

Safety Data Sheet


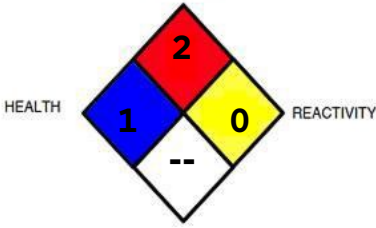
Section 1: Product & Company Identification

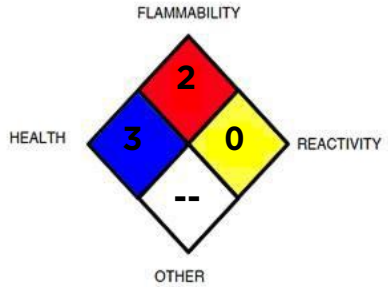
Product Name:	Protease Inhibitor Cocktail IV
Product #:	P-1513
Synonyms:	-
Supplier:	AG Scientific Holdings, LLC 9950 Scripps Lake Drive, Suite 104 San Diego CA 92131 Tele# + 858-452-9925
Emergency Tele#:	ChemTel, Tele# in USA 1-800-255-3924, International 1-813-248-0585

Section 2: Composition / Information on Ingredients

Component	CAS#	EC #	Concentration	Target Proteases
AEBSF HCl	30827-99-7	-	<5%	Serine Proteases
E-64	66701-25-5	-	<1%	Cysteine Proteases
Pepstatin A	26305-03-3	247-600-0	<1%	Aspartic Proteases
1,10-Phenanthroline	66-71-7	200-629-2	<10%	Metalloproteases
DMSO	67-68-5	200-664-3	<100%	-

Section 3: Hazards Identification

Symbols	
HMIS Classification	<p style="text-align: center;">FLAMMABILITY</p>  <p style="text-align: center;">OTHER</p>

NFPA Classification	
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Section 4: First Aid Measures

General Overview:	Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.
Inhalation:	<p>DMSO: Move to fresh air. Call a physician if symptoms develop or persist.</p> <p>1,10-Phenanthroline: If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.</p>
Skin:	<p>DMSO: Wash off with soap and water. Get medical attention if irritation develops and persists.</p> <p>1,10-Phenanthroline: Wash off with soap and plenty of water. Take victim immediately to hospital. Consult a physician.</p>
Eyes:	<p>DMSO: Rinse with water. Get medical attention if irritation develops and persists.</p> <p>1,10-Phenanthroline: Flush eyes with water as a precaution.</p>
Ingestion:	<p>DMSO: Rinse mouth. Get medical attention if symptoms occur.</p> <p>1,10-Phenanthroline: Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.</p>
See section 11 for more detailed information on health effects & symptoms.	

SECTION 5: Fire Fighting Measures

Flammability of the product:	Combustible liquid
Extinguishing Media:	DMSO: Water fog. Foam. Dry chemical powder. Carbon dioxide (CO ₂).

	1,10-Phenanthroline: Use water spray, alcohol-resistant foam, dry chemical, or carbon dioxide.
Hazardous thermal (de)composition products:	DMSO: Carbon oxides 1,10-Phenanthroline: Nature of decomposition products not known
Special Fire Fighting Procedures:	DMSO: Self-contained breathing apparatus and full protective clothing must be worn in case of fire. 1,10-Phenanthroline: Wear self-contained breathing apparatus for firefighting if necessary.
Flash Point:	DMSO: No data available 1,10-Phenanthroline: No data available

Section 6: Accidental Release Measures

Personal Precautions:	DMSO: Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Wear appropriate protective equipment and clothing during clean-up. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained 1,10-Phenanthroline: Wear respiratory protection. Avoid dust formation. Avoid breathing vapors, mist, or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Avoid breathing dust.
Environmental Precautions:	DMSO: Avoid discharge into drains, water courses or onto the ground. 1,10-Phenanthroline: Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.
Methods for Clean-up:	DMSO: Use water spray to reduce vapors or divert vapor cloud drift. Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Keep combustibles (wood, paper, oil, etc.) away from spilled material. 1,10-Phenanthroline: Pick up and arrange disposal without creating dust. Sweep up and shovel. Keep in suitable, closed containers for disposal.

SECTION 7: Handling & Storage

Storage:	DMSO: Keep away from heat, sparks, and open flame. Store in a cool, dry place out of direct sunlight. Recommended storage temperature: -20°C. 1,10-Phenanthroline: Keep container tightly closed in a dry and well-ventilated place. Recommended storage temperature: -20°C.
Handling:	DMSO: Keep away from open flames, hot surfaces, and sources of ignition. When using do not smoke. Avoid prolonged exposure. Provide adequate

ventilation. Wear appropriate personal protective equipment. Observe good industrial hygiene practices.

1,10-Phenanthroline: Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Further processing of solid materials may result in the formation of combustible dusts. The potential for combustible dust formation should be taken into consideration before additional processing occurs.

SECTION 8: Exposure controls / Personal Protection

Respiratory Protection:



Where risk assessment shows air-purifying respirators are appropriate use a full-face particle respirator type N99 (US) or type P2 (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).

Skin and Body:



Complete suit protecting against chemicals. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

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.

