

## MATERIAL SAFETY DATA SHEET



### Section 1: Product & Company Identification

<b>Product Name:</b>	Hygromycin B Solid
<b>Product #:</b>	H-1012
<b>Synonyms:</b>	Antihelmycin, Hydromycin B, Hygromix 2.4 Hygromix-8, Hygromycin /b, Hygrovetine
<b>Supplier:</b>	A.G. Scientific 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
Hygromycin B	31282-04-9	250-545-5	> 25 %	T+, Xi, Xn	R26/27/28 R37/38 R41
Water (H2O)	7732-18-5	231-791-2	> 25 %	-	-

### Section 3: Hazards Identification

	Highly toxic (USA) Very Toxic (EU) Irritating respiratory system and skin. Risk of serious damage to eyes
<b>Symbols:</b>	 
<b>Risk Phrases:</b>	R 26/27/28: Very Toxic by inhalation, in contact with skin and if swallowed. R 37/38: Irritating to respiratory system and skin. R 41: Risk of serious damage to eyes.

### Section 4: First Aid Measures

<b>General Overview:</b>	Avoid contact, wear suitable protective clothing, gloves and eye/face protection. Do not breathe vapor.
<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.
	<i>See section 11 for more detailed information on health effects &amp; symptoms</i>

## SECTION 5: Fire Fighting Measures

<b>Extinguishing Media:</b>	Carbon Dioxide, Dry Chemical Powder or Appropriate Foam.
<b>Unusual Fire &amp; Explosion Hazards:</b>	Emits Toxic Fumes under Fire Condition.
<b>Special Fire Fighting Procedures:</b>	Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes.
<b>Flash Point:</b>	Non-flammable

## Section 6: Accidental Release Measures

<b>Personal Precautions:</b>	Use Personal Protection Equipment. Wear Self-contained breathing apparatus, rubber boots and heavy rubber gloves.
<b>Environmental Precautions:</b>	Evacuate area.
<b>Methods for Clean-up:</b>	For solid material sweep up & shovel into suitable disposal container. For liquids absorb with sand or vermiculite, and place in closed containers for disposal. Ventilate area and wash spill site after material pickup is complete.

## SECTION 7: Handling & Storage

<b>Storage:</b>	+4°C
<b>Handling:</b>	Use only in area provided with appropriate exhaust ventilation
<b>Safe Handling Advice:</b>	Wear personal protective equipment
<b>Incompatible Products:</b>	Oxidizing and spontaneously flammable products

## SECTION 8: Exposure controls / Personal Protection



<b>Respiratory Protection:</b>	Wear appropriate government (NIOSH/MSHA) approved respirator. Do not breathe vapor.
<b>Skin:</b>	Chemical-resistant gloves and other protective clothing. Avoid prolonged or repeated exposure. Wash thoroughly after handling.
<b>Eyes:</b>	Safety goggles.
<b>Ventilation:</b>	Use only in a chemical fume hood
<b>Other:</b>	Keep product container tightly closed. Store in a cool dry place. Do not eat, drink or smoke at work. Safety Shower & eye bath available. Soiled clothing and footwear must be taken off at once and removed from room. Destroy contaminated leather shoes and leather gloves.

## SECTION 9: Physical and Chemical Properties

<b>Appearance &amp; Odor:</b>	Solid
<b>Physical State:</b>	
<b>Formula:</b>	$C_{20}H_{37}N_3O_{13}$
<b>Molecular Wt.</b>	M.W. 527.53
<b>Product #:</b>	H-1012
<b>Melting Pt.</b>	n/a
<b>Boiling Pt.</b>	100°Celsius
<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 (in water):</b>	Soluble
<b>Flash Point:</b>	Non flammable
<b>Autoignition Temp:</b>	n/a

## SECTION 10: Stability and Reactivity

<b>Stability:</b>	Stable
<b>Polymerization:</b>	Hazardous polymerization will not occur.
<b>Hazardous decomposition products:</b>	Thermal decomposition may produce Carbon Monoxide, Carbon Dioxide, and Nitrogen Oxides.
<b>Materials to Avoid:</b>	Oxidizing agents
<b>Conditions to avoid:</b>	Exposure to air or moisture over prolonged periods.

