

# Safety Data Sheet

Revision Date: 9/4/2019

## Section 1: Chemical Identification

### 1.1 Chemical Identification

**Product Name:** ProBlock™ Gold Extra Strength Protease Inhibitor Cocktail

**Alternative Name:**

**Catalog Number:** GB-116

### 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

Skin Irritation (Category 2)

Eye Irritation (Category 2A)

Specific Target Organ Toxicity, Single Exposure (Category 3)

Flammable Liquid (Category 4)

### 2.2 GHS Label Elements, Including Precautionary statements



Warning

### 2.3 Hazard Statements

**H227:** Combustible liquid

**H301:** Toxic if swallowed

**H303:** May be harmful if swallowed

**H314:** Causes severe skin burns and eye damage

**H318:** Causes serious eye damage

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## **2.4 Precautionary Statements**

**P210:** Keep away from heat/sparks/open flames/hot surfaces – No smoking  
**P260:** Do not breathe dust/fume/gas/mist/vapours/spray  
**P264:** Wash skin thoroughly after handling  
**P270:** Do not eat, drink or smoke when using this product  
**P280:** Wear protective gloves/protective clothing/eye protection/face protection  
**P301+310:** IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician  
**P301+330+331:** IF SWALLOWED: Rinse mouth. Do NOT induce vomiting  
**P303+361+353:** IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower  
**P304+340:** IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing  
**P305+351+338:** 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 or doctor/physician  
**P321:** Specific treatment (see First Aid Measures on this label)  
**P363:** Wash contaminated clothing before reuse  
**P370+378:** In case of fire: Use dry sand, dry chemical, or alcohol resistant foam for extinction  
**P403+235:** Store in a well ventilated place. Keep cool  
**P405:** Store locked up  
**P501:** Dispose of contents/container to an approved waste disposal plant

## **2.5 OSHA Hazards**

Irritant, Combustible liquid

## **2.6 Target Organs**

Respiratory tract

## **2.8 HMIS Classification**

Health Hazard:	1
Chronic Health Hazard:	*
Flammability:	2
Physical Hazards:	0

## **2.9 NFPA Rating**

Health Hazard:	1
Fire:	2
Reactivity Hazard:	0

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

## **3.1 Composition**

**Identity:** Dimethyl sulfoxide  
**IUPAC:** methylsulfinylmethane  
**Synonyms:**  
**CAS Number:** 67-68-5 [95-100%]  
**Molecular Formula:** C<sub>2</sub>H<sub>6</sub>OS  
**Molecular Weight:** 78.13 g/mol

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**Identity:** AEBSF  
**IUPAC:** 4-(2-aminoethyl)benzenesulfonyl fluoride;hydrochloride

**Synonyms:**

**CAS Number:** 30827-99-7 [<2%]

**Molecular Formula:** C<sub>8</sub>H<sub>11</sub>ClFNO<sub>2</sub>S

**Molecular Weight:** 239.69 g/mol

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**Identity:** PMSF

**IUPAC:** phenylmethanesulfonyl fluoride

**Synonyms:** Alpha-toluenesulfonyl fluoride

**CAS Number:** 329-98-6 [<2%]

**Molecular Formula:** C<sub>7</sub>H<sub>7</sub>FO<sub>2</sub>S

**Molecular Weight:** 174.19 g/mol

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**Identity:** Aprotinin

**IUPAC:**

**Synonyms:** Iniprol, Trasylol, Trazinin

**CAS Number:** 9087-70-1 [<2%]

**Molecular Formula:** C<sub>284</sub>H<sub>432</sub>N<sub>84</sub>O<sub>79</sub>S<sub>7</sub>

**Molecular Weight:** 6,511.44 g/mol

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**Identity:** Bestatin

**IUPAC:** (2S)-2-[[[(2S,3R)-3-amino-2-hydroxy-4-phenylbutanoyl]amino]-4-methylpentanoic acid

**Synonyms:**

**CAS Number:** 58970-76-6 [<2%]

**Molecular Formula:** C<sub>16</sub>H<sub>24</sub>N<sub>2</sub>O<sub>4</sub>

**Molecular Weight:** 308.37 g/mol

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**Identity:** E-64

**IUPAC:** (2S,3S)-3-[[[(2S)-1-[4-(diaminomethylideneamino)butylamino]-4-methyl-1-oxopentan-2-yl]carbonyl]oxirane-2-carboxylic acid