Eyes:	 <p>Face shield and safety glasses Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).</p>
Ventilation/Engineering Measures:	Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.
Hygiene:	Handle in accordance with good industrial hygiene and safety practice.
Other:	DMSO (CAS 67-68-5), TWA: 250 ppm, (USA. Workplace Environmental Exposure Levels (WEEL)

SECTION 9: Physical and Chemical Properties

Property	DMSO	1,10-Phenanthroline
Appearance & Odor:	Clear liquid	Solid
Formula	C ₂ H ₆ OS	C ₁₂ H ₈ N ₂ · H ₂ O
Molecular Wt.	78.13	198.22
Melting Pt.	18°	97 - 102°C
Boiling Pt.	189°C	No data available
Density:	No data available	No data available
Vapor Pressure:	No data available	No data available
Evaporation Rate:	No data available	No data available
Vapor Density:	No data available	No data available
Solubility:	DMSO	No data available
Flash Point:	87.0°C	No data available
Autoignition Temp:	No data available	No data available

SECTION 10: Stability and Reactivity

Stability:	Stable under recommended storage conditions.
Hazardous decomposition products:	Avoid heat, sparks, open flames, and other ignition sources. Avoid temperatures exceeding the flash point. Contact with incompatible materials.
Materials to Avoid:	Strong oxidizing agents. Alkaline metals. Isocyanates. Strong acids.

Conditions to avoid:	No data available
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SECTION 11: Toxicological Information

RTECS#:	N/A
ACUTE Toxicity:	N/A
CHRONIC Toxicity:	N/A
Chronic Exposure: Carcinogen: Mutagen: Teratogen: Reproductive:	<p>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.</p> <p>AGGIH: No component of this product present at levels greater than or equal to 0.1% is identified as probable, potential human carcinogen by ACGIH.</p> <p>NTP: No component of this product present at levels greater than or equal to 0.1% is identified as known or anticipated human carcinogen by NTP.</p> <p>OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as known or potential human carcinogen by OSHA.</p> <p>EPA: No classification on carcinogenic data is available from EPA</p>

SECTION 12: Ecological Information

Ecotoxicity:	The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.
Mobility:	No data available
Persistence and degradability:	No data available
Bioaccumulative potential:	No data available
Other adverse effects:	An environmental hazard cannot be excluded in the event of unprofessional handling or disposal. Very toxic to aquatic life with long lasting effects.
Corrosivity Characteristic:	No data available
General Notes:	To the best of our knowledge, the chemical, physical and toxicological properties have not been thoroughly investigated.

SECTION 13: Disposal Considerations

Residue Waste or Unused product:	Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Dispose of contents/container in accordance with local/regional/national/international regulations.
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Contaminated Packaging:	Dispose of as unused product.
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SECTION 14: Transportation Information

UN ID#:	1,10-Phenanthroline: UN 2811
ADR / RID (LAND):	1,10-Phenanthroline: UN 2811
DOT regulations:	1,10-Phenanthroline: UN number: 2811 Class: 6.1 Packing group: III Proper shipping name: Toxic solids, organic, n.o.s. (1,10-Phenanthroline) Reportable Quantity (RQ): Poison Inhalation Hazard: No
IMDG/IMO (SEA):	1,10-Phenanthroline: UN number: 2811 Class: 6.1 Packing group: III EMS-No: F-A, S-A Proper shipping name: TOXIC SOLID, ORGANIC, N.O.S. (1,10-Phenanthroline) Marine pollutant : yes
IATA/DGR (AIR):	1,10-Phenanthroline: UN number: 2811 Class: 6.1 Packing group: III Proper shipping name: Toxic solid, organic, n.o.s. (1,10-Phenanthroline)
Special Provisions:	N/A

SECTION 15: Regulatory Information

Health Phrases:	H301 Toxic if swallowed. H410 Very toxic to aquatic life with long lasting effects.
Risk Phrases:	P264 Wash skin thoroughly after handling. P270 Do not eat, drink, or smoke when using this product. P273 Avoid release to the environment.
Safety Phrases:	P301 + P310 + P330 IF SWALLOWED: Immediately call a POISON CENTER /doctor. Rinse mouth. P391 Collect spillage. P405 Store locked up. P501 Dispose of contents/ container to an approved waste disposal plant.
EU Regulations:	N/A
US Regulations:	TSCA: Not listed California Proposition 65: No products were found New Jersey State Right to Know: Dimethyl sulfoxide (CAS 67-68-5); 1,10-Phenanthroline (CAS 66-71-7) Pennsylvania State Right to Know: Dimethyl sulfoxide (CAS 67-68-5); 1,10-Phenanthroline (CAS 66-71-7)
U.S. Federal Regulations:	SARA 302/304 emergency planning and notification: No products were found. SARA 311/312 MSDS distribution-chemical inventory-hazard identification: No products were found. SARA 313 toxic chemicals notification and release reporting: No products were found. Clean Water Act (CWA) 307: No products were found. Clean Water Act (CWA) 311: No products were found. Clean Air Act (CAA) 112 accidental release prevention: No products were found.

	Clean Air Act (CAA) 112 regulated flammable substances: No products were found. Clean Air Act (CAA) 112 regulated toxic substances: No products were found. OSHA: Combustible liquid; Target organ effect; Corrosive
WHMIS (Canada):	N/A

SECTION 16: Other Information

LIABILITY STATEMENT: *The above information is believed to be correct but does not purport to be all-inclusive and shall be used only as a guide. AG Scientific shall not be held liable for any damages resulting from handling or from contact with the above product. AG Scientific products are for research purposes only. Not for human use or consumption.*