



## 1. PRODUCT AND COMPANY IDENTIFICATION

### 1.1 Product identifiers

Product name: Verosudil  
Product Catalogue Number: 319562  
Brand: MedKoo Biosciences  
CAS-No: 1414854-42-4

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

Identified uses: Laboratory chemicals, Synthesis of substances.

### 1.3 Details of the supplier of the safety data sheet

Company: MedKoo Biosciences, Inc.  
2500 Gateway Centre Blvd. Suite 400, Morrisville, NC27560, USA  
Telephone: 919-636-5577  
Fax: 919-980-4831

### 1.4 Emergency telephone number

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

## 2. HAZARDS IDENTIFICATION

### 2.1 Classification of the substance or mixture

GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)  
Skin irritation (Category 2), H315  
Serious eye damage (Category 1), H318  
Respiratory sensitisation (Category 1), H334  
Skin sensitisation (Category 1), H317  
Germ cell mutagenicity (Category 2), H341  
Reproductive toxicity (Category 2), H361  
Specific target organ toxicity - single exposure (Category 1), H370  
Specific target organ toxicity - single exposure (Category 3), Respiratory system, H335  
Chronic aquatic toxicity (Category 4), H413

### 2.2 Label elements

#### Pictogram



#### Signal word

Danger

#### Hazard statement(s)

H315: Causes skin irritation.  
H317: May cause an allergic skin reaction  
H318: Causes serious eye damage.  
H334: May cause allergy or asthma symptoms or breathing difficulties if inhaled.  
H335: May cause respiratory irritation.  
H341: Suspected of causing genetic defects.  
H361: Suspected of damaging fertility or the unborn child.  
H370: Causes damage to organs.  
H413: May cause long lasting harmful effects to aquatic life.

#### Precautionary statement(s)

P201: Obtain special instructions before use.  
P202: Do not handle until all safety precautions have been read and understood.  
P260: Do not breathe dust/ fume/ gas/ mist/ vapors/ spray.  
P264: Wash skin thoroughly after handling.  
P270: Do not eat, drink or smoke when using this product.  
P271: Use only outdoors or in a well-ventilated area.  
P272: Contaminated work clothing should not be allowed out of the workplace.  
P273: Avoid release to the environment.  
P280: Wear protective gloves/ eye protection/ face protection.  
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.  
P305 + P351 + P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
P310: Immediately call a POISON CENTER/doctor.  
P321: Specific treatment (see supplemental first aid instructions on this label).  
P333 + P313: If skin irritation or rash occurs: Get medical advice/ attention.  
P362: Take off contaminated clothing and wash before reuse.  
P403 + P233: Store in a well-ventilated place. Keep container tightly closed.  
P405: Store locked up.  
P501: Dispose of contents/ container to an approved waste disposal plant.

### 2.3 Other hazards - none

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

#### 3.1 Substances

Synonyms: AR-12286; AR12286; AR 12286; Verosudil; Verosudil free base  
Formula:  $C_{17}H_{17}N_3O_2S$   
Molecular weight: 327.4  
CAS-No: 1414854-42-4

Component	Classification	Concentration
Verosudil	Skin Irrit. 2; Eye Dam. 1; Resp. Sens. 1; Skin Sens. 1; Muta. 2; Repr. 2; STOT SE 3; Aquatic Chronic 4; H315, H317, H318, H334, H335, H341, H361, H413	<= 100 %

### 4. FIRST AID MEASURES

#### 4.1 Description of first aid measures

##### General advice

Consult a doctor and show this safety data sheet.

##### If inhaled

Remove to fresh air and monitor breathing. If breathing becomes difficult, give oxygen. If breathing stops, give artificial respiration. Consult a doctor.

##### In case of skin contact

Immediately wash skin with copious amounts of soap and water for at least 15 minutes. Remove contaminated clothing and shoes and wash before reuse. Consult a doctor.

##### In case of eye contact

Flush with copious amounts of water for at least 15 minutes. Consult a doctor.