**Synonyms:**

**CAS Number:** 66701-25-5 [<2%]

**Molecular Formula:** C<sub>15</sub>H<sub>27</sub>N<sub>5</sub>O<sub>5</sub>

**Molecular Weight:** 357.40 g/mol

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**Identity:** Leupeptin hemisulfate salt

**IUPAC:** salt 2-acetamido-N-[1-[[5-(diaminomethylideneamino)-1-oxopentan-2-yl]amino]-4-methyl-1-oxopentan-2-yl]-4-methylpentanamide;hemisulfate

**Synonyms:**

**CAS Number:** 103476-89-7 [<2%]

<b>Molecular Formula:</b>	$C_{20}H_{38}N_6O_4 \cdot 1/2 H_2SO_4$
<b>Molecular Weight:</b>	475.59 g/mol
<b>Identity:</b>	Pepstatin A
<b>IUPAC:</b>	(3S,4S)-3-hydroxy-4-[[[(2S)-2-[[[(3S,4S)-3-hydroxy-6-methyl-4-[[[(2S)-3-methyl-2-[[[(2S)-3-methyl-2-(3-methylbutanoylamino)butanoyl]amino]butanoyl]
<b>Synonyms:</b>	Ahpatinin C
<b>CAS Number:</b>	26305-03-3 [<2%]
<b>Molecular Formula:</b>	$C_{34}H_{63}N_5O_9$
<b>Molecular Weight:</b>	685.89 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.
<b>Ingestion:</b>	Wash out mouth with water. Drink plenty of water. Consult a physician. Never give anything by mouth to an unconscious person.
<b>Notes to Physician:</b>	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 section2). 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:**

Combustible liquid. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. Runoff to sewer may create fire or explosion hazard.

### **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 – Unknown.

### **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.

### **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 4°C.

## **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.

**Control Parameters - Workplace**

<b><u>Component:</u></b>	<b><u>CAS-No:</u></b>	<b><u>Value:</u></b>
DMSO	67-68-5	TWA

**Control**

<b><u>Parameters:</u></b>
250 ppm

**Basis:**

USA. Workplace  
Environmental Exposure Levels  
(WEEL)

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

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

<b>Appearance:</b>	Liquid
<b>Odor:</b>	Not Available
<b>Odor Threshold:</b>	Not Available
<b>pH:</b>	Not Available
<b>Melting Point:</b>	Not Available
<b>Freezing Point:</b>	Not Available
<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
<b>Upper Explosion Limit:</b>	Not Available
<b>Vapor Pressure:</b>	Not Available
<b>Vapor Density:</b>	Not Available
<b>Relative Density:</b>	Not Available
<b>Solubility:</b>	Not Available
<b>Partition Coefficient n-octanol/water:</b>	Not Available
<b>Auto-Ignition Temperature:</b>	Not Available
<b>Decomposition Temperature:</b>	Not Available
<b>Viscosity:</b>	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:**

Strong oxidizing agents.

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

Hazardous decomposition products formed under fire conditions. - Unknown.

## **Section 11: Toxicological Information**

### **11.1 Toxicological effects**

#### **Acute toxicity:**

Dimethyl sulfoxide	Oral:	LD <sub>50</sub> (Rat) - 14,500 mg/kg
Dimethyl sulfoxide	Skin:	LD <sub>50</sub> (Rabbit) - 5000 mg/kg
Dimethyl sulfoxide	Inhalation:	LD <sub>50</sub> (Rat) - 4 h - 40250 ppm

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

Mild skin irritation.

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

Not available.

#### **Germ cell mutagenicity:**

Mouse - lymphocyte - Cytogenetic analysis

Mouse - lymphocyte - Mutation in mammalian somatic cells

Rat - Cytogenetic analysis  
Mouse - DNA damage

#### **Carcinogenicity:**

<b>IARC:</b>	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.
<b>ACGIH:</b>	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.
<b>NTP:</b>	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.
<b>OSHA:</b>	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:**

Reproductive toxicity - Rat - Intraperitoneal - Effects on Fertility: Abortion. Post-implantation mortality (e.g., dead and/or resorbed implants per total number of implants).

Reproductive toxicity - Rat - Subcutaneous - Effects on Fertility: Post-implantation mortality (e.g., dead and/or resorbed implants per total number of implants). Litter

size (e.g.; # fetuses per litter; measured before birth).

