1. Information on the Substance/Preparation and Company

1.1 Catalog # 40-100200.v2
Product name Thyretain™ Growth Medium

1.2 Company Diagnostic HYBRIDS, Inc.
1055 East State Street, Suite 100
Athens, OH 45701, USA
(740) 589-3300 or (866) 344-3477

1.3 In emergencies Call your local emergency center

2. Components and Hazardous Ingredients

<table>
<thead>
<tr>
<th>Hazardous Ingredients</th>
<th>Classification Substance</th>
<th>EINECS Nr.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bovine serum</td>
<td>(none listed)</td>
<td>none</td>
</tr>
<tr>
<td>L-Glutamine</td>
<td>Xi, R36/37/38, S26-36</td>
<td>200-292-1</td>
</tr>
<tr>
<td>Penicillin</td>
<td>Xi, Xn, R42/43, S:23, 36/37, 45</td>
<td>200-710-2</td>
</tr>
<tr>
<td>Streptomycin</td>
<td>Xn, R22</td>
<td>223-286-0</td>
</tr>
</tbody>
</table>

[Proprietary ingredients] [Not applicable] [Not applicable]

Classification key: Toxic (T); Very toxic (T+); Harmful (Xn); Irritant (Xi); Dangerous for the environment (N); Oxidizing agent (O); Explosive (E); Flammable (F)

3. Hazards Identification

- Bovine serum may cause eye and skin irritation. May be harmful if inhaled and may be irritating to mucous membranes and upper respiratory tract. May be harmful if swallowed.
- L-Glutamine may cause allergic skin and/or respiratory reaction. Irritating to eyes, respiratory system, and skin.
- Penicillin may cause allergic skin reaction, allergic respiratory reaction, slight irritation to the digestive tract, respiratory tract, eyes, and skin.
- Streptomycin is very hazardous in case of skin contact (irritant), of eye contact (irritant), of ingestion, of inhalation.
- Contains non-hazardous quantities of proprietary ingredients [OSHA Regulations (Standards-29CFR) Hazard Communication-1910.1200(i)(1)]

4. First Aid Measures

**Eye contact:**
- Flush eyes immediately with water for 15 minutes, occasionally lifting the upper and lower eyelids
- Consult a doctor/medical service

**Skin contact:**
- Rinse with plenty of water
- Remove clothing before washing
- Consult a doctor/medical service

**After inhalation:**
- Remove the victim into fresh air
- Consult a doctor/medical service

**After ingestion:**
- Consult a doctor/medical service

5. Fire Fighting Measures

- **Suitable extinguishing media:** All non combustible extinguishing media allowed
- **Unsuitable extinguishing media:** No data available
- **Special exposure hazards:** No data available
- **Instructions:** Take account of contaminated fire fighting water
6. Accidental Release Measures

**Personal protection:**
- See 8, below

**Environmental precautions:**
- Discharge according to local regulations

**Clean-up:**
- Take up liquid spill into absorbent material
- Discharge of absorbed material according to local regulations
- Wash clothing and equipment after handling

7. Handling and Storage

**Handling:**
- If solution is spilled: take up with an absorbent material; if contact is possible, wear gloves as protection.
- Discharge according to local regulations
- Remove and clean contaminated clothing
- Handle and open the container with care

**Storage:**
- 2°C to 8°C

8. Exposure Controls/Personal Protection

8.1 Exposure Limits

<table>
<thead>
<tr>
<th>Chemical/Component</th>
<th>TLV/NIOSH REL</th>
<th>OSHA PEL</th>
<th>CAS No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bovine Serum</td>
<td>Not listed</td>
<td>Not listed</td>
<td>Not available</td>
</tr>
<tr>
<td>L-Glutamine</td>
<td>Not listed</td>
<td>Not listed</td>
<td>56-85-9</td>
</tr>
<tr>
<td>Penicillin</td>
<td>Not listed</td>
<td>Not listed</td>
<td>69-57-8</td>
</tr>
<tr>
<td>Streptomycin</td>
<td>Not listed</td>
<td>Not listed</td>
<td>57-92-1</td>
</tr>
</tbody>
</table>

**Note:** Information in above table from NIOSH Pocket Guide to Chemical Hazards, 2005.

8.2 Control of Exposure

**Eye protection:**
- Safety glasses or Face shield

**Hand protection:**
- Gloves should be waterproof
- Suitable materials: Butyl rubber, natural rubber, neoprene, nitrile rubber, polyethylene, PVC
- Hands should be washed after working with this product.

