Material Safety Data Sheet

Section 1. Chemical Product and Company Identification

<table>
<thead>
<tr>
<th>Common Name/ Trade Name</th>
<th>Yttrium Nitrate, Hexahydrate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Manufacturer</td>
<td>SPECTRUM LABORATORY PRODUCTS INC.</td>
</tr>
<tr>
<td></td>
<td>14422 S. SAN PEDRO STREET</td>
</tr>
<tr>
<td></td>
<td>GARDENA, CA 90248</td>
</tr>
<tr>
<td>CAS#</td>
<td>13494-98-9  ;  10361-93-0</td>
</tr>
<tr>
<td>RTECS</td>
<td>ZG3750000</td>
</tr>
<tr>
<td>TSCA</td>
<td>TSCA 8(b) inventory: No products were found. CAS no. 13494-98-9 is exempt from being listed on TSCA 8(b) because it is a hydrate. However CAS no. 10361-93-0 (anhydrous form) is listed in TSCA 8(b) inventory</td>
</tr>
<tr>
<td>CI#</td>
<td>Not available.</td>
</tr>
<tr>
<td>Supplier</td>
<td>SPECTRUM LABORATORY PRODUCTS INC.</td>
</tr>
<tr>
<td></td>
<td>14422 S. SAN PEDRO STREET</td>
</tr>
<tr>
<td></td>
<td>GARDENA, CA 90248</td>
</tr>
</tbody>
</table>

Section 2. Composition and Information on Ingredients

<table>
<thead>
<tr>
<th>Name</th>
<th>CAS #</th>
<th>TWA (mg/m$^3$)</th>
<th>STEL (mg/m$^3$)</th>
<th>CEIL (mg/m$^3$)</th>
<th>% by Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>1) Yttrium Nitrate, Hexahydrate</td>
<td>13494-98-9</td>
<td></td>
<td></td>
<td></td>
<td>100</td>
</tr>
</tbody>
</table>

Toxicological Data on Ingredients

Yttrium Nitrate, Hexahydrate

LD50: Not available.
LC50: Not available.

Continued on Next Page
### Section 3. Hazards Identification

**Potential Acute Health Effects**

Hazardous in case of skin contact (irritant), of eye contact (irritant), of ingestion. Slightly hazardous in case of inhalation. Prolonged exposure may result in skin burns and ulcerations. Over-exposure by inhalation may cause respiratory irritation.

**Potential Chronic Health Effects**

- **CARCINOGENIC EFFECTS**: Not available.
- **MUTAGENIC EFFECTS**: Not available.
- **TERATOGENIC EFFECTS**: Not available.
- **DEVELOPMENTAL TOXICITY**: Not available.

The substance may be toxic to blood. Repeated or prolonged exposure to the substance can produce target organs damage.

### Section 4. First Aid Measures

**Eye Contact**

Check for and remove any contact lenses. In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Cold water may be used. Get medical attention.

**Skin Contact**

In case of contact, immediately flush skin with plenty of water. Cover the irritated skin with an emollient. Remove contaminated clothing and shoes. Cold water may be used. Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention.

**Serious Skin Contact**

Wash with a disinfectant soap and cover the contaminated skin with an anti-bacterial cream. Seek medical attention.

**Inhalation**

If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

**Serious Inhalation**

Evacuate the victim to a safe area as soon as possible. Loosen tight clothing such as a collar, tie, belt or waistband. If breathing is difficult, administer oxygen. If the victim is not breathing, perform mouth-to-mouth resuscitation. Seek medical attention.

**Ingestion**

Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. If large quantities of this material are swallowed, call a physician immediately. Loosen tight clothing such as a collar, tie, belt or waistband.

**Serious Ingestion**

Not available.

### Section 5. Fire and Explosion Data

**Flammability of the Product**

Non-flammable.

**Auto-Ignition Temperature**

Not applicable.

**Flash Points**

Not applicable.

**Flammable Limits**

Not applicable.

**Products of Combustion**

Not available.

**Fire Hazards in Presence of Various Substances**

- of organic materials
- of combustible materials

**Explosion Hazards in Presence of Various Substances**

- Risks of explosion of the product in presence of mechanical impact: Not available.
- Risks of explosion of the product in presence of static discharge: Not available.

**Fire Fighting Media and Instructions**

Not applicable.

**Special Remarks on Fire Hazards**

Danger! Oxidizer!

Contact with other material may cause fire. Contact with combustible or organic materials may cause fire.

**Special Remarks on Explosion Hazards**

Not available.

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*Continued on Next Page*
Section 6. Accidental Release Measures

Small Spill

- Use appropriate tools to put the spilled solid in a convenient waste disposal container.

Large Spill

- Oxidizing material.
- Stop leak if without risk. Avoid contact with a combustible material (wood, paper, oil, clothing...). Keep substance damp using water spray. Do not touch spilled material. Prevent entry into sewers, basements or confined areas; dike if needed. Call for assistance on disposal.