Reproductive toxicity - Mouse - Oral - Effects on Fertility: Pre-implantation mortality (e.g., reduction in number of implants per female; total number of implants per corpora lutea). Effects on Embryo or Fetus: Fetotoxicity (except death, e.g., stunted fetus).

Specific Developmental Abnormalities: Musculoskeletal system.

Developmental Toxicity - Mouse - Intraperitoneal - Effects on Embryo or Fetus:

Fetotoxicity (except death, e.g., stunted fetus). Specific Developmental Abnormalities: Musculoskeletal system.

**STOT-single exposure:**

Not available.

**STOT-repeated exposure:**

Not available.

**Aspiration hazard:**

Not available.

**Likely routes of exposure:**

Respiratory organs, mouth, skin, and eyes.

**Symptoms of exposure:**

Effects due to ingestion may include; Nausea, Fatigue, Headache.

Exposure to large amounts can cause; redness of skin, Itching, burning, sedation, Headache, Nausea, Dizziness.

To the best of our knowledge, the chemical, physical, and toxicological properties have

**Additional Information:**

RTECS: PV6210000 Carcinogenicity (Rat) -Oral Tumorigenic: Equivocal tumorigenic agent by RTECS criteria. Skin and Appendages:

Other: Tumors.

Carcinogenicity (Mouse) -Oral

Tumorigenic: Equivocal tumorigenic agent by RTECS criteria. Leukaemia Skin and Appendages: Other: Tumors.

Eyes - Eye disease - Based on Human Evidence

## **Section 12: Ecological Information**

### **12.1 Toxicity:**

Toxicity to fish:

LC50 (Pimephales promelas) = 34000 mg/L - 96h



LC50 (Oncorhynchus mykiss) = 35000 mg/L - 96h  
Toxicity to daphnia: EC50 (Daphnia magna) = 24600 mg/L – 48h (OECD Test Guideline 202)  
Toxicity to algae: EC50 (Pseudokirchneriella subcapitata) = 17000 mg/L – 72h (OECD Test Guideline 201)

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

Biodegradability

Result: 31%

According to the results of tests of biodegradability this product is not readily biodegradable. (OECD Test Guideline 301D)

#### **12.3 Bioaccumulative potential:**

Does not bioaccumulate.

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

Not available.

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

Stability in water - 0.12 - 1.2 h at 30°C

Remarks: Hydrolyses readily.

## **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: 1993  
Proper shipping name: Combustible liquid, n.o.s (Dimethyl sulfoxide)  
Class: None  
Packing Group: III  
Marine Pollutant: No

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

This material is considered to be non-hazardous for transport.

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

This material is considered to be non-hazardous for transport.

## **Section 15: Regulatory Information**

### **SARA 302 Components:**

SARA 302: No chemicals 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 III, Section 313.

**SARA 311/312 Hazards:**

No SARA Hazards.

**Massachusetts Right To Know Components:**

Dimethyl sulfoxide

AEBSF

PMSF

Aprotinin

Bestatin

E-64

Leupeptin hemisulfate salt

Pepstatin A

**Pennsylvania Right To Know Components:**

Dimethyl sulfoxide

AEBSF

PMSF

Aprotinin

Bestatin

E-64

Leupeptin hemisulfate salt

Pepstatin A

**New Jersey Right To Know Components:**

Dimethyl sulfoxide

AEBSF

PMSF

Aprotinin

Bestatin

E-64

Leupeptin hemisulfate salt

Pepstatin A

**California Prop. 65 Components:**

This product does not contain any chemical known to the State of California to cause cancer, birth, or any other reproductive defects.

CAS - No.

67-68-5 [95-100%]

30827-99-7 [<2%]

329-98-6 [<2%]

9087-70-1 [<2%]

58970-76-6 [<2%]

66701-25-5 [<2%]

103476-89-7 [<2%]

26305-03-3 [<2%]

CAS - No.

67-68-5 [95-100%]

30827-99-7 [<2%]

329-98-6 [<2%]

9087-70-1 [<2%]

58970-76-6 [<2%]

66701-25-5 [<2%]

103476-89-7 [<2%]

26305-03-3 [<2%]

CAS - No.

67-68-5 [95-100%]

30827-99-7 [<2%]

329-98-6 [<2%]

9087-70-1 [<2%]

58970-76-6 [<2%]

66701-25-5 [<2%]

103476-89-7 [<2%]

26305-03-3 [<2%]

## **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.

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