



## MATERIAL SAFETY DATA SHEET


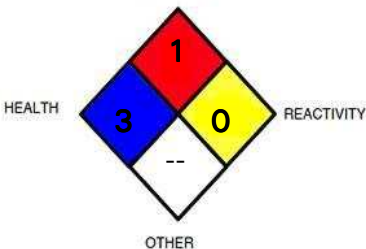
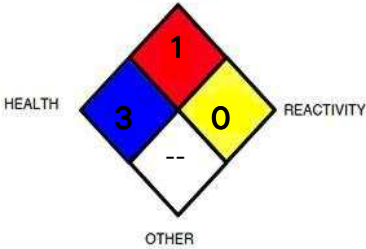
### Section 1: Product & Company Identification

<b>Product Name:</b>	Valinomycin
<b>Product #:</b>	V-1013
<b>Synonyms:</b>	valinomycin, antibiotic N-329, NSC 122023
<b>Supplier:</b>	A.G. Scientific, Inc. 6450 Lusk Blvd E102 San Diego CA 92121 Tele# + 858-452-9925 Fax# + 858-452-9926
<b>Emergency Tele#:</b>	Chemtrec, Tele# in USA 1-800-424-9300, International 1-703-527-3887

### Section 2: Composition / Information on Ingredients

Component	CAS#	EC #	%	Classification	R Phrases
	2001-95-8	217-896-6			R27/28

### Section 3: Hazards Identification

<b>Symbols</b>	 <p>6, Highly toxic (USA); Very Toxic (EU)</p>
<b>HMIS Classification</b>	<p>FLAMMABILITY</p>  <p>HEALTH 3 REACTIVITY 0</p> <p>OTHER --</p>
<b>NFPA Classification</b>	<p>FLAMMABILITY</p>  <p>HEALTH 3 REACTIVITY 0</p> <p>OTHER --</p>



## Section 4: First Aid Measures

<b>General Overview:</b>	Avoid contact, wear suitable protective clothing, gloves and eye/face protection.
<b>Inhalation:</b>	If inhaled, remove to fresh air. If breathing is difficult, give oxygen. If not breathing give artificial respiration, seek medical attention.
<b>Skin:</b>	Wash immediately with water for 15 minutes. Remove contaminated clothing. Wash contaminated clothing before reuse. Seek medical attention if symptoms appear.
<b>Eyes:</b>	In case of contact, immediately flush eyes or skin with copious amounts of water for at least 15 minutes. Remove contacts. Assure adequate flushing of the eyes by separating the eyelids with fingers.
<b>Ingestion:</b>	If swallowed, wash out mouth with water provided person is conscious. DO NOT induce vomiting. Seek medical attention if symptoms appear. Loosen tight clothing like collar, tie, belt or waistband.
	<i>See section 11 for more detailed information on health effects &amp; symptoms</i>

## SECTION 5: Fire Fighting Measures

<b>Flammability of the product:</b>	Not available.
<b>Extinguishing Media:</b>	Dry Chemical Powder for SMALL FIRES and carbon dioxide or water spray, fog or foam for LARGE FIRES. Water spray.
<b>Hazardous thermal (de)composition products:</b>	Carbon oxides (CO, CO <sub>2</sub> ), nitrogen oxides (NO, NO <sub>2</sub> ).
<b>Special Fire Fighting Procedures:</b>	Wear self-contained breathing apparatus (SCBA) and protective clothing to prevent contact with skin and eyes. Be sure to use an approved/certified respirator or equivalent. Emits toxic fumes under fire conditions.
<b>Flash Point:</b>	Not available.

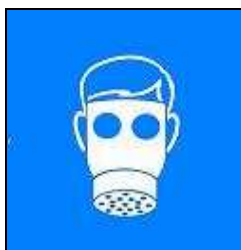



## Section 6: Accidental Release Measures

<b>Personal Precautions:</b>	Use Personal Protection Equipment. Splash goggles. Full suit. Boots. Gloves. Avoid dust formation.
<b>Environmental Precautions:</b>	Do not let product enter drains.
<b>Methods for Clean-up:</b>	Sweep up & shovel into suitable disposal container. Ventilate area and wash spill site after material pickup is complete.

## SECTION 7: Handling & Storage

<b>Storage:</b>	+4°C. Keep container tightly closed and in a well ventilated area. Do not store above +4°C.
<b>Handling:</b>	Use only in area provided with appropriate exhaust ventilation. Keep away from heat and source of ignition. Empty containers pose a fire risk, evaporate residue under fume hood. Ground all equipment containing material. Do not breathe dust.

## SECTION 8: Exposure controls / Personal Protection

<b>Respiratory Protection:</b>	 <p>Wear appropriate government (NIOSH/MSHA) approved respirator. Do not breathe vapor.</p>
<b>Skin and Body:</b>	  <p>Chemical-resistant gloves and lab coat/other protective clothing. Avoid prolonged or repeated exposure. Wash thoroughly after handling.</p>
<b>Eyes:</b>	 <p>Safety goggles.</p>
<b>Ventilation/Engineering Measures:</b>	Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below recommended exposure limits.
<b>Hygiene:</b>	Wash hands after handling compound and before eating, smoking, using lavatory and at the end of the day.



