

# Safety Data Sheet

Revision Date: 4/5/2022

## Section 1: Chemical Identification

### 1.1 Chemical Identification

Product Name: Cyclohex99  
 Alternative Name: Cycloheximide  
 Catalog Number: C-931

### 1.2 Relevant Uses and Uses Advised Against

Recommended use: This product is not for use in humans. It is for research purposes only.

### 1.3 Supplier Contact Information

Distributed by: Gold Biotechnology, Inc.  
 1328 Ashby Rd.  
 St. Louis, MO 63132  
 Phone: (314) 890-8778  
 Fax: (314) 890-0503  
 Email: [contactgoldbio86@goldbio.com](mailto:contactgoldbio86@goldbio.com)

### 1.4 Emergency Contact Information

Emergency Phone: (800)248-7609 (Monday-Friday, 9:00 a.m. – 5:00 p.m. CST)

## Section 2: Hazardous Information

### 2.1 GHS Classification

Acute Toxicity, Oral (Category 2)  
 Germ Cell Mutagenicity (Category 2)  
 Reproductive Toxicity (Category 1B)  
 Acute Aquatic Toxicity (Category 2)  
 Chronic Aquatic Toxicity (Category 2)  
 Skin Irritation (Category 2)

### 2.2 GHS Label Elements, Including Precautionary statements



DANGER!

### 2.3 Hazard Statements

H300: Fatal if swallowed  
 H341: Suspected of causing genetic defects  
 H360: May damage fertility or the unborn child

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H411: Toxic to aquatic life with long lasting effects

H315: Causes skin irritation

## **2.4 Precautionary Statements**

P201: Obtain special instructions before use

P202: Do not handle until all safety precautions have been read and understood

P264: Wash skin thoroughly after handling

P270: Do not eat, drink or smoke when using this product

P273: Avoid release to the environment

P280: Wear protective gloves/protective clothing/eye protection/face protection

P301+310: IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician

P302+352: IF ON SKIN: Wash with soap and water

P308+313: IF exposed or concerned: Get medical advice/attention

P391: Collect spillage

P405: Store locked up

P501: Dispose of contents/container to an approved waste disposal plant

## **2.8 HMIS Classification**

Health Hazard: 4

Chronic Health Hazard: \*

Flammability: 0

Physical Hazards: 0

## **2.9 NFPA Rating**

Health Hazard: 3

Fire: 0

Reactivity Hazard: 0

# **Section 3: Composition/Information on Ingredients**

## **3.1 Composition**

<b>Identity:</b>	Cyclohex99
<b>IUPAC:</b>	4-[(2R)-2-[(1S,3S,5S)-3,5-dimethyl-2-oxocyclohexyl]-2-hydroxyethyl]piperidine-2,6-dione
<b>Synonyms:</b>	Cycloheximide
<b>CAS Number:</b>	66-81-9
<b>Molecular Formula:</b>	C <sub>15</sub> H <sub>23</sub> NO <sub>4</sub>
<b>Molecular Weight:</b>	281.35 g/mol

# **Section 4: First Aid Measures**

## **4.1 Detailed First Aid Measures**

<b>Inhalation:</b>	If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.
<b>Skin:</b>	Immediately wash skin copiously with soap and water. Take victim immediately to hospital. Consult a physician.
<b>Eye:</b>	Immediately rinse out with water for at least 15 minutes. Assure adequate flushing by separating the eyelids with fingers. Consult a

physician.  
**Ingestion:** Wash out mouth with water. Drink plenty of water. Consult a physician. Never give anything by mouth to an unconscious person.  
**Notes to Physician:** Treat symptomatically and supportively.

#### **4.2 Most Important Symptoms And Effects, Either Acute Or Delayed**

The most important known symptoms and effects are described in the labeling (see section 2). And /or in section 11.

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

Not available

## **Section 5: Fire Fighting Measures**

### **5.1 Conditions of flammability:**

Not flammable or combustible.

### **5.2 Suitable extinguishing media:**

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

### **5.3 Specific hazards arising from the chemical**

During a fire, highly toxic gases may be generated by thermal decomposition or combustion – Carbon oxides, Nitrogen oxides (NO<sub>x</sub>)

### **5.4 Specific protective actions for fire-fighters:**

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

## **Section 6: Accidental Release Measures**

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

Use personal protective equipment. Avoid breathing vapors, mist or gas. Ensure adequate ventilation.