##### If swallowed

Rinse mouth with water. Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Consult a doctor.

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

To the best of our knowledge, the chemical, physical and toxicological properties have not been thoroughly investigated.

#### 4.3 Indication of immediate medical attention and special treatment needed

Show this safety data sheet to the doctor in attendance. Immediate medical attention is required.

### 5. FIRE-FIGHTING MEASURES

#### 5.1 Extinguishing media

##### Suitable extinguishing media

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

#### 5.2 Special hazards arising from the substance or mixture

In combustion, may emit toxic fumes.

#### 5.3 Precautions for fire-fighters

Wear suitable protective clothing to prevent contact with skin and eyes and self-contained breathing apparatus.

### 6. ACCIDENTIAL RELEASE MEASURES

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

Do not take action without suitable protective clothing - see section 8 of SDS. Evacuate personnel to safe areas. Ensure adequate ventilation. Avoid breathing vapors, mist, dust or gas.

#### 6.2 Environmental precautions

Do not let product enter drains.

#### 6.3 Methods and materials for containment and cleaning up

Cover spillage with suitable absorbent material. Sweep up material and place in an appropriate container. Hold all material for appropriate disposal as described under section 13 of SDS.

#### 6.4 Reference to other sections

For required PPE see section 8. For disposal see section 13.

### 7. HANDLING AND STORAGE

#### 7.1 Precautions for safe handling

Use in a chemical fume hood, with air supplied by an independent system. Avoid inhalation, contact with eyes, skin and clothing. Avoid the formation of dust and aerosols. Use in a well-ventilated area. Keep away from sources of ignition. Avoid prolonged or repeated exposure.

#### 7.2 Conditions for safe storage, including any incompatibilities.

Store in cool, well-ventilated area. Keep away from direct sunlight. Keep container tightly sealed until ready for use.

Recommended storage temperature: Store at -20°C

#### 7.3 Specific end uses

Use in a laboratory fume hood where possible. Refer to employer's COSHH risk assessment.

### 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

#### 8.1 Control parameters

##### Components with workplace control parameters

Contains no substances with occupational exposure limit values.

#### 8.2 Exposure controls

##### Appropriate engineering controls

Use in a fume hood where applicable. Ensure all engineering measures described under section 7 of SDS are in place. Ensure laboratory is equipped with a safety shower and eye wash station.

#### **Personal protective equipment**

##### **Eye/face protection**

Use appropriate safety glasses.

##### **Skin protection**

Use appropriate chemical resistant gloves (minimum requirement use standard BS EN 374:2003). Gloves should be inspected before use. Wash and dry hands thoroughly after handling.

##### **Body protection**

Wear appropriate protective clothing.

##### **Respiratory protection**

If risk assessment indicates necessary, use a suitable respirator.

## **9. PHYSICAL AND CHEMICAL PROPERTIES**

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### **9.1 Information on basic physical and chemical properties**

Appearance	Light yellow, solid powder	Vapor pressure	No data available
Odor	No data available	Vapor density	No data available
Odor threshold	No data available	Relative density	No data available
pH	No data available	Solubility(ies)	Insoluble in water
Melting / freezing point	No data available	Partition coefficient	log Pow: > 99
Boiling point / range	No data available	Auto-ignition temperature	No data available
Flash point	No data available	Decomposition temperature	No data available
Evaporation rate	No data available	Viscosity	No data available
Flammability (solid, gas)	No data available	Explosive properties	No data available
Upper / lower flammability or explosive limits	No data available	Oxidising properties	No data available

### **9.2 Other safety information**

No data available

## **10. STABILITY AND REACTIVITY**

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### **10.1 Reactivity**

Stable under recommended transport or storage conditions.

### **10.2 Chemical stability**

Stable under recommended storage conditions.

### **10.3 Possibility of hazardous reactions**

Hazardous reactions will not occur under normal transport or storage conditions. Decomposition may occur on exposure to conditions or materials listed below.

### **10.4 Conditions to avoid**

Heat, moisture.