**Skin protection:**
- Protective clothing

**Respiratory protection:**
- Area ventilation is generally adequate; avoid generation of dusts, mists or other airborne forms when working with the product
- Insufficient ventilation: wear respiratory protection

9. Physical and Chemical Properties

Clear, aqueous liquid; orange to red in color; odorless

**Note:** Boiling and Freezing Points for all aqueous components are near those of pure water.

10. Stability and Reactivity

- **Stability:** Hazardous polymerization will not occur. All components are stable if stored in specified conditions (see label).
- **Reactivity/Hazardous decomposition products:** No hazardous decomposition products are formed in high quantities
- **Conditions/Materials to avoid:** Strong oxidizing agents.
11. Toxicological Information

Acute toxicity:

| L-Glutamine | LD<sub>50</sub> oral, rat | 7500 mg/kg |
| Penicillin  | LD<sub>50</sub> oral, rat | 6,916 mg/kg |
| Streptomycin| LD<sub>50</sub> oral, rat | 430 mg/kg |

Chronic toxicity:

| L-Glutamine  | Target Organ(s): None identified |
| Penicillin   | Target Organ(s): nerves, kidney, ears |
| Streptomycin | Target Organ(s): skin, eyes, kidneys, ears |

Routes of exposure

- Ingestion, inhalation, eyes and skin
- Prolonged or repeated exposure may cause allergic reactions in certain sensitive individuals. Causes photosensitivity. Exposure to light can result in allergic reactions resulting in dermatologic lesions, which can vary from sunburn-like response to edematous, vesiculated lesions or bullae.

Acute effects/symptoms

- Potential for ototoxicity (vestibular damage, hearing loss and tinnitus) and nephrotoxicity (kidney toxicity).
- May cause skin, eye, and mucous membranes and upper respiratory tract irritation.
- May be harmful if swallowed.

Chronic effects

- May be associated with significant nephrotoxicity and/or ototoxicity.
- The chemical, physical, and toxicological properties have not been thoroughly investigated.

12. Ecological Information

Aquatic toxicity:

| Streptomycin | LC<sub>50</sub> (96 h): >180 mg/L (Oncorhynchus mykiss; rainbow trout) |
|             | EC<sub>50</sub> (48 h): 650 mg/L (Daphnia magna; water flea) Toxic to daphnia ad other aquatic invertebrates |

Other Information:

- Effect on the ozone layer: Not dangerous for the ozone layer (1999/45/EC)
- Greenhouse effect: No data available
- Effect on waste water purification: No data available

13. Waste Disposal Considerations

Disposal methods:

- Disposal of material according to following local regulations.

14. Transport Information

USA: No restrictions.
Canada: No restrictions
EU: No restrictions
15. Regulatory Information

Classification according to directives 67/548/EEC and 1999/45/EC

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Description</th>
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</thead>
<tbody>
<tr>
<td>Xn</td>
<td>– harmful</td>
</tr>
<tr>
<td>Xi</td>
<td>– irritant</td>
</tr>
<tr>
<td>R22:</td>
<td>Harmful if swallowed</td>
</tr>
<tr>
<td>R36/37/38:</td>
<td>Irritating to eyes, respiratory system and skin</td>
</tr>
<tr>
<td>R20/21/22:</td>
<td>Harmful by inhalation, in contact with skin and if swallowed</td>
</tr>
<tr>
<td>R40:</td>
<td>Possible risk of cancer</td>
</tr>
<tr>
<td>R42/43:</td>
<td>May cause sensitization by inhalation and skin contact</td>
</tr>
<tr>
<td>R52:</td>
<td>Harmful to aquatic organisms</td>
</tr>
<tr>
<td>S23:</td>
<td>Do not breathe aerosols</td>
</tr>
<tr>
<td>S24/25:</td>
<td>Avoid contact with skin and eyes</td>
</tr>
<tr>
<td>S26:</td>
<td>In case of contact with eyes, rinse immediately with plenty of water and seek medical advice</td>
</tr>
<tr>
<td>S36/37/39:</td>
<td>Wear suitable protective clothing, gloves and eye/face protection</td>
</tr>
<tr>
<td>S38:</td>
<td>In case of insufficient ventilation wear suitable respiratory equipment</td>
</tr>
<tr>
<td>S45:</td>
<td>In case of accident or if you feel unwell seek medical advice immediately (show the label where possible)</td>
</tr>
</tbody>
</table>

16. Other Information

- Based on: US 29 CFR 1910:1200(g); Canadian Hazardous Product Act, Part II; Directive 911155/EEC et seq.
- This product is designed for use by professionals.
- The above information is believed to be accurate and represents the information available to date, but Diagnostic Hybrids does not purport it to be all-inclusive; this should be used only as a guide.
- Refer to the Product Insert for this Product for additional details on the proper storage, handling, use, and disposal of the reagents included in this Product.
- Contact Diagnostic Hybrids, Inc. if additional information is required.

[End of Document]