Section 1 - Product and Company Information

Product Name                       D-(PLUS)-NEOPTERINE  
Product Number                     N3386  
Brand                              SIGMA  
Company                            Sigma-Aldrich Canada, Ltd  
Street Address                     2149 Winston Park Drive  
City, State, Zip, Country          Oakville ON L6H 6J8 CA  
Technical Phone:                   9058299500  
Emergency Phone:                   800-424-9300  
Fax:                               9058299292  

Section 2 - Composition/Information on Ingredient

Substance Name                          CAS #                 SARA 313  
D(+)-NEOPTERIN                          2009-64-5             No  
Formula         C9H11N5O4  

Section 3 - Hazards Identification

EMERGENCY OVERVIEW  
Irritant.  
Irritating to eyes, respiratory system and skin.  

HMIS RATING  
HEALTH: 2  
FLAMMABILITY: 0  
REACTIVITY: 0  

NFPA RATING  
HEALTH: 2  
FLAMMABILITY: 0  
REACTIVITY: 0  

For additional information on toxicity, please refer to Section 11.  

Section 4 - First Aid Measures

ORAL EXPOSURE  
If swallowed, wash out mouth with water provided person is conscious. Call a physician.  

INHALATION EXPOSURE  
If inhaled, remove 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

FLASH POINT
N/A

AUTOIGNITION TEMP
N/A

FLAMMABILITY
N/A

EXTINGUISHING MEDIA
Suitable: Water spray. Carbon dioxide, dry chemical powder, or appropriate foam.

FIREFIGHTING
Protective Equipment: Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes.
Specific Hazard(s): Emits toxic fumes under fire conditions.

Section 6 - Accidental Release Measures

PROCEDURE(S) OF PERSONAL PRECAUTION(S)
Wear respirator, chemical safety goggles, rubber boots, and heavy rubber gloves.

METHODS 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
User Exposure: Do not breathe dust. Avoid contact with eyes, skin, and clothing. Avoid prolonged or repeated exposure.

STORAGE
Suitable: Keep tightly closed.
Store at 2-8°C

Section 8 - Exposure Controls / PPE

ENGINEERING CONTROLS
Safety shower and eye bath. Mechanical exhaust required.

PERSONAL PROTECTIVE EQUIPMENT
Respiratory: Government approved respirator.
Hand: Compatible chemical-resistant gloves.
Eye: Chemical safety goggles.

GENERAL HYGIENE MEASURES
Wash thoroughly after handling.

Section 9 - Physical/Chemical Properties

Appearance
Physical State: Solid
Color: Faintly yellow
Form: Powder
<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
<th>At Temperature or Pressure</th>
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</thead>
<tbody>
<tr>
<td>Molecular Weight</td>
<td>253.22 AMU</td>
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<tr>
<td>pH</td>
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<td>BP/BP Range</td>
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<td>MP/MP Range</td>
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<td>Freezing Point</td>
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<tr>
<td>Vapor Pressure</td>
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<tr>
<td>Vapor Density</td>
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<tr>
<td>Saturated Vapor Conc.</td>
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<tr>
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<tr>
<td>Odor Threshold</td>
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<tr>
<td>Volatile%</td>
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<tr>
<td>VOC Content</td>
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<tr>
<td>Water Content</td>
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<td>Evaporation Rate</td>
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<td>Autoignition Temp</td>
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<td>Degree of Rotation: 1 g/l Solvent: 0.1 M HCl +63 - +52 (+/-2)</td>
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<tr>
<td>Solubility</td>
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</tbody>
</table>

N/A = not available

**Section 10 - Stability and Reactivity**

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

**HAZARDOUS DECOMPOSITION PRODUCTS**
- Hazardous Decomposition Products: Carbon monoxide, Carbon dioxide, Nitrogen oxides.

**HAZARDOUS POLYMERIZATION**
- 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: Material is irritating to mucous membranes and upper respiratory tract. May be harmful if inhaled.
- Ingestion: May be harmful if swallowed.

**SIGNS AND SYMPTOMS OF EXPOSURE**
- To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.
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. Dissolve or mix 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.

Section 14 - Transport Information
DOT
Proper Shipping Name: None
Non-Hazardous for Transport: This substance is considered to be non-hazardous for transport.

IATA
Non-Hazardous for Air Transport: Non-hazardous for air transport.

Section 15 - Regulatory Information
EU ADDITIONAL CLASSIFICATION
Symbol of Danger: Xi
Indication of Danger: Irritant.
R: 36/37/38
Risk Statements: Irritating to eyes, respiratory system and skin.
S: 26 36
Safety Statements: In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Wear suitable protective clothing.

US CLASSIFICATION AND LABEL TEXT
Indication of Danger: Irritant.
Risk Statements: Irritating to eyes, respiratory system and skin.
Safety Statements: In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Wear suitable protective clothing.

UNITED STATES REGULATORY INFORMATION
SARA LISTED: No

CANADA REGULATORY INFORMATION
WHMIS Classification: This product has been classified in accordance with the hazard criteria of the CPR, and the MSDS contains all the information required by the CPR.
DSL: No
NDSL: No

Section 16 - Other Information
DISCLAIMER
For R&D use only. Not for drug, household or other uses.

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. The information in this document is based on the present state of our
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