Material Safety Data Sheet

Section 1 - Product and Company Information

Product Name: ADENOSINE 5'-TRIPHOSPHATE DISODIUM GRADE I FROM BACTERIAL SOURCE
Product Number: A2383
Brand: Sigma Chemical
Company: Sigma-Aldrich
Street Address: 3060 Spruce Street
City, State, Zip, Country: St. Louis, MO 63103 US
Technical Phone: 314 771 5766
Emergency Phone: 414 273 3850 Ext.5996
Fax: 602 325 0002

Section 2 - Composition/Information on Ingredient

<table>
<thead>
<tr>
<th>Substance Name</th>
<th>CAS #</th>
<th>SARA 313</th>
</tr>
</thead>
<tbody>
<tr>
<td>ADENOSINE 5'-TRIPHOSPHATE DISODIUM</td>
<td>21925-61-2</td>
<td>Yes</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Ingredient Name</th>
<th>CAS #</th>
<th>Percent</th>
<th>SARA 313</th>
</tr>
</thead>
<tbody>
<tr>
<td>METHANOL</td>
<td>67-56-1</td>
<td>&lt; 1.000 %</td>
<td>Yes</td>
</tr>
<tr>
<td>ETHYL ALCOHOL, NON-DENATURED</td>
<td>64-17-5</td>
<td>&lt; 4.000 %</td>
<td>No</td>
</tr>
<tr>
<td>ACETONE</td>
<td>67-64-1</td>
<td>&lt; 1.000 %</td>
<td>No</td>
</tr>
</tbody>
</table>

Formula: C10H14N5O13P3Na2
Synonyms

Section 3 - Hazards Identification

Emergency Overview
Inhalation: May cause respiratory irritation.
Ingestion: May cause nausea and vomiting.
Inhalation: May cause eye, skin, and respiratory irritation.
Ingestion: May cause nausea, vomiting, and diarrhea.
Contact: May cause skin irritation.
Target organ(s): Nervous, liver.

The hazards identified with this product are those associated with the residual solvents that are used in the manufacturing process.

NFPA Rating
Health: 1
Flammability: 0
Reactivity: 0

Section 4 - First Aid Measures

Inhalation Exposure
If inhaled, move to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen.

Dermal Exposure
In case of contact, immediately wash skin with soap and copious amounts of water.

Eye Exposure
In case of contact, immediately flush eyes with copious amounts of water for at least 15 minutes.

Section 5 - Fire Fighting Measures

Autoignition Temp: N/A
Extinguishing Media
Suitable: Water spray. Carbon dioxide, dry chemical powder, or appropriate foam.

Section 6 - Accidental Release Measures

Procedure(s) of Personal Protection(s)
Wear respirator, chemical safety goggles, rubber boots, and heavy rubber gloves.

Method for Cleaning Up
Sweep up, place in a bag and hold for waste disposal. Avoid raising dust. Ventilate area and wash spill site after material pickup is complete.

Section 7 - Handling and Storage

Handling
Do not breathe dust. Avoid contact with eyes, skin, and clothing. Avoid prolonged or repeated exposure.

Storage
Suitable: Keep tightly closed. Store below 0°C.

Section 8 - Exposure Controls / PPE

Engineering Controls
Safety shower and eye bath. Mechanical exhaust required.

Personal Protective Equipment
Respiratory: NIOSH/MSHA-approved respirator.
Hand: Chemical-resistant gloves.
Eye: Chemical safety goggles.

General Hygiene Measures
Wash thoroughly after handling.

