### Genetic Toxicity: (Study Type, Cell Type/Organism, Result)

##### Sucrose

Bacterial Mutagenicity (Ames) *Salmonella* Negative

##### Sirolimus

*In Vitro* Bacterial Mutagenicity (Ames) *Salmonella*, *E. coli* Negative  
*In Vitro* Chromosome Aberration Chinese Hamster Ovary (CHO) cells Negative  
*In Vitro* Forward Mutation Assay Mouse Lymphoma Negative  
*In Vivo* Micronucleus Bone Marrow Negative

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### 11. TOXICOLOGICAL INFORMATION

#### Carcinogenicity: (Duration, Species, Route, Dose, End Point, Effect(s))

##### Sirolimus

86 Week(s) Mouse No route specified 6 mg/kg/day LOAEL Tumors, Lymphatic system  
104 Week(s) Rat No route specified 0.2 mg/kg/day LOAEL Male reproductive system, Tumors

Carcinogen Status: See below

##### Povidone

IARC: Group 3 (Not Classifiable)

##### Talc (non-asbestiform)

IARC: Group 3 (Not Classifiable)

##### Titanium dioxide

IARC: Group 2B (Possibly Carcinogenic to Humans)

##### Ferric oxide red

IARC: Group 3 (Not Classifiable)

### 12. ECOLOGICAL INFORMATION

Environmental Overview: The following information is available for the individual ingredients. For information on the formulated product, see "Data for the Drug Product", below.

#### Toxicity:

##### Aquatic Toxicity: (Species, Method, End Point, Duration, Result)

##### Sirolimus

*Pseudokirchneriella subcapitata* (Green Alga) OECD EC50 72 Hours 0.063 mg/L

Persistence and Degradability: No data available

#### Bio-accumulative Potential:

##### Partition Coefficient: (Method, pH, Endpoint, Value)

##### Sirolimus

Measured Log P >4.63

Mobility in Soil: No data available

#### Data for the Drug Product

##### Aquatic Toxicity

| Species   | Method | End Point | Duration | Result (mg/l) |
|---|--------|-----------|----------|---------------|
| <i>Oncorhynchus mykiss</i> (Rainbow Trout)          | OECD   | LC50      | 96 Hours | >100 mg/L     |
| <i>Daphnia Magna</i> (Water Flea)                   | ISO    | EC50      | 48 Hours | >100 mg/L     |
| <i>Pseudokirchneriella subcapitata</i> (Green Alga) | ISO    | IC50      | 72 Hours | 33.6 mg/L     |

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**Aquatic Toxicity Comments:** A greater than symbol (>) indicates that aquatic toxicity was not observed at the maximum dose tested.

### 13. DISPOSAL CONSIDERATIONS

**Waste Treatment Methods:** Dispose of waste in accordance with all applicable laws and regulations. Member State specific and Community specific provisions must be considered. Considering the relevant known environmental and human health hazards of the material, review and implement appropriate technical and procedural waste water and waste disposal measures to prevent occupational exposure and environmental release. It is recommended that waste minimization be practiced. The best available technology should be utilized to prevent environmental releases. This may include destructive techniques for waste and wastewater.

### 14. TRANSPORT INFORMATION

The following refers to all modes of transportation unless specified below.

Not regulated for transport under USDOT, EUADR, IATA, or IMDG regulations.

### 15. REGULATORY INFORMATION

Safety, Health and Environmental Regulations/Legislation Specific for the Substance or Mixture

**Canada - WHMIS: Classifications**

**WHMIS hazard class:**

Class D, Division 2, Subdivision A



**Black Iron Oxide**

|   |            |
|---|------------|
| CERCLA/SARA 313 Emission reporting          | Not Listed |
| California Proposition 65                   | Not Listed |
| Inventory - United States TSCA - Sect. 8(b) | Present    |
| Australia (AICS):                           | Present    |
| EU EINECS/ELINCS List                       | 215-277-5  |

**Calcium sulfate**

|   |            |
|---|------------|
| CERCLA/SARA 313 Emission reporting          | Not Listed |
| California Proposition 65                   | Not Listed |
| Inventory - United States TSCA - Sect. 8(b) | Present    |
| Australia (AICS):                           | Present    |
| EU EINECS/ELINCS List                       | 231-900-3  |

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### 15. REGULATORY INFORMATION

#### Carnauba wax

|   |            |
|---|------------|
| CERCLA/SARA 313 Emission reporting          | Not Listed |
| California Proposition 65                   | Not Listed |
| Inventory - United States TSCA - Sect. 8(b) | Present    |
| Australia (AICS):                           | Present    |
| EU EINECS/ELINCS List                       | 232-399-4  |

#### DL-Alpha tocopherol

|   |            |
|---|------------|
| CERCLA/SARA 313 Emission reporting          | Not Listed |
| California Proposition 65                   | Not Listed |
| Inventory - United States TSCA - Sect. 8(b) | Present    |
| Australia (AICS):                           | Present    |
| EU EINECS/ELINCS List                       | 233-466-0  |

#### ETHYLENE OXIDE/PROPYLENE OXIDE COPOLYMER

|   |            |
|---|------------|
| CERCLA/SARA 313 Emission reporting          | Not Listed |
| California Proposition 65                   | Not Listed |
| Inventory - United States TSCA - Sect. 8(b) | Present    |
| Australia (AICS):                           | Present    |
| EU EINECS/ELINCS List                       | Not Listed |

#### Ferric oxide red

|   |            |
|---|------------|
| CERCLA/SARA 313 Emission reporting          | Not Listed |
| California Proposition 65                   | Not Listed |
| Inventory - United States TSCA - Sect. 8(b) | Present    |
| Australia (AICS):                           | Present    |
| EU EINECS/ELINCS List                       | 215-168-2  |