Section 7. Handling and Storage

Precautions

- Keep away from heat. Keep away from sources of ignition. Keep away from combustible materials. Do not breathe dust. Wear suitable protective clothing. If you feel unwell, seek medical attention and show the label when possible. Avoid contact with skin and eyes. Keep away from incompatibles such as combustible materials, organic materials, alkalis.

Storage


Section 8. Exposure Controls/Personal Protection

Engineering Controls

- Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below recommended exposure limits. If user operations generate dust, fume or mist, use ventilation to keep exposure to airborne contaminants below the exposure limit.

Personal Protection

- Splash goggles. Lab coat. Dust respirator. Be sure to use an approved/certified respirator or equivalent. Gloves.

Personal Protection in Case of a Large Spill

- Splash goggles. Full suit. Dust respirator. Boots. Gloves. A self contained breathing apparatus should be used to avoid inhalation of the product. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product.

Exposure Limits

- Not available.

Section 9. Physical and Chemical Properties

<table>
<thead>
<tr>
<th>Physical state and appearance</th>
<th>Solid. (Crystalline solid. Deliquescent solid.)</th>
<th>Odor</th>
<th>Odorless.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Molecular Weight</td>
<td>383.01 g/mole</td>
<td>Taste</td>
<td>Not available.</td>
</tr>
<tr>
<td>pH (1% soln/water)</td>
<td>Not available.</td>
<td>Color</td>
<td>White.</td>
</tr>
<tr>
<td>Boiling Point</td>
<td>Not available.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Melting Point</td>
<td>Decomposes.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Critical Temperature</td>
<td>Not available.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Specific Gravity</td>
<td>Not available.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vapor Pressure</td>
<td>Not applicable.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vapor Density</td>
<td>Not available.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Volatility</td>
<td>Not available.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Odor Threshold</td>
<td>Not available.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Water/Oil Dist. Coeff.</td>
<td>Not available.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ionicity (in Water)</td>
<td>Not available.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dispersion Properties</td>
<td>See solubility in water.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Solubility</td>
<td>Soluble in cold water, hot water, diethyl ether.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Soluble in alcohol, nitric acid.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Continued on Next Page
### Section 10. Stability and Reactivity Data

<table>
<thead>
<tr>
<th>Stability</th>
<th>The product is stable.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Instability Temperature</td>
<td>Not available.</td>
</tr>
<tr>
<td>Conditions of Instability</td>
<td>Dust generation, incompatibles</td>
</tr>
<tr>
<td>Incompatibility with various substances</td>
<td>Highly reactive with combustible materials, organic materials. Reactive with alkalis.</td>
</tr>
<tr>
<td>Corrosivity</td>
<td>Not available.</td>
</tr>
</tbody>
</table>

Special Remarks on Reactivity
- Oxidizer
- Incompatible with strong bases, easily oxidized materials, organic materials, flammable substances.

Special Remarks on Corrosivity
- Not available.

Polymerization
- Will not occur.

### Section 11. Toxicological Information

<table>
<thead>
<tr>
<th>Routes of Entry</th>
<th>Inhalation. Ingestion.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Toxicity to Animals</td>
<td>LD50: Not available.</td>
</tr>
<tr>
<td></td>
<td>LC50: Not available.</td>
</tr>
<tr>
<td>Chronic Effects on Humans</td>
<td>May cause damage to the following organs: blood.</td>
</tr>
<tr>
<td>Other Toxic Effects on Humans</td>
<td>Hazardous in case of skin contact (irritant), of ingestion. Slightly hazardous in case of inhalation.</td>
</tr>
</tbody>
</table>

Special Remarks on Toxicity to Animals
- Not available.

Special Remarks on Chronic Effects on Humans
- May cause adverse reproductive effects based on animal data.
- May affect genetic material based on animal data.
- May cause cancer (tumorigenic) based on animal data.

