1. IDENTIFICATION

Catalog Number / Product Name: 31667 / Tetryl Standard
Company: Restek Corporation
Address: 110 Benner Circle
          Bellefonte, Pa. 16823
Phone#: 814-353-1300
Fax#: 814-353-1309
Emergency#: 800-424-9300 (CHEMTREC)
           703-527-3887 (Outside the US)
Email: www.restek.com
Revision Number: 9
Intended use: For Laboratory use only

2. HAZARD(S) IDENTIFICATION

Emergency Overview:

GHS Hazard Symbols: [flammable, eye damage]

GHS Classification:
- Flammable Liquid Category 2
- Serious Eye Damage/Eye Irritation Category 2
- Acute Toxicity - Inhalation Dust / Mist Category 4
- Acute Toxicity - Dermal Category 4
- Acute Toxicity - Oral Category 4

GHS Signal Word: Danger

GHS Hazard:
Highly flammable liquid and vapour.
Harmful if swallowed, in contact with skin or if inhaled.
Causes serious eye irritation.

GHS Precautions:
Safety Precautions:
- Keep away from heat/sparks/open flames/hot surfaces. – No smoking.
- Keep container tightly closed.
- Ground/bond container and receiving equipment.
- Use explosion-proof electrical/ventilation and lighting equipment.
- Use only non-sparking tools.
- Take precautionary measures against static discharge.
- Avoid breathing dust/fume/gas/mist/vapours/spray.
- Wash hands and skin thoroughly after handling.
- Do not eat, drink or smoke when using this product.
- Use only outdoors or in a well-ventilated area.
- Wear protective gloves/protective clothing/eye protection/face protection.

First Aid Measures:
IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.
IF ON SKIN: Wash with plenty of soap and water.
IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
Call a POISON CENTER or doctor/physician if you feel unwell.
Specific treatment see section 4.
Rinse mouth.
If eye irritation persists: Get medical advice/attention.
Take off contaminated clothing and wash it before reuse.
In case of fire: Use extinguishing media in section 5 for extinction.

Storage: Store in a well-ventilated place. Keep cool.

Disposal: Dispose of contents/container according to section 13 of the SDS.

Single Exposure Target Organs: No data available.

Repeated Exposure Target Organs: No data available.

3. COMPOSITION / INFORMATION ON INGREDIENT

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>CAS #</th>
<th>EINEC #</th>
<th>% Composition</th>
</tr>
</thead>
<tbody>
<tr>
<td>acetonitrile</td>
<td>75-05-8</td>
<td>200-835-2</td>
<td>99.900000</td>
</tr>
<tr>
<td>tetryl</td>
<td>479-45-8</td>
<td>207-531-9</td>
<td>0.100000</td>
</tr>
</tbody>
</table>

4. FIRST-AID MEASURES

Inhalation: Remove to fresh air. If breathing is difficult, have a trained individual administer oxygen.

Eyes: Flush eyes with plenty of water for at least 20 minutes retracting eyelids often. Tilt the head to prevent chemical from transferring to the uncontaminated eye. Get immediate medical attention.

Skin Contact: Wash with soap and water. Remove contaminated clothing, launder immediately, and discard contaminated leather goods. Get medical attention immediately.

Ingestion: Do not induce vomiting and seek medical attention immediately. Drink two glasses of water or milk to dilute. Provide medical care provider with this SDS.

5. FIRE- FIGHTING MEASURES

Extinguishing Media: Use alcohol resistant foam, carbon dioxide, or dry chemical extinguishing agents. Water may be ineffective but water spray can be used extinguish a fire if swept across the base of the flames. Water can absorb heat and keep exposed material from being damaged by fire.

Fire and/or Explosion Hazards: Vapors may be ignited by heat, sparks, flames or other sources of ignition at or above the low flash point giving rise to a fire (Class B). Vapors are heavier than air and may travel to a source of ignition and flash back.

Fire Fighting Methods and Protection: Do not enter fire area without proper protection including self- contained breathing apparatus and full protective equipment. Use methods for the surrounding fire.

Hazardous Combustion Products: Carbon dioxide, Carbon monoxide

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions and Equipment: Exposure to the spilled material may be severely irritating or highly toxic. Follow personal protective equipment recommendations found in Section 8 of this SDS. Personal protective equipment needs must be evaluated based on information provided on this sheet and the special circumstances created by the spill including; the material spilled, the quantity of the spill, the area in which the spill occurred, and the expertise of employees in the area responding to the spill. Never exceed any occupational exposure limits.