## SECTION 11: Toxicological Information

<b>Component:</b>	Hygromycin B RTECS#: WK2130000
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<b>ACUTE Toxicity:</b>	<p>TOXIC.</p> <p>May be fatal if inhaled, swallowed, or absorbed through skin. Strong sensitizer. Causes severe eye irritation, lachrymator. Causes skin irritation.</p> <p>Material is irritating to mucous membranes and upper respiratory tract. Symptoms of exposure may include burning sensation, coughing, wheezing, laryngitis, shortness of breath, headache, nausea, and vomiting. Exposure can cause: Conjunctivitis, Dermatitis.</p>												
<b>CHRONIC Toxicity:</b>	<p>Chronic exposure may cause nausea, vomiting, at higher exposure can cause unconsciousness. Repeated exposure can cause hearing loss.</p> <p>To the best of our knowledge, the chemical, physical and toxicological properties have not been thoroughly investigated.</p>												
<p><b>Chronic Exposure:</b></p> <p><b>Carcinogen:</b></p> <p><b>Mutagen:</b></p> <p><b>Teratogen:</b></p> <p><b>Reproductive:</b></p>	<p>N/A</p> <p>N/A</p> <p>N/A</p> <p>N/A</p>												
<b>Toxicity Data:</b>	<table border="0"> <tr> <td>IHL-RAT LC<sub>50</sub>: 2220 UG/M3/4H</td> <td>GISAAA 38(5),11, 1973</td> </tr> <tr> <td>IPR-RAT LC<sub>50</sub>: 63 MG/KG</td> <td>GISAAA 38(5), 11, 1973</td> </tr> <tr> <td>ORL-MUS LD<sub>50</sub>: 46000 Units/KG</td> <td>PCJOAU 1, 396, 1967</td> </tr> <tr> <td>IVN-MUS LD<sub>50</sub>: 6 MG/KG</td> <td>85GDA2 1,202, 1980</td> </tr> <tr> <td>IPR-GPG LD<sub>50</sub>: 13 MG/KG</td> <td>GISAAA 38(5),11, 1973</td> </tr> <tr> <td>ORL-RAT LD<sub>100</sub>: 13 MG/KG</td> <td></td> </tr> </table>	IHL-RAT LC <sub>50</sub> : 2220 UG/M3/4H	GISAAA 38(5),11, 1973	IPR-RAT LC <sub>50</sub> : 63 MG/KG	GISAAA 38(5), 11, 1973	ORL-MUS LD <sub>50</sub> : 46000 Units/KG	PCJOAU 1, 396, 1967	IVN-MUS LD <sub>50</sub> : 6 MG/KG	85GDA2 1,202, 1980	IPR-GPG LD <sub>50</sub> : 13 MG/KG	GISAAA 38(5),11, 1973	ORL-RAT LD <sub>100</sub> : 13 MG/KG	
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<b>Target Organs:</b>	<p>Sense Organs and special senses (other olfaction effects)</p> <p>Sense Organs and special senses (Conjunctiva irritation)</p> <p>Behavioral (aggression)</p> <p>Ears</p>												

## SECTION 12: Ecological Information

Ecotoxicity:	N/A
Mobility:	N/A
Persistence and degradability:	N/A
Bioaccumulative potential:	N/A
Other adverse effects:	N/A

## SECTION 13: Disposal Considerations

<b>Residue Waste or</b>	<b><i>Only professional staff trained in such techniques must undertake waste disposal.</i></b>
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<b>Unused product:</b>	<i>Observe all appropriate federal, provincial or state and local regulations.</i>  The material for disposal should be mixed with, or dissolved in, a combustible solvent and burnt in a chemical incinerator equipped with an afterburner and scrubber.
<b>Contaminated Packaging:</b>	Do not re-use empty containers

## SECTION 14: Transportation Information

<b>UN ID#:</b>	3462
<b>ADR / RID (LAND)</b>	<b>Proper shipping name:</b> Toxins, extracted from living sources, solid, n.o.s. <b>Hazard Class:</b> 6.1, toxic substances, inhalation <b>Packaging Group:</b> II <b>Classification Code:</b> T1 <b>HIN:</b> 6.1B
<b>IMDG/IMO (SEA)</b>	<b>Proper shipping name:</b> Toxins, extracted from living sources, liquid, n.o.s. <b>Hazard Class:</b> 6.1 <b>Packaging Group:</b> II <b>Marine Pollutant:</b> No <b>Severe Marine Pollutant:</b> no
<b>IATA/DGR (AIR)</b>	<b>Proper shipping name:</b> Toxins, extracted from living sources, liquid, n.o.s. <b>Hazard Class:</b> 6.1 <b>IATA Label:</b> Toxic <b>Packaging Group:</b> II
<b>Special Provisions:</b>	

## SECTION 15: Regulatory Information

<b>EU Information:</b>	Very Toxic, Irritant: T, Xi
	 
<b>Risk Phrases:</b>	R 26/27/28: Very Toxic by inhalation, in contact with skin and if swallowed. R 37/38: Irritating to respiratory system and skin. R 41: Risk of serious damage to eyes.
<b>Safety Phrases:</b>	S 23: Do not breathe vapor. S 26: In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. S28: After contact with skin, wash with copious amounts of water. S 36/37/39: Wear suitable protective clothing, gloves and eye/face protection.



	S45: In case of accident or if you feel unwell, seek medical advice immediately (show label where possible).
<b>CAS#</b>	31282-04-9
<b>EC#</b>	250-545-5
<b>US Regulations:</b>	California Proposition 65: This product is or contains chemical(s) known to the state of California to cause developmental toxicity.
<b>HCS Classification:</b>	N/A
<b>WHMIS (Canada):</b>	Class D-1A: material causing immediate and serious toxic effects (Very Toxic). Class D-2A: material causing other toxic effects (Very Toxic).
<b>OTHER:</b>	OEL = MAK OEL-Russia: STEL 0.001 MG/M3; Skin Jan 1993 NOHS 1974: HZD M2770; NIS 1; TNF 71; NOS 1; TNE 357

## 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.*