## SECTION 9: Physical and Chemical Properties

<b>Appearance &amp; Odor:</b>	Solid
<b>Color:</b>	White to off-white
<b>Formula:</b>	C <sub>54</sub> H <sub>90</sub> N <sub>6</sub> O <sub>18</sub>
<b>Molecular Wt.</b>	1111.4 g/mole
<b>Melting Pt.</b>	N/A
<b>Boiling Pt.</b>	N/A
<b>Density:</b>	N/A
<b>Vapor Pressure:</b>	N/A
<b>Evaporation Rate:</b>	N/A
<b>Vapor Density:</b>	N/A
<b>Solubility:</b>	DMSO, ethanol, petrol ether. Not soluble in water.
<b>Flash Point:</b>	N/A
<b>Autoignition Temp:</b>	N/A

## SECTION 10: Stability and Reactivity

<b>Stability:</b>	Stable
<b>Hazardous decomposition products:</b>	Will not occur.
<b>Materials to Avoid:</b>	Strong oxidizing agents.
<b>Conditions to avoid:</b>	Excess heat, strong oxidizers, incompatible materials.

## SECTION 11: Toxicological Information

<b>RTECS#:</b>	YV9468000
<b>ACUTE Toxicity:</b>	VERY TOXIC. LD <sub>50</sub> : 2.5 mg/kg (mouse, oral). Acute oral toxicity. LD <sub>50</sub> : 5 mg/kg (rabbit, dermal). Acute dermal toxicity.
<b>CHRONIC Toxicity:</b>	May be fatal if inhaled, swallowed or absorbed through skin. May cause irritation. May cause convulsion. Target organs: Heart, Peripheral nervous system, Central nervous system.
<b>Chronic Exposure:</b>	
<b>Carcinogen:</b>	Not available.
<b>Mutagen:</b>	Not available.
<b>Teratogen:</b>	Not available.
<b>Reproductive:</b>	Not available.

## SECTION 12: Ecological Information

<b>Ecotoxicity:</b>	N/A
<b>Mobility:</b>	N/A

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<b>Persistence and degradability:</b>	The products of degradation are less toxic than the product itself.
<b>Bioaccumulative potential:</b>	N/A
<b>Other adverse effects:</b>	N/A
<b>Corrosivity Characteristic:</b>	N/A
<b>General Notes:</b>	Do not allow undiluted product or large quantities of it to reach groundwater , water course or sewer system. Do not allow materials to be released into the environment without proper government permits.

## SECTION 13: Disposal Considerations

<b>Residue Waste or Unused product:</b>	<i>Only professional staff trained in such techniques must undertake waste disposal. Observe all appropriate federal, provincial or state and local regulations.</i>
<b>Contaminated Packaging:</b>	Do not re-use empty containers. Dispose of as unused product.


## SECTION 14: Transportation Information


<b>UN ID#:</b>	UN2811
<b>ADR / RID (LAND):</b>	 <p> <b>Proper shipping name:</b> UN2811  <b>Hazard Class:</b> 6.1  <b>Packaging Group:</b> I  <b>Proper shipping name:</b> Toxic Solid, organic, n.o.s. (Valinomycin)  <b>Label:</b> 6         </p>
<b>DOT regulations:</b>	 <p> <b>Hazard Class:</b> 6.1  <b>Identification number:</b> UN2811  <b>Packaging Group:</b> I  <b>Proper shipping name:</b> Toxic Solid, organic, n.o.s. (Valinomycin)  <b>Label:</b> 6         </p>

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<b>IMDG/IMO (SEA):</b>	Not controlled under IMDG, Not dangerous goods
<b>IATA/DGR (AIR):</b>	
<b>IATA Class:</b>	6.1
<b>UN/ID Number:</b>	2811
<b>Label:</b>	6
<b>Packaging Group:</b>	I
<b>Proper shipping name:</b>	Toxic Solid, organic, n.o.s. (Valinomycin)

SECTION 15: Regulatory Information	
<b>EU Regulations:</b>	T+, Very Toxic
<b>SYMBOLS:</b>	 6 TOXIC
<b>Risk Phrases:</b>	R27/28: Very toxic in contact with skin and if swallowed.
<b>Safety Phrases:</b>	S36/37: Wear suitable protective clothing and gloves. S45: In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).
<b>CAS# EC#</b>	CAS# [2001-95-8] 217-896-6
<b>HCS Classification:</b>	CLASS: Highly toxic. CLASS: Target organ effects.
<b>U.S. Federal Regulations:</b>	TSCA 8(b) inventory: valinomycin SARA 302/304/311/312 extremely hazardous substances: valinomycin SARA 302/304 emergency planning and notification: valinomycin SARA 302/304/311/312 hazardous chemicals: valinomycin SARA 311/312 MSDS distribution - chemical inventory - hazard identification: valinomycin: Immediate (Acute) Health Hazard, Delayed (Chronic) Health Hazard SARA 313 toxic chemical 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. Pennsylvania RTK: valinomycin: (environmental hazard, generic environmental

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	hazard) Massachusetts RTK: valinomycin New Jersey: valinomycin CERCLA Hazardous substances.: Valinomycin: 1000 lbs. (453.6 kg) OSHA Hazardous by definition of Hazard Communication Standard (29 CFR 1910.1200)
<b>WHMIS (Canada):</b>	CLASS D-1A: Material causing immediate and serious toxic effects (VERY TOXIC)

## 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. A.G. Scientific shall not be held liable for any damages resulting from handling or from contact with the above product. A.G. Scientific products are for research purposes only. Not for human use or consumption.*