1. **IDENTIFICATION**

   **Product Name**
   Buffer B1

   **Recommended use of the chemical and restrictions on use**
   For Research and Development Use Only

   **Identified Uses**
   Covaris, Inc.

   **Company Identification**
   Covaris, Inc.

   **Customer Information Number**
   14 Gill Street, Unit H
   Woburn, MA 01801
   (781) 932-3959

   **Emergency Telephone Number**
   (800) 424-9300 (for emergencies only)

   **Chemtrec Number**
   (800) 424-9300

   **Issue Date**
   September 25, 2013

   **Supersedes Date**
   Safety Data Sheet prepared in accordance with OSHA’s Hazard Communication Standard (29 CFR 1910.1200) and the Globally Harmonized System of Classification and Labelling of Chemicals (GHS)

2. **HAZARD IDENTIFICATION**

   **Hazard Classification**
   Acute toxicity (oral) - Category 4
   Acute hazards aquatic environment - Category 3

   **Label Elements**
   Hazard Symbols

   ![Signal Word: Warning](image)

   **Hazard Statements**
   Harmful if swallowed.
   Harmful to aquatic life.

   **Precautionary Statements**
   **Prevention**
   Do not eat, drink or smoke when using this product.
   Wash hands thoroughly after handling.
   Avoid release to the environment.

   **Response**
   Rinse mouth.
   If swallowed: Call a poison center or doctor/physician if you feel unwell.

   **Storage**
   None

   **Disposal**
   Dispose of contents/container in accordance with local regulation.
2. HAZARD IDENTIFICATION

Other Hazards
Contact with acids may release toxic gas.

Specific Concentration Limits
The values listed below represent the percentages of ingredients of unknown toxicity.

- Acute oral toxicity: 0 - 10%
- Acute dermal toxicity: 60 - 70%
- Acute inhalation toxicity: 60 - 70%
- Acute aquatic toxicity: 60 - 70%

3. COMPOSITION/INFORMATION ON INGREDIENTS

This product is a mixture.

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS Number</th>
<th>Concentration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Thiocyanate compound</td>
<td>N/A</td>
<td>60 - 70%</td>
</tr>
<tr>
<td>Water</td>
<td>7732-18-5</td>
<td>30 - 40%</td>
</tr>
<tr>
<td>Buffer solution</td>
<td>N/A</td>
<td>1 - 10%</td>
</tr>
</tbody>
</table>

4. FIRST-AID MEASURES

Description of necessary first-aid measures

**Eyes**
Immediately flood the eye with plenty of water for at least 15 minutes, holding the eye open. Obtain medical attention if soreness or redness persists.

**Skin**
Wash affected area with plenty of water. Seek medical attention if symptoms persist.

**Ingestion**
Do not induce vomiting. Have victim drink 1-3 glasses of water to dilute stomach contents. Never administer anything by mouth if a victim is losing consciousness, is unconscious or is convulsing. Obtain medical attention immediately.

**Inhalation**
Remove from exposure. If there is difficulty in breathing, give oxygen. Obtain medical attention if symptoms persist.

**Most important symptoms/effects, acute and delayed**
Aside from the information found under description of necessary first aid measures (above) and indication of immediate medical attention and special treatment needed, no additional symptoms and effects are anticipated.

**Indication of immediate medical attention and special treatment needed**

**Notes to Physicians**
Treat symptomatically.

5. FIRE-FIGHTING MEASURES

**Suitable (and unsuitable) Extinguishing Media**
Use foam, dry chemical or carbon dioxide. Use water spray for surroundings and containers.
5. FIRE - FIGHTING MEASURES

Specific hazards arising from the chemical
This product may give rise to toxic gases in a fire.

Special Protective Actions for Fire-Fighters
Wear full protective clothing and self-contained breathing apparatus.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures
Wear appropriate protective clothing.

Environmental Precautions
Prevent the material from entering drains or watercourses.

Methods and materials for containment and cleaning up
Contain and absorb using earth, sand or other insert material. Transfer into suitable containers for recovery or disposal.

7. HANDLING AND STORAGE

Precautions for safe handling
Wear appropriate protective equipment when handling. Do not eat or drink while handling this material.

Conditions for safe storage
Store at room temperature away from heat and direct sunlight.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters
Exposure limits are listed below, if they exist.
Thiocyanate Compound
None established.

Appropriate engineering controls
No specific measures necessary.

Individual protection measures
Respiratory Protection
Respiratory protection not normally required.
Skin Protection
Chemical resistant gloves
Eye/Face Protection
Chemical goggles or safety glasses with side shields
Body Protection
Normal work wear.
9. PHYSICAL AND CHEMICAL PROPERTIES