### **6.2 Environmental precautions:**

Do not let product enter drains. Discharge into the environment must be avoided.

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

Soak up with absorbent material, discard.

## **Section 7: Handling and Storage**

### **7.1 Precautions for safe handling:**

Always wear personal protective equipment (PPE, see section 8).

### **7.2 Conditions for safe storage, including and incompatibilities:**

Keep container tightly closed.

Store at room temperature.

## **Section 8: Exposure Controls / Personal Protection**

### **8.1 Control Parameters:**

Contains no substances with occupational exposure limit values.

### **8.2: Appropriate engineering controls:**

Contains no substances with occupational exposure limit values.

### **8.3 Personal Protective Equipment (PPE):**

**Eye/Face 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 Protection:** Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique - without touching outer surface of glove - 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 type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

**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).

**Other Protective Clothing or Equipment:** Wear appropriate protective clothing to prevent exposure.

## **Section 9: Physical and Chemical Properties**

### **9.1 General chemical and physical properties**

<b>Appearance:</b>	Off White Powder
<b>Odor:</b>	Not Available
<b>Odor Threshold:</b>	Not Available
<b>pH:</b>	Not Available
<b>Melting Point:</b>	119.5 - 121°C
<b>Freezing Point:</b>	115 - 116.5°C
<b>Boiling Point/Range:</b>	Not Available
<b>Flash Point:</b>	Not Available
<b>Evaporation Rate:</b>	Not Available
<b>Lower Explosion Limit:</b>	Not Available

**Upper Explosion Limit:** Not Available  
**Vapor Pressure:** Not Available  
**Vapor Density:** Not Available  
**Relative Density:** Not Available  
**Solubility:** Slightly Water Soluble  
**Partition Coefficient  
n-octanol/water:** log Pow: 0.55  
**Auto-Ignition  
Temperature:** Not Available  
**Decomposition  
Temperature:** Not Available  
**Viscosity:** Not Available

## **Section 10: Stability and Reactivity Data**

### **10.1 Reactivity:**

Not available

### **10.2 Chemical Stability:**

Stable under recommended storage conditions.

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

Not available.

### **10.4 Conditions to avoid:**

Incompatible materials.

### **10.5 Incompatible materials:**

Bases, Strong oxidizing agents, Acid anhydrides, Acid chlorides

### **10.6 Hazardous decomposition products:**

Hazardous decomposition products formed under fire conditions. - Carbon Oxides, Nitrogen Oxides (NOx)

## **Section 11: Toxicological Information**

### **11.1 Toxicological effects**

#### **Acute toxicity:**

Cyclohex99	Oral:	LD <sub>50</sub> (Rat) - 2 mg/kg
Cyclohex99	Intravenous:	LD <sub>50</sub> (Rat) - 2 mg/kg
Cyclohex99	Intraperitoneal:	LD <sub>50</sub> (Rat) - 3.7 mg/kg
Cyclohex99	Subcutaneous:	LD <sub>50</sub> (Rat) - 2.5 mg/kg

**Skin corrosion/irritation:**

Standard Draize Test: Rabbit (Administration onto the skin) - 1 pph/24H - Moderate reaction

**Respiratory or skin sensitization:**

Not available.

**Germ cell mutagenicity:**

Laboratory experiments have shown mutagenic effects. In vitro tests have shown mutagenic effects.

Mutation Test Systems - Human HeLa cell - 35 µmol/l

DNA Inhibition - Human cells, not otherwise specified - 100 mg/l

Cytogenetic Analysis - Human cells, not otherwise specified - 100 mg/l

Micronucleus Test - Mouse - 10 mg/kg

DNA Damage - Mouse - Lymphocyte - 50 µmol/l

**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 probable, possible or confirmed human carcinogen by ACGIH.

**NTP:** 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 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:**

May cause congenital malformation in the fetus. Presumed human reproductive toxicant

Intraperitoneal (Rat Female) TD<sub>Lo</sub> =1 mg/kg (15 days after conception) - Toxic Effects: Specific Developmental Abnormalities - Central Nervous System; Hepatobiliary System / Effects on Embryo or Fetus - Fetotoxicity (except death, e.g., stunted fetus) / Effects on Newborn - Growth statistics (e.g. %, reduced weight gain)

Intraperitoneal (Rat Female) TD<sub>Lo</sub> =300 µg/kg (13 days after conception) - Toxic Effects: Fertility - post-implantation mortality (e.g. dead and/or resorbed implants per total number of implants) / Effects on Embryo or Fetus - Fetotoxicity (except death, e.g., stunted fetus)

Intraperitoneal (Rat Female) TD<sub>Lo</sub> =250 µg/kg (15 days after conception) - Toxic Effects: Specific Developmental Abnormalities - Central Nervous System; Craniofacial (including nose and tongue); Cardiovascular (Circulatory) System

Intraperitoneal (Rat Female) TD<sub>Lo</sub> =1 mg/kg (4 days after conception) - Toxic Effects: Maternal Effects - uterus, cervix, vagina

**STOT-single exposure:**

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Not available.