Special Remarks on other Toxic Effects on Humans
- Acute Potential Health Effects:
  - Skin: Causes moderate skin irritation.
  - Eyes: Causes moderate to severe eye irritation.
  - Inhalation: Dust may cause respiratory tract irritation, chemical pneumonia, shortness of breath and wheezing.
  - Ingestion: May be harmful if ingested. May cause gastrointestinal tract irritation with nausea, vomiting and possible holes in the esophagus.
  - The first clinical signs associated with nitrate poisoning include: Gastroenteritis, abdominal pain, nausea, vomiting (spontaneous vomiting), diarrhea, metabolic acidosis. Purging and diuresis can be expected. The toxicity of nitrates is due to the in vivo conversion to nitrites. The primary toxic effects of nitrites include orthostatic hypotension (due to peripheral vasodilation) and methemoglobinemia (the formation of methemoglobin in the blood which causes deficient oxygenation of the blood due to decreased available hemoglobin). Other symptoms may include muscular weakness, dizziness, lightheadness, fatigue, throbbing headache, general depression, mental impairment, incoordination, seizures convulsions, bradycardia or tachydyardia (slow or fast heart beat), dysrythmias, dyspnea. Furthermore, methemoglobinemia due to inadequate oxygenation of the blood can lead to progressive cyanosis, and coma. Cyanosis is first visible as a bluish discoloration of the mucous membranes and unpigmented areas of the body.
  - Chronic Potential Health Effects:
    - Ingestion: Under some circumstances methemoglobinemia occurs individuals when the nitrate is converted by bacteria in the stomach to the nitrite. Nausea, vomiting, dizziness, rapid or slow heart beat, irregular breathing, convulsions, symptoms similar to acute ingestion, coma and death can occur should this conversion take place. Repeated or prolonged ingestion may also affect the liver and cause anorexia (weight loss).
Section 12. Ecological Information

Ecotoxicity
Not available.

BOD5 and COD
Not available.

Products of Biodegradation
Possibly hazardous short term degradation products are not likely. However, long term degradation products may arise.

Toxicity of the Products of Biodegradation
The product itself and its products of degradation are not toxic.

Special Remarks on the Products of Biodegradation
Not available.

Section 13. Disposal Considerations

Waste Disposal
Waste must be disposed of in accordance with federal, state and local environmental control regulations.

Section 14. Transport Information

DOT Classification
CLASS 5.1: Oxidizing material.

Identification
: Nitrate, Inorganic, n.o.s (Yttrium Nitrate) UNNA: 1477 PG: III

Special Provisions for Transport
Not available.

DOT (Pictograms)

Section 15. Other Regulatory Information and Pictograms

Federal and State Regulations
No products were found.

California Proposition 65 Warnings
California prop. 65: This product contains the following ingredients for which the State of California has found to cause cancer which would require a warning under the statute: No products were found.

California prop. 65: This product contains the following ingredients for which the State of California has found to cause birth defects which would require a warning under the statute: No products were found.

Other Regulations
EINECS: This product is not on the European Inventory of Existing Commercial Chemical Substances
Canada: Not listed on Canadian Domestic Substance List (DSL) or on the Canadian Non-Domestic Substances List (NDSL)
China: Listed on National Inventory.
Japan: Not listed on National Inventory (ENCS).
Korea: Not listed on National Inventory (KECI).
Philippines: Not listed on National Inventory (PICCS).
Australia: Listed on AICS.

Other Classifications
WHMIS (Canada) CLASS C: Oxidizing material.
CLASS D-2B: Material causing other toxic effects (TOXIC).

DSCL (EEC)
R8- Contact with combustible material may cause fire.
R36/38- Irritating to eyes and skin.
S26- In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
S36- Wear suitable protective clothing.
S46- If swallowed, seek medical advice immediately and show this container or label.
## Yttrium Nitrate, Hexahydrate

### HMIS (U.S.A.)

<table>
<thead>
<tr>
<th>Health Hazard</th>
<th>Fire Hazard</th>
<th>Reactivity</th>
<th>Personal Protection</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>0</td>
<td>1</td>
<td>E</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>National Fire Protection Association (U.S.A.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Health</td>
</tr>
<tr>
<td>2</td>
</tr>
<tr>
<td>OXY</td>
</tr>
<tr>
<td></td>
</tr>
</tbody>
</table>

### WHMIS (Canada) (Pictograms)

- Flammable
- Corrosive

### DSCL (Europe) (Pictograms)

- Flammable
- Toxic

### TDG (Canada) (Pictograms)

- Explosive
- Oxidizing

### ADR (Europe) (Pictograms)

- Inert

### Protective Equipment

- Gloves.
- Lab coat.
- Dust respirator. Be sure to use an approved/certified respirator or equivalent. Wear appropriate respirator when ventilation is inadequate.
- Splash goggles.

Continued on Next Page
### Section 16. Other Information

<table>
<thead>
<tr>
<th>MSDS Code</th>
<th>Y0007</th>
</tr>
</thead>
<tbody>
<tr>
<td>References</td>
<td>Not available.</td>
</tr>
<tr>
<td>Other Special Considerations</td>
<td>Not available.</td>
</tr>
</tbody>
</table>

Verified by Sonia Owen.  

**CALL (310) 516-8000**

**Notice to Reader**

All chemicals may pose unknown hazards and should be used with caution. This Material Safety Data Sheet (MSDS) applies only to the material as packaged. If this product is combined with other materials, deteriorates, or becomes contaminated, it may pose hazards not mentioned in this MSDS. It shall be the user's responsibility to develop proper methods of handling and personal protection based on the actual conditions of use. While this MSDS is based on technical data judged to be reliable, Spectrum Quality Products, Inc. assumes no responsibility for the completeness or accuracy of the information contained herein.