#### Ferric oxide yellow

|   |            |
|---|------------|
| CERCLA/SARA 313 Emission reporting          | Not Listed |
| California Proposition 65                   | Not Listed |
| Inventory - United States TSCA - Sect. 8(b) | Present    |
| Australia (AICS):                           | Present    |
| EU EINECS/ELINCS List                       | 257-098-5  |

#### Glyceryl monooleate

|   |            |
|---|------------|
| CERCLA/SARA 313 Emission reporting          | Not Listed |
| California Proposition 65                   | Not Listed |
| Inventory - United States TSCA - Sect. 8(b) | Present    |
| Australia (AICS):                           | Present    |
| EU EINECS/ELINCS List                       | 247-038-6  |

#### Magnesium stearate

|   |            |
|---|------------|
| CERCLA/SARA 313 Emission reporting          | Not Listed |
| California Proposition 65                   | Not Listed |
| Inventory - United States TSCA - Sect. 8(b) | Present    |
| Australia (AICS):                           | Present    |
| EU EINECS/ELINCS List                       | 209-150-3  |

#### Microcrystalline cellulose

|                                    |            |
|------------------------------------|------------|
| CERCLA/SARA 313 Emission reporting | Not Listed |
|------------------------------------|------------|

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### 15. REGULATORY INFORMATION

|  |                          |
|--|--------------------------|
| California Proposition 65  | Not Listed               |
| Inventory - United States TSCA - Sect. 8(b)                        | Present                  |
| Australia (AICS):  | Present                  |
| EU EINECS/ELINCS List  | 232-674-9                |
| <br>   |                          |
| <b>Pharmaceutical glaze</b>  |                          |
| CERCLA/SARA 313 Emission reporting                                 | Not Listed               |
| California Proposition 65  | Not Listed               |
| EU EINECS/ELINCS List  | Not Listed               |
| <br>   |                          |
| <b>Polyethylene glycol</b>   |                          |
| CERCLA/SARA 313 Emission reporting                                 | Not Listed               |
| California Proposition 65  | Not Listed               |
| Inventory - United States TSCA - Sect. 8(b)                        | Present                  |
| Australia (AICS):  | Present                  |
| Standard for the Uniform Scheduling<br>for Drugs and Poisons:      | Schedule 2               |
| EU EINECS/ELINCS List  | Schedule 3<br>Not Listed |
| <br>   |                          |
| <b>Povidone</b>  |                          |
| CERCLA/SARA 313 Emission reporting                                 | Not Listed               |
| California Proposition 65  | Not Listed               |
| Inventory - United States TSCA - Sect. 8(b)                        | Present                  |
| Australia (AICS):  | Present                  |
| EU EINECS/ELINCS List  | Not Listed               |
| <br>   |                          |
| <b>Sirolimus</b>   |                          |
| CERCLA/SARA 313 Emission reporting                                 | Not Listed               |
| California Proposition 65  | Not Listed               |
| Standard for the Uniform Scheduling<br>for Drugs and Poisons:      | Schedule 4               |
| EU EINECS/ELINCS List  | Not Listed               |
| <br>   |                          |
| <b>Sucrose</b>   |                          |
| CERCLA/SARA 313 Emission reporting                                 | Not Listed               |
| California Proposition 65  | Not Listed               |
| Inventory - United States TSCA - Sect. 8(b)                        | Present                  |
| Australia (AICS):  | Present                  |
| REACH - Annex IV - Exemptions from the<br>obligations of Register: | Present                  |
| EU EINECS/ELINCS List  | 200-334-9                |
| <br>   |                          |
| <b>Lactose NF, monohydrate</b>                                     |                          |
| CERCLA/SARA 313 Emission reporting                                 | Not Listed               |
| California Proposition 65  | Not Listed               |
| Australia (AICS):  | Present                  |
| EU EINECS/ELINCS List  | Not Listed               |
| <br>   |                          |
| <b>Talc (non-asbestiform)</b>                                      |                          |
| CERCLA/SARA 313 Emission reporting                                 | Not Listed               |
| California Proposition 65  | Not Listed               |
| Inventory - United States TSCA - Sect. 8(b)                        | Present                  |

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|                       |           |
|-----------------------|-----------|
| Australia (AICS):     | Present   |
| EU EINECS/ELINCS List | 238-877-9 |

#### Titanium dioxide

|   |  |
|---|--|
| CERCLA/SARA 313 Emission reporting          | Not Listed   |
| California Proposition 65                   | carcinogen 9/2/2011 airborne, unbound particles of respirable size |
| Inventory - United States TSCA - Sect. 8(b) | Present  |
| Australia (AICS):                           | Present  |
| EU EINECS/ELINCS List                       | 236-675-5  |

### 16. OTHER INFORMATION

#### Text of CLP/GHS Classification abbreviations mentioned in Section 3

Reproductive toxicity-Cat.1B; H360FD - May damage fertility. May damage the unborn child.  
Hazardous to the aquatic environment, acute toxicity-Cat.1; H400 - Very toxic to aquatic life  
Hazardous to the aquatic environment, chronic toxicity-Cat.1; H410 - Very toxic to aquatic life with long lasting effects

**Data Sources:** Pfizer proprietary drug development information. Publicly available toxicity information.

**Reasons for Revision:** Updated Section 2 - Hazard Identification. Updated Section 8 - Exposure Controls / Personal Protection.

**Revision date:** 21-Mar-2018  
Product Stewardship Hazard Communication

**Prepared by:** Global Environment, Health, and Safety Operations

It is believed that the information contained in this Material Safety Data Sheet is accurate, and while it is provided in good faith, it is without a warranty of any kind, expressed or implied. If data for a hazard are not included in this document there is no known information at this time

**End of Safety Data Sheet**