**STOT-repeated exposure:**

See Additional Information

**Aspiration hazard:**

Not available.

**Likely routes of exposure:**

Respiratory organs, mouth, skin, and eyes.

**Symptoms of exposure:**

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

**Additional Information:**

RTECS: MA4375000

**STOT-repeated exposure:**

Intraperitoneal (Rat)  $TD_{Lo}$  =400 mg/kg (4W-I) - Toxic Effects: Liver - changes in liver weight / Endocrine - changes in thymus weight / Immunological Including Allergic - decreased inhumoral immune response

Oral (Monkey)  $TD_{Lo}$  =56 mg/kg (7D-I) - Toxic Effects: Liver - other changes / Kidney, Ureter, Bladder - other changes / Blood - changes in erythrocyte (RBC) count

## **Section 12: Ecological Information**

### **12.1 Toxicity:**

Fish -  $LC_{50}$  (*Oncorhynchus mykiss*) 96h = 1.4 mg/l

### **12.2 Persistence and degradability:**

Can form stable derivatives such as the acetate, oxime and semicarbanzone. These derivatives are active as fungicides.

### **12.3 Bioacumulative potential:**

$K_{ow}$  = 0.55

### **12.4 Mobility in soil:**

Not available.

### **12.5 Other adverse effects:**

In the absence of complete ecological information, treat product as environmentally hazardous. Use proper storage, handling, and disposal to prevent unintentional release into the environment.

## **Section 13 Disposal Considerations**

Dispose of product in accordance with local rules and regulations.

## **Section 14: Transport Information**

### **14.1 US Department of Transportation (DOT)**

**UN Number:** 2811  
**Proper shipping name:** Toxic solids, organic, n.o.s. (Cycloheximide)  
**Class:** 6.1  
**Packing Group:** I  
**Marine Pollutant:** Yes

**14.2 International Maritime Dangerous Goods (IMDG):**

**UN Number:** 2811  
**Proper shipping name:** TOXIC SOLID, ORGANIC, N.O.S. (CYCLOHEXIMIDE)  
**Class:** 6.1  
**Packing Group:** I  
**Marine Pollutant:** Yes

**14.2 International Air Transportation Association (IATA)**

**UN Number:** 2811  
**Proper shipping name:** Toxic solids, organic, n.o.s. (Cycloheximide)  
**Class:** 6.1  
**Packing Group:** I  
**Marine Pollutant:** Yes

**Further Information**

EmS codes: F-A, S-A

**Section 15: Regulatory Information**

**SARA 302 Components:**

The following components are subject to reporting levels established by SARA Title III, Section 302:Extremely Hazardous Substance - Cyclohex99 (CAS no: 66-81-9) Threshold Planning Quantity (TPQ): 100/10,000 lbs

**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 III, Section 313.

**SARA 311/312 Hazards:**

Acute Health Hazard, Chronic Health Hazard

**Massachusetts Right To Know Components:**

Cyclohex99 CAS - No. 66-81-9

**Pennsylvania Right To Know Components:**

Cyclohex99 CAS - No. 66-81-9

**New Jersey Right To Know Components:**

Cyclohex99 CAS - No. 66-81-9

**California Prop. 65 Components:**

WARNING! This product contains a chemical known to the State of California to cause birth defects or other developmental harm.



Cyclohex99 (CAS No: 66-81-9) Revision Date: 01/01/1989

## **Section 16: Other Information**

While Gold Biotechnology, Inc. believes the information contained herein to be true and accurate, it has relied on information provided by others. Gold Biotechnology, INC. makes no warranties, express or implied, as to the accuracy or adequacy of the information contained herein or with respect to the results to be obtained from the use of the product. Gold Biotechnology, Inc. disclaims all liability with respect to the use of this product, including without limitation, liability for injury to the user or third-party persons.

### **Preparation Information**

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Content/Marketing Department  
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