### **10.5 Incompatible materials**

Strong acids/alkalis, strong oxidising/reducing agents.

### **10.6 Hazardous decomposition products**

In combustion may emit toxic fumes. No known decomposition information.

## **11. TOXICOLOGICAL INFORMATION**

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### **11.1 Information on toxicological effects**

#### **Acute Toxicity**

No data available

#### **Skin corrosion/irritation**

Classification criteria are not met based on available data

#### **Serious eye damage/irritation**

Classification criteria are not met based on available data

#### **Respiratory or skin sensitization**

Classification criteria are not met based on available data

#### **Germ cell mutagenicity**

Classification criteria are not met based on available data

#### **Carcinogenicity**

Classification criteria are not met based on available data

#### **Reproductive toxicity**

Classification criteria are not met based on available data

#### **Specific target organ toxicity - single exposure**

Classification criteria are not met based on available data

#### **Specific target organ toxicity - repeated exposure**

Classification criteria are not met based on available data

#### **Aspiration hazard**

Classification criteria are not met based on available data

#### **Symptoms / Routes of exposure**

Inhalation: There may be irritation of the throat with a feeling of tightness in the chest.

Ingestion: There may be irritation of the throat.

Skin: There may be mild irritation at the site of contact.

Eyes: There may be irritation and redness.

Delayed / Immediate Effects: No known symptoms.

**Additional Information**

RTECS No: Not available

Exposure may cause irritation of eyes, mucous membranes, upper respiratory tract and skin.

To the best of our knowledge, the chemical, physical and toxicological properties have not been fully investigated

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**12. ECOLOGICAL INFORMATION**

**12.1 Toxicity**

No data available

**12.2 Persistence and degradability**

No data available

**12.3 Bioaccumulative potential**

No data available

**12.4 Mobility in soil**

No data available

**12.5 Results of PBT and vPvB assessment**

No data available

**12.6 Other adverse effects**

No data available

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**13. DISPOSAL CONSIDERATIONS**

**13.1 Waste treatment methods**

**Product**

Transfer to a suitable container and arrange for collection by specialized disposal company in accordance with National legislation.

**Contaminated packaging**

Dispose of in a regulated landfill site or other method for hazardous or toxic wastes in accordance with National legislation.

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**14. TRANSPORT INFORMATION**

Classified according to the criteria of the UN Model Regulations as reflected in the IMDG Code, ADR, RID and IATA.

**14.1 UN-Number**

Does not meet the criteria for classification as hazardous for transport.

**14.2 UN proper shipping name**

Does not meet the criteria for classification as hazardous for transport.

**14.3 Transport hazard class(es)**

Does not meet the criteria for classification as hazardous for transport.

**14.4 Packaging group**

Does not meet the criteria for classification as hazardous for transport.

**14.5 Environmental hazards**

This product is not classified as environmentally hazardous according to the UN Model Regulations, nor a marine pollutant according to the IMDG Code.

**14.6 Special precautions for users**

No data available

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**15. REGULATORY INFORMATION**

This safety datasheet complies with the requirements of Regulation (EC) No. 453/2010.

**15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**

No data available

**California Proposition 65**

Not applicable

**15.2 Chemical safety assessment**

A Chemical Safety Assessment has not been made for this product.

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**16. OTHER INFORMATION**

**Further Information**

Copyright © Medkoo Bioscience. This company shall not be held liable for any damage resulting from handling or from contact with the above product. This material must only be handled by suitably qualified experienced scientists in appropriately equipped and authorized facilities. The above information is believed to be correct but does not purport to be all inclusive and should be used as a guide only for experienced personnel. Always consult your safety advisor and follow appropriate local and national safety legislature. The absence of warning must not, under any circumstance, be taken to mean that no hazard exists. See [www.medkoo.com](http://www.medkoo.com) for additional terms and conditions of sale.

**Preparation Information**

MedKoo Biosciences, Inc.

Product Safety – multiple Region

Tel: 919-636-5577

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