

# MATERIAL SAFETY DATA SHEET

Cat# 1862-25, -100, (R,S)-Lenalidomide

MSDS DATE: Mar 26, 2012

## SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

**PRODUCT NAME:** (R,S)-Lenalidomide  
**PRODUCT CODES:** Cat# 1862-25, -100  
**MANUFACTURER:** BioVision, Inc.  
**ADDRESS:** 155 S. Milpitas Boulevard, Milpitas, CA 95035  
**EMERGENCY PHONE:** 858-373-8066  
**CHEMTREC PHONE:**  
**OTHER CALLS:** 408-493-1800  
**FAX PHONE:** 408-493-1801

## SECTION 2: COMPOSITION/INFORMATION ON INGREDIENTS

Component	Description	Volume	Safety Information
(R,S)-Lenalidomide	Solid	1862-25: 25 mg 1862-100: 100 mg	See below

## SECTION 3: HAZARDS IDENTIFICATION

Product Name/Chemical Name	CAS Number	EC-No.	MW	Chemical Formula
(R,S)-Lenalidomide	191732-72-6	--	259.26	C <sub>13</sub> H <sub>13</sub> N <sub>3</sub> O <sub>3</sub>

### (R,S)-Lenalidomide:

#### Emergency Overview

**OSHA Hazards:** Harmful by inhalation, Harmful by absorption, Harmful by ingestion, Reproductive hazard

**GHS Classification:** Acute toxicity, Oral (Category 4)  
Acute toxicity, Dermal (Category 4)  
Acute toxicity, Inhalation (Category 4)  
Reproductive toxicity (Category 1B)

#### GHS Label elements, including precautionary statements

Pictogram:



Signal word: Warning

Hazard statement(s): H301 Harmful if swallowed.  
H312 Harmful in contact with skin.  
H332 Harmful if inhaled.  
H360 May damage fertility or the unborn child.

Precautionary statement(s): P261 Avoid breathing dust/fumes/gas/mist/vapors/spray.  
P263 Avoid contact during pregnancy/while nursing.  
P270 Do not eat, drink or smoke when using this product.  
P280 Wear protective gloves/protective clothing.  
P301+P310 IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.  
P302+P352 IF ON SKIN: Wash with plenty of soap and water.  
P304+P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.  
P308+P313 IF exposed or concerned: Get medical advice/attention.  
P330 Rinse mouth.  
P405 Store locked up.  
P501 Dispose of contents/container to a licensed disposal company.

#### HMIS Classification

Health hazard: 1  
Flammability: 0  
Physical hazards: 0

#### NFPA Rating

Health Hazard: 1  
Fire: 0  
Reactivity Hazard: 0

#### Potential Health Effects

**Inhalation:** Harmful if inhaled. May cause respiratory tract irritation.  
**Skin:** Harmful if absorbed through skin. May cause skin irritation.  
**Eyes:** May cause eye irritation.  
**Ingestion:** Harmful if swallowed.

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## SECTION 4: FIRST AID MEASURES

**General advice:** Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

**If inhaled:** If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

**In case of skin contact:** Wash off with soap and plenty of water. Consult a physician.

**In case of eye contact:** Flush eyes with water as a precaution.

**If swallowed:** Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

## 5: FIRE-FIGHTING MEASURES

**Condition of flammability:** Not flammable or combustible.

**Suitable extinguishing media:** Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

**Special protective equipment for fire-fighters:** Wear self-contained breathing apparatus for firefighting if necessary.

**Hazardous combustion products:** Hazardous combustion products formed under fire conditions— not available.

## SECTION 6: ACCIDENTAL RELEASE MEASURES

**Personal precautions:** Use personal protective equipment. Avoid dust formation. Avoid breathing vapors, mist, gas, or dust. Ensure adequate ventilation.

**Environmental precautions:** Do not let product enter drains.

**Methods for cleaning up:** Pick up and arrange disposal without creating dust. Keep in suitable, closed containers for disposal.

## SECTION 7: HANDLING AND STORAGE

### Precautions for safe handling

Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Provide appropriate exhaust ventilation at places where dust is formed. Normal measures for preventive fire protection.

### Conditions for safe storage

Keep container tightly closed in a dry and well-ventilated place.