Methods for Clean-up: Prevent the spread of any spill to minimize harm to human health and the environment if safe to do so. Wear complete and proper personal protective equipment following the recommendation of Section 8 at a minimum. Dike with suitable absorbent material like granulated clay. Gather and store in a sealed container pending a waste disposal evaluation.

7. HANDLING AND STORAGE

Handling Technical Measures and Precautions: Highly toxic or corrosive material. Avoid contacting and avoid breathing the material. Use only in a well ventilated area. Use
Storage Technical Measures and Conditions: spark-proof tools and explosion-proof equipment
Store in a cool dry ventilated location. Isolate from incompatible materials and conditions. Keep container(s) closed. Keep away from sources of ignition

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

United States:

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>CAS No.</th>
<th>IDLH</th>
<th>ACGIH STEL</th>
<th>ACGIH TLV-TWA</th>
<th>OSHA Exposure Limit</th>
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</thead>
<tbody>
<tr>
<td>acetonitrile</td>
<td>75-05-8</td>
<td>500 ppm</td>
<td>20 ppm TWA</td>
<td>40 ppm TWA; 70 mg/m³ TWA</td>
<td></td>
</tr>
<tr>
<td>tetryl</td>
<td>479-45-8</td>
<td>ND</td>
<td>1.5 mg/m³ TWA</td>
<td>1.5 mg/m³ TWA</td>
<td></td>
</tr>
</tbody>
</table>

Personal Protection:

Engineering Measures: Local exhaust ventilation is recommended when generating excessive levels of vapors from handling or thermal processing.

Respiratory Protection: Respiratory protection may be required to avoid overexposure when handling this product. General or local exhaust ventilation is the preferred means of protection. Use a respirator if general room ventilation is not available or sufficient to eliminate symptoms.

Eye Protection: Wear chemically resistant safety glasses with side shields when handling this product. Do not wear contact lenses.

Skin Protection: Wear protective gloves. Inspect gloves for chemical break-through and replace at regular intervals. Clean protective equipment regularly. Wash hands and other exposed areas with mild soap and water before eating, drinking, and when leaving work.

Medical Conditions Aggravated By Exposure: Liver disease

9. PHYSICAL AND CHEMICAL PROPERTIES

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance, color</td>
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</tr>
<tr>
<td>Odor</td>
<td>Mild</td>
</tr>
<tr>
<td>Physical State</td>
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</tr>
<tr>
<td>pH</td>
<td>No data available.</td>
</tr>
<tr>
<td>Vapor Pressure</td>
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<tr>
<td>Vapor Density</td>
<td>1.4 (air = 1)</td>
</tr>
<tr>
<td>Boiling Point</td>
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<tr>
<td>Melting Point</td>
<td>-43.82 °C</td>
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<tr>
<td>Flash Point</td>
<td>43</td>
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<tr>
<td>Flammability</td>
<td>Highly Flammable</td>
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<tr>
<td>Upper Flammable/Explosive Limit, % in air</td>
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<tr>
<td>Lower Flammable/Explosive Limit, % in air</td>
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<td>Autoignition Temperature</td>
<td>No data available. deg C</td>
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<tr>
<td>Decomposition Temperature</td>
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</tr>
<tr>
<td>Specific Gravity</td>
<td>0.7857 g/cm³ at 20 °C</td>
</tr>
<tr>
<td>Evaporation Rate</td>
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<tr>
<td>Odor Threshold</td>
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<tr>
<td>Solubility</td>
<td>Not determined</td>
</tr>
<tr>
<td>Partition Coefficient: n-octanol in water</td>
<td>No data available.</td>
</tr>
<tr>
<td>VOC % by weight</td>
<td>0</td>
</tr>
<tr>
<td>Molecular Weight</td>
<td>No data available.</td>
</tr>
</tbody>
</table>

10. STABILITY AND REACTIVITY

Stability: Stable under normal conditions.

Conditions to Avoid: No data available.

Materials to Avoid / Chemical Incompatibility: Strong oxidizing agents

Hazardous Decomposition Products: No data available.

