

Safety Data Sheet


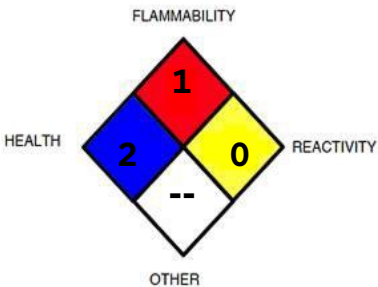
Section 1: Product & Company Identification

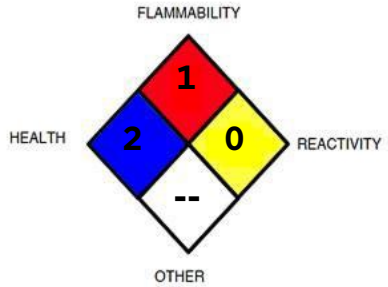
Product Name:	E-64d (Synthetic)
Product #:	E-2401
Synonyms:	(2S,3S)-trans-Epoxy succinyl-L-leucylamido-3-methylbutane ethyl ester EST; Aloxiastatin; Loxiastatin
Supplier:	AG Scientific Holdings, LLC 9950 Scripps Lake Drive, Suite 104 San Diego CA 92131 Tele# + 858-452-9925
Emergency Tele#:	ChemTel, Tele# in USA 1-800-255-3924, International 1-813-248-0585

Section 2: Composition / Information on Ingredients

Component	CAS#	EC #	% Composition
E-64d	88321-09-9	-	≥ 98

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:	If symptoms persist, call a physician.
Inhalation:	Remove to fresh air. If symptoms persist, call a physician. Artificial respiration and/or oxygen may be necessary. Call a physician. Immediate medical attention is not required. Move to fresh air in case of accidental inhalation of vapors.
Skin:	Wash off immediately with plenty of water for at least 15 minutes. If skin irritation persists, call a physician. Wash contaminated clothing before reuse. Wash off immediately with plenty of water. Immediate medical attention is not required. Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes.
Eyes:	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. If symptoms persist, call a physician. Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes. Keep eye wide open while rinsing.
Ingestion:	Immediate medical attention is not required. Rinse mouth. Drink plenty of water. Do NOT induce vomiting. Clean mouth with water and drink afterwards plenty of water. Never give anything by mouth to an unconscious person. Call a physician.
	See section 11 for more detailed information on health effects & symptoms.

SECTION 5: Fire Fighting Measures

Flammability of the product:	No data available
Extinguishing Media:	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Hazardous thermal (de)composition products:	Carbon oxides, Nitrogen oxides
Special Fire Fighting Procedures:	As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.
Flash Point:	No data available


Section 6: Accidental Release Measures




Personal Precautions:	Use personal protective equipment as required. Avoid contact with eyes and skin. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak.
Environmental Precautions:	Prevent entry into waterways, sewers, basements, or confined areas. Do not flush into surface water or sanitary sewer system. Prevent further leakage or spillage if safe to do so. Prevent product from entering drains. See Section 12 for additional Ecological Information.
Methods for Clean-up:	Prevent further leakage or spillage if safe to do so. Use personal protective equipment as required. Take up mechanically, placing in appropriate containers for disposal. Clean contaminated surface thoroughly. Cover powder spill with plastic sheet or tarp to minimize spreading and keep powder dry. Avoid creating dust. Soak up with inert absorbent material. Dam up. Pick up and transfer to properly labeled containers. Sweep up and shovel into suitable containers for disposal. After cleaning, flush away traces with water. Take precautionary measures against static discharges.

SECTION 7: Handling & Storage

Storage:	Keep container tightly closed. Keep out of the reach of children. Keep containers tightly closed in a cool, well-ventilated place. Keep in properly labeled containers. Store at -20 °C.
Handling:	Ensure adequate ventilation, especially in confined areas. Use personal protective equipment as required. Use with local exhaust ventilation. Do not breathe dust/fume/gas/mist/vapors/spray. Handle in accordance with good industrial hygiene and safety practice. Corrosive hazard. Wear protective gloves/clothing and eye/face protection.

SECTION 8: Exposure controls / Personal Protection

Respiratory Protection:	 <p>If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations.</p>
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Skin and Body:	  <p>Wear protective gloves and protective clothing.</p>
Eyes:	 <p>Tight sealing safety goggles. Face protection shield.</p>
Ventilation/Engineering Measures:	Showers, Eyewash stations, Ventilation systems
Hygiene:	Handle in accordance with good industrial hygiene and safety practice.
Other:	This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region-specific regulatory bodies.

SECTION 9: Physical and Chemical Properties

Appearance & Odor:	White crystalline powder
Formula	$C_{17}H_{30}N_2O_5$
Molecular Wt.	342.43
Melting Pt.	217.57°C
Boiling Pt.	470.5°C
Density:	1.2 g/cm ³
Vapor Pressure:	No data available
Evaporation Rate:	No data available
Vapor Density:	No data available
Solubility:	EtOH, DMSO
Flash Point:	No data available
Autoignition Temp:	No data available

SECTION 10: Stability and Reactivity

Stability:	Stable under recommended storage conditions.
Hazardous decomposition products:	Carbon oxides, Nitrogen oxides
Materials to Avoid:	Strong oxidizing agents
Conditions to avoid:	Extremes of temperature and direct sunlight

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:	May cause long lasting harmful effects to aquatic life.
Mobility:	No data available
Persistence and degradability:	No data available
Bioaccumulative potential:	No data available
Other adverse effects:	No data available
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:	Disposal should be in accordance with applicable regional, national and local laws and regulations.
Contaminated Packaging:	Do not reuse container.

SECTION 14: Transportation Information

UN ID#:	N/A
ADR / RID (LAND):	Not regulated
DOT regulations:	Not regulated
IMDG/IMO (SEA):	Not regulated
IATA/DGR (AIR):	Not regulated
Special Provisions:	N/A

SECTION 15: Regulatory Information

Health Phrases:	H318 Causes serious eye irritation H335 May cause respiratory irritation
Risk Phrases:	P264 Wash face, hands, and any exposed skin thoroughly after handling P280 Wear protective gloves/protective clothing/eye protection/face protection P261 Avoid breathing dust/fume/gas/mist/vapors/spray P271 Use only outdoors or in a well-ventilated area P308 + P313 IF exposed or concerned: Get medical advice/attention P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing P337 + P313 If eye irritation persists: Get medical advice/attention P304 + P341 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing P312 Call a POISON CENTER or doctor/physician if you feel unwell
Safety Phrases:	N/A
EU Regulations:	N/A
US Regulations:	TSCA: Not listed California Proposition 65: No products were found
U.S. Federal Regulations:	SARA 302/304 emergency planning and notification: No products were found. SARA 311/312 MSDS distribution-chemical inventory-hazard identification: Acute Health Hazard 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.

	<p>Clean Air Act (CAA) 112 accidental release prevention: No products were found.</p> <p>Clean Air Act (CAA) 112 regulated flammable substances: No products were found.</p> <p>Clean Air Act (CAA) 112 regulated toxic substances: No products were found.</p> <p>OSHA: No products were found.</p>
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.*