Recommended storage temperature: -20 °C

## SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Contains no substances with occupational exposure limit values.

### Personal protective equipment

#### Respiratory protection

For nuisance exposures use type P95 (US) or type P1 (EU EN 143) particle respirator. For higher level protection use type OV/AG/P99 (US) or type ABEK-P2 (EU EN 143) respirator cartridges. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

#### Hand 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.

#### Eye protection

Safety glasses with side-shields conforming to EN166. Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU)

#### Skin and body protection

Impervious clothing. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace

#### Hygiene measures

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of the workday.

## SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Property	(R,S)-Lenalidomide
<b>Appearance:</b>	White to off-white solid
<b>pH:</b>	No data available
<b>Water Solubility:</b>	No data available
<b>Other Solubility:</b>	DMSO (~100 mg/ml)
<b>Specific Gravity (g/ml):</b>	No data available
<b>Boiling Point (°C):</b>	614 °C (at 760 mm Hg)
<b>Melting Point (°C):</b>	269-271 °C (516.2-519.8 °F)
<b>Flash Point (°C):</b>	No data available
<b>Ignition Temperature (°C):</b>	No data available
<b>Density</b>	No data available

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## SECTION 10: STABILITY AND REACTIVITY

Property	(R,S)-Lenalidomide
Chemical stability	Stable under recommended storage conditions
Conditions to avoid:	No data available
Materials to avoid:	Strong oxidizing agents
Hazardous decomposition products:	Carbon oxides, nitrogen oxides

## SECTION 11: TOXICOLOGICAL INFORMATION

### (R,S)-Lenalidomide:

**Acute toxicity:** no data available

**Skin corrosion/irritation:** no data available

**Serious eye damage/eye irritation:** no data available

**Respiratory or skin sensitization:** no data available

**Germ cell mutagenicity:** no data available

### **Carcinogenicity:**

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

**Reproductive toxicity:** Possible human reproductive toxicant.

**Teratogenicity:** Possible human reproductive toxicant.

**Specific target organ toxicity – single exposure (GHS):** no data available

**Specific target organ toxicity – repeated exposure (GHS):** no data available

**Aspiration hazard:** no data available

### **Potential Health Effects**

**Inhalation:** Harmful if inhaled. May cause respiratory tract irritation.

**Skin:** Harmful if absorbed through skin. May cause skin irritation.

**Eyes:** May cause eye irritation.

**Ingestion:** Harmful if swallowed.

**Signs and Symptoms of Exposure:** To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

**Additional information:** RTECS: not available

## SECTION 12: ECOLOGICAL INFORMATION

### (R,S)-Lenalidomide:

**Persistence and degradability:** no data available

**Toxicity:** no data available

**Bioaccumulative potential:** no data available

**Mobility in soil:** no data available

**PBT and vPvB assessment:** no data available

**Other adverse effects:** no data available

## SECTION 13: DISPOSAL CONSIDERATIONS

**Product:** Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber.

**Contaminated packaging:** Dispose of as unused product.

## SECTION 14: TRANSPORT INFORMATION

### (R,S)-Lenalidomide:

**DOT (US):** Not dangerous goods.

**IMDG:** Not dangerous goods.

**IATA:** Not dangerous goods.

## SECTION 15: REGULATORY INFORMATION

### (R,S)-Lenalidomide:

**OSHA Hazards:** Harmful by inhalation, Harmful by absorption, Harmful by ingestion, Reproductive hazard

**DSL Status:** This product contains the following components that are not on the Canadian DSL nor NDSL lists:

(R,S)-Lenalidomide, CAS-No. 191732-72-6

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**SARA 302 Components:** SARA 302: No chemical in this material are subject to the reporting requirements of SARA Title III, Section 302.

**SARA 313 Components:** SARA 313: This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title II, Section 313.

**SARA 311/312 Hazards:** Acute Health Hazard

**Massachusetts Right To Know Components:** No components are subject to the Massachusetts Right to Know Act.

**Pennsylvania Right To Know Components:** (R,S)-Lenalidomide, CAS-No. 191732-72-6

**New Jersey Right To Know Components:** (R,S)-Lenalidomide, CAS-No. 191732-72-6

**California Prop. 65 Components:** This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

## EU regulations

Component	Risk Phrases	Safety Phrases
(R,S)-Lenalidomide	R20/21/22, R61	S20, S22, S36/37/39, S45, S53

## SECTION 16: OTHER INFORMATION

### DISCLAIMER:

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. BioVision, Inc., shall not be held liable for any damage resulting from handling or from contact with the above product. See reverse side of invoice or packing slip for additional terms and conditions of sale.