Sigma Chemical - A2383
Page 2
### Section 9 - Physical/Chemical Properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>Solid</td>
</tr>
<tr>
<td>Molecular Weight</td>
<td>551.1 AMU</td>
</tr>
<tr>
<td>pH</td>
<td>N/A</td>
</tr>
<tr>
<td>BP/VP Range</td>
<td>N/A</td>
</tr>
<tr>
<td>MP/FP Range</td>
<td>N/A</td>
</tr>
<tr>
<td>Freezing Point</td>
<td>N/A</td>
</tr>
<tr>
<td>Vapor Pressure</td>
<td>N/A</td>
</tr>
<tr>
<td>Vapor Density</td>
<td>N/A</td>
</tr>
<tr>
<td>Saturated Vapor Conc.</td>
<td>N/A</td>
</tr>
<tr>
<td>SG/Density</td>
<td>N/A</td>
</tr>
<tr>
<td>Bulk Density</td>
<td>N/A</td>
</tr>
<tr>
<td>Odor Threshold</td>
<td>N/A</td>
</tr>
<tr>
<td>Viscosity</td>
<td>N/A</td>
</tr>
<tr>
<td>VOC Content</td>
<td>N/A</td>
</tr>
<tr>
<td>Water Content</td>
<td>N/A</td>
</tr>
<tr>
<td>Solvent Content</td>
<td>N/A</td>
</tr>
<tr>
<td>Evaporation Rate</td>
<td>N/A</td>
</tr>
<tr>
<td>Partition Coefficient</td>
<td>N/A</td>
</tr>
<tr>
<td>Decomposition Temp.</td>
<td>N/A</td>
</tr>
<tr>
<td>Flash Point °F</td>
<td>N/A</td>
</tr>
<tr>
<td>Flash Point °C</td>
<td>N/A</td>
</tr>
<tr>
<td>Explosion Limits</td>
<td>N/A</td>
</tr>
<tr>
<td>Autoignition Temp</td>
<td>N/A</td>
</tr>
<tr>
<td>Solubility</td>
<td>N/A</td>
</tr>
</tbody>
</table>

### Section 10 - Stability and Reactivity

**Stability**
- Stable
- Stable
- Materials to Avoid: Strong oxidizing agents.

**Hazardous Decomposition Products**
- Carbon monoxide, Carbon dioxide, Nitrogen oxides, Sodium/oxygen oxides, Phosphorus oxides.

**Hazardous Polymerization**
- Will not occur.

### Section 11 - Toxicological Information

**Route of Exposure**
- Skin Contact: Causes skin irritation.
- Skin Absorption: May be harmful if absorbed through the skin.
- Eye Contact: Causes eye irritation.
- Inhalation: May be harmful if inhaled. Material is irritating to mucous membranes and upper respiratory tract.

**Ingestion**
- May be harmful if swallowed.

**Target Organ(s) or System(s)**
- Nerves, Liver, Kidneys, Heart.

**Signs and Symptoms of Exposure**
- To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

**RTECS Number:** N/A

### Section 12 - Ecological Information

No data available.

### Section 13 - Disposal Considerations

**Appropriate Method of Disposal of Substance or Preparation**
- Contact a licensed professional waste disposal service to dispose of this material.
- Dispose of or treat the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber.
- Observe all federal, state, and local environmental regulations.

**DOT**
- Proper Shipping Name: None
- Non-Hazardous for Transport: This substance is considered to be non-hazardous for transport.

**IATA**
- Proper Shipping Name: None
- Non-Hazardous for Air Transport: Non-hazardous for air transport.

### Section 14 - Transport Information

**US Classification and Label Text**
- Indication of Danger: Irritant.
- Risk Statements: R: 36/37/38
- Irritating to eyes, respiratory system, and skin.
- Safety Statements: S: 26 36
- In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Wear suitable protective clothing.

**SARA Listed:** Yes
- Notes: This product is or contains a component that is subject to SARA313 reporting requirements.
Section 16 - Other Information

Warranty
The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. Sigma-Aldrich Inc. shall not be held liable for any damage resulting from handling or from contact with the above product. See reverse side of invoice or packing slip for additional terms and conditions of sale. Copyright 2001 Sigma-Aldrich Co. License granted to make unlimited paper copies for internal use only.