11. TOXICOLOGICAL INFORMATION

Routes of Entry: Inhalation Contact Absorption Ingestion

Target Organs Potentially Affected By Exposure: Liver, Cardiovascular System, Central nervous system stimulation, Respiratory Tract

Chemical Interactions That Change Toxicity: None Known

Immediate (Acute) Health Effects by Route of Exposure:

Inhalation Irritation: Causes respiratory tract irritation
Inhalation Toxicity: Harmful! Can cause systemic damage (see "Target Organs). Inhalation of high concentrations may result in central nervous system (CNS) effects such as dizziness, weakness, fatigue, nausea, headache, and lack of coordination.

Skin Contact: Causes skin irritation.

Skin Absorption: Harmful if absorbed through the skin.

Eye Contact: Can cause moderate irritation, tearing and reddening, but not likely to permanently injure eye tissue. Can cause irritation.

Ingestion Irritation: Irritating to mouth, throat, and stomach. Can cause abdominal discomfort, nausea, vomiting and diarrhea. Ingestion may cause transient irritation of throat, stomach and gastrointestinal tract.

Ingestion Toxicity: Harmful if swallowed. May cause systemic poisoning.

Long-Term (Chronic) Health Effects:
Carcinogenicity: No data.
Reproductive and Developmental Toxicity: No data available to indicate product or any components present at greater than 0.1% may cause birth defects.

Inhalation: Harmful! Can cause systemic damage upon prolonged and/or repeated exposure (see "Target Organs)

Component Toxicological Data:
NIOSH:
Chemical Name | CAS No. | LD50/LC50
--- | --- | ---
Acetonitrile | 75-05-8 | Dermal LD50 Rabbit 390 mg/kg

Component Carcinogenic Data:
OSHA:
Chemical Name | CAS No.
--- | ---
No data available.

ACGIH:
Chemical Name | CAS No. | Group No.
--- | --- | ---
Acetonitrile | 75-05-8 | A4 - Not Classifiable as a Human Carcinogen

NIOSH:
Chemical Name | CAS No.
--- | ---
No data available.

NTP:
Chemical Name | CAS No.
--- | ---
No data available.

IARC:
Chemical Name | CAS No. | Group No.
--- | --- | ---
No data. | Group 1
No data. | Group 2A
No data. | Group 2B

12. ECOLOGICAL INFORMATION
Overview: Moderate ecological hazard. This product may be dangerous to plants and/or wildlife.

Mobility: No data
Persistence: No data
Bioaccumulation: No data
Degradability: No data
Ecological Toxicity Data: No data available.

13. DISPOSAL CONSIDERATIONS
Waste Description of Spent Product: Spent or discarded material is a hazardous waste.
Disposal Methods: Dispose of by incineration following Federal, State, Local, or Provincial regulations.
Waste Disposal of Packaging: Comply with all Local, State, Federal, and Provincial Environmental Regulations.

14. TRANSPORTATION INFORMATION
United States:
DOT Proper Shipping Name: Flammable liquids, n.o.s. (Acetonitrile)
UN Number: UN1993
Hazard Class: 3
Packing Group: II

International:
IATA Proper Shipping Name: Flammable liquids, n.o.s. (Acetonitrile)
UN Number: UN1993
Hazard Class: 3
Packing Group: II

Marine Pollutant: No

<table>
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<tr>
<th>Chemical Name</th>
<th>CAS#</th>
<th>Marine Pollutant</th>
<th>Severe Marine Pollutant</th>
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<tbody>
<tr>
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15. REGULATORY INFORMATION

United States:

<table>
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<tr>
<th>Chemical Name</th>
<th>CAS#</th>
<th>CERCLA</th>
<th>SARA 313</th>
<th>SARA EHS 313</th>
<th>TSCA</th>
</tr>
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<tbody>
<tr>
<td>acetonitrile</td>
<td>75-05-8</td>
<td>X</td>
<td>X</td>
<td>-</td>
<td>X</td>
</tr>
<tr>
<td>tetryl</td>
<td>479-45-8</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>X</td>
</tr>
</tbody>
</table>

The following chemicals are listed on CA Prop 65:

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>CAS#</th>
<th>Regulation</th>
</tr>
</thead>
<tbody>
<tr>
<td>acetonitrile</td>
<td>75-05-8</td>
<td>X</td>
</tr>
<tr>
<td>tetryl</td>
<td>479-45-8</td>
<td>X</td>
</tr>
</tbody>
</table>

16. OTHER INFORMATION

Prior Version Date: 01/28/14
Other Information: Any changes to the SDS compared to previous versions are marked by a vertical line in front of the concerned paragraph.

References: No data available.

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