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>Liquid</td>
</tr>
<tr>
<td>Physical State</td>
<td>Liquid</td>
</tr>
<tr>
<td>Color</td>
<td>Colorless</td>
</tr>
<tr>
<td>Odor</td>
<td>None</td>
</tr>
<tr>
<td>Odor Threshold</td>
<td>No data available</td>
</tr>
<tr>
<td>pH</td>
<td>4.86</td>
</tr>
<tr>
<td>Specific Gravity</td>
<td>1.01</td>
</tr>
<tr>
<td>Boiling Range/Point (°C/F)</td>
<td>No data available</td>
</tr>
<tr>
<td>Melting Point (°C/F)</td>
<td>No data available</td>
</tr>
<tr>
<td>Flash Point (PMCC) (°C/F)</td>
<td>Not flammable</td>
</tr>
<tr>
<td>Vapor Pressure</td>
<td>No data available</td>
</tr>
<tr>
<td>Evaporation Rate (BuAc=1)</td>
<td>No data available</td>
</tr>
<tr>
<td>Solubility in Water</td>
<td>Complete</td>
</tr>
<tr>
<td>Vapor Density (Air = 1)</td>
<td>No data available</td>
</tr>
<tr>
<td>VOC (g/l)</td>
<td>No data available</td>
</tr>
<tr>
<td>Partition coefficient (n-octanol/water)</td>
<td>No data available</td>
</tr>
<tr>
<td>Viscosity</td>
<td>No data available</td>
</tr>
<tr>
<td>Auto-ignition Temperature</td>
<td>No data available</td>
</tr>
<tr>
<td>Decomposition Temperature</td>
<td>No data available</td>
</tr>
<tr>
<td>Upper explosive limit</td>
<td>No data available</td>
</tr>
<tr>
<td>Lower explosive limit</td>
<td>No data available</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>Not applicable</td>
</tr>
</tbody>
</table>

10. STABILITY AND REACTIVITY

Reactivity
No known reactivity.

Chemical Stability
Stable under normal conditions.

Possibility of hazardous reactions
Hazardous polymerization will not occur.

Conditions to Avoid
Heat - high temperatures - contact with incompatible materials

Incompatible Materials
Strong oxidizing agents - acids

Hazardous Decomposition Products
Oxides of carbon - hydrogen cyanide - sulfur oxides - oxides of nitrogen - ammonia

11. TOXICOLOGICAL INFORMATION

Acute Toxicity
Thiocyanate Compound:
Oral LD50 (rat) 593 mg/kg
11. TOXICOLOGICAL INFORMATION

Specific Target Organ Toxicity (STOT) – single exposure
No data available to indicate product or components will cause target organ effects after a single exposure.

Specific Target Organ Toxicity (STOT) – repeat exposure
No data available to indicate product or components will cause target organ effects after repeated exposure.

Serious Eye damage/Irritation
No data available to indicate product may cause eye irritation.

Skin Corrosion/Irritation
No data available to indicate product may cause skin irritation.

Respiratory or Skin Sensitization
No data available to indicate product or components may cause skin or respiratory sensitization.

Carcinogenicity
Not considered carcinogenic by NTP, IARC, and OSHA.

Germ Cell Mutagenicity
No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.

Reproductive Toxicity
No data available to indicate either product or components present at greater than 0.1% may cause reproductive toxicity or birth defects.

Aspiration Hazard
Not an aspiration hazard.

12. ECOLOGICAL INFORMATION

Ecotoxicity
Thiocyanate Compound
EC50 (daphnia magna) 42.4 mg/l 48 hr

Mobility in soil
No relevant studies identified.

Persistence/Degradability
No relevant studies identified.

Bioaccumulative Potential
No relevant studies identified.

Other adverse effects
No relevant studies identified.

13. DISPOSAL CONSIDERATIONS

Disposal Methods
Dispose of in accordance with all applicable local and national regulations.
14. TRANSPORT INFORMATION

DOT CFR 172.101 Data  
UN Proper Shipping Name  
UN Class  
UN Number  
UN Packaging Group  
Classification for AIR  
Environmental Hazards

- Not Regulated  
- Not Regulated  
- None.  
- None.  
- None.  
- Consult current IATA Regulations prior to shipping by air.  
- Not a marine pollutant

15. REGULATORY INFORMATION

- United States TSCA Inventory  
  All components of this product have been verified for the inventory listing requirements of the US Toxic Substance Control Act (TSCA) Chemical Substance Inventory.

- Canada DSL Inventory  
  All components of this product have been verified for inclusion on the Domestic Substance List (DSL).

- WHMIS Classification  
  D2B  
  This product was classified in accordance with the hazard criteria of the Canadian Controlled Products Regulations and the MSDS contains all the information required by these regulations.

- SARA Title III Sect. 311/312 Categorization  
  Immediate (Acute)

16. OTHER INFORMATION

- NFPA Ratings  
  NFPA Code for Flammability - 0  
  NFPA Code for Health - 2  
  NFPA Code for Reactivity - 0  
  NFPA Code for Special Hazards – None

- HMIS Ratings  
  HMIS Code for Flammability - 0  
  HMIS Code for Health - 2  
  HMIS Code for Physical Hazard - 0  
  HMIS Code for Personal Protection - See Section 8  
  *Chronic

Legend

- ACGIH: American Conference of Governmental Industrial Hygienists
- CAS: Chemical Abstracts Service
- ECHA: European Chemicals Agency
- IARC: International Agency for Research on Cancer
- N/A: Denotes no applicable information found or available
- NTP: National Toxicology Program
- OSHA: Occupational Safety and Health Administration
- PEL: Permissible Exposure Limit
- SDS: Safety Data Sheet
- STEL: Short Term Exposure Limit
- TLV: Threshold Limit Value
16. OTHER INFORMATION

Information Source and References
This SDS is prepared by Hazard Communication Specialists based on information provided by internal company references.

Prepared By: EnviroNet LLC.

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