Section 1: Chemical Product and Company Identification

Cat#: 25072
Part Name: Guanidine Isothiocyanate
Supplier: Polysciences, Inc.
400 Valley Road
Warrington, PA 18976 USA
Company phone number 215-343-6484, 24-hour emergency phone number ChemTel 1-800-255-3924 Contract # MIS1592086
Identified uses: Laboratory use, manufacture of substances

Section 2: Hazards Identification

Hazard Overview
Causes skin burns.
Causes skin, eye and respiratory tract irritation.
Harmful to fish and other water organisms.

GHS Classification

Skin Corrosion Category 1B
Skin Irritant Cat 4, Acute Inhalation Cat 4, Eye Irritation Cat 2B
Signal word: Danger

Hazard and Precautionary Statements

H314 Causes severe skin burns and eye damage.
H320 + H312 + H332 Irritating to eyes, harmful to respiratory system and skin.
H412 Harmful to aquatic life with long lasting effects.
P280 Wear protective gloves/protective clothing/eye protection/face protection.
P280A Wear protective gloves
P301A IF SWALLOWED do not induce vomiting. Do not give anything to drink. Obtain medical attention without delay.
P301D IF SWALLOWED, induce vomiting as directed by medical personnel.
P302+P352 IF ON SKIN: Wash with plenty of soap and water.
P305B IF IN EYES, Separate eyelids with finger tips.
P340 Remove victim to fresh air and keep at rest in a position comfortable for breathing.
P351 Rinse cautiously with water for several minutes.
P361 Remove/Take off immediately all contaminated clothing.
P501 Dispose of contents/container to proper waste area in accordance with institutional practices and local, state or federal regulations.

NFPA Rating

Hazard Ratings:
These ratings are Polysciences' Inc. own assessments of the properties of the material using the ANSI/NFPA 704 Standard.
Additional information can be found by consulting in the NFPA published ratings lists (List 325 and List 49).
If no data is listed the information is not available.

Health Flammability Reactivity
2 0 1

Section 3: Composition/ Information on Ingredients

Note: Items listed with a CASRN... number have no CAS# available.

<table>
<thead>
<tr>
<th>Item#</th>
<th>Name</th>
<th>EINECS</th>
<th>CAS#</th>
<th>% in product</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Thiocyanic acid, compd. with guanidine (1:1)</td>
<td>209-812-1</td>
<td>0000593-84-0</td>
<td>90 - 100</td>
</tr>
</tbody>
</table>

Section 4: First Aid Measures

Flush eyes with flowing water for at least 15 minutes.
If breathing is difficult, contact emergency personnel.
If swallowed, induce vomiting as directed by medical personnel.
Remove contaminated clothing.
Remove to fresh air.
Separate eyelids with finger tips.
Wash skin with deluge of water for at least 15 minutes.

Section 5: Fire Fighting Measures
Flash point, deg F.: no data  Method: no data
UEL: no data  LEL: no data  Autoignition temperature, deg. F.: no data
Flammability Classification: no data  Flame Propagation Rate: no data
Hazardous Combustion Products: May emit toxic and flammable fumes of cyanide if involved in a fire

Section 6: Accidental Release Measures
Any information listed below is to be considered in addition to internal guidelines for isolation of spill, containment of spill, removal of ignition sources from immediate area, and collection for disposal of spill by trained, properly protected clean up personnel.
Remove ignition sources.
Sweep up solids.
Use appropriate personal protective equipment.

Section 7: Handling and Storage
Store at room temp

Section 8: Exposure Controls/ Personal Protection
OSHA (ACGIH) Exposure Limits

<table>
<thead>
<tr>
<th></th>
<th>TWA</th>
<th>STEL</th>
<th>CEILING</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>ppm</td>
<td>mg/</td>
<td>ppm</td>
</tr>
</tbody>
</table>

Thiocyanic acid, compd. with guanidine (1:1)

IDLH: NE

OSHA  NE  NE  NE  NE  NE  NE
ACGIH  NE  NE  NE  NE  NE  NE

The use of eye protection in the form of safety glasses with side shields and the use of skin protection for hands in the form of gloves are considered minimum and non-discretionary in work places and laboratories. Any recommended personal protection equipment or environmental equipment is to be considered as additional to safety glasses and gloves.

Use chemical splash goggles and face shield.
Use latex or equivalent gloves.
Chemical-resistant gloves should be worn whenever this material is handled. The glove material has to be impermeable and resistant to the product. Gloves should be removed and replaced immediately if there is any indication of degradation or chemical breakthrough.
Rinse and remove gloves immediately after use. Wash hands with soap and water. All glove recommendations presume that the risk of exposure is through splash and not intentional immersion of the hands into the product.
Since glove permeation data does not exist for this material, no recommendation for the glove material can be given for the product. Permeation data must be obtained from the glove manufacturer to determine if the glove is suitable for the task.

Section 9: Physical and Chemical Properties
Formula: C2H6N4S
Formula Weight: 118.16 g/mol
boiling point: decomposes
melting point: 118°C
solubility: soluble in water
appearance: white crystals

vapor pressure: no data
vapor density: no data
Specific gravity: no data
ph: no data

Section 10: Stability and Reactivity
Chemical Stability: stable under recommended storage conditions
Conditions to Avoid: heat, flames, ignition sources and contact with acids
Incompatibility with other materials: iron, oxidizing agents
Hazardous Decomposition Products: fumes of cyanide, oxides of carbon, oxides of sulfur, oxides of nitrogen
Hazardous Polymerization: will not occur

Section 11: Toxicological Information
Acute Data: LD50 ORAL RAT 593 MG/KG
Skin - Rabbit corrosive after 1 to 4 hours
Subchronic data: no data

Section 12: Ecological Information
LC50 - Poecilia reticulata (guppy) 89.1 mg/l - 96 h.
EC50 - Daphnia Magna (Water flea) - 42.4 mg/l - 48h
Section 13: Disposal Considerations

The following chart lists the status of the chemical and its components in reference to 40 CFR Part 261.33. If the product is listed by code number the substance may be subject to special federal and state disposal regulations. If no codes are listed the material must be disposed in compliance with all Federal, State and Local Regulations.

<table>
<thead>
<tr>
<th>Waste Code</th>
<th>Regulated Name</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Thiocyanic acid, co not listed</td>
</tr>
</tbody>
</table>

Section 14: Transportation Data

Proper Shipping Name: CORROSIVE SOLID, N.O.S.
Chemical Name: GUANIDINIUM THIOCYANATE
UN: UN1759
Class: 8
PG: III

Section 15: Regulatory Information

Prop 65 - Column A identifies those items which are known to the State of California to cause cancer. Column B identified items which are known to the State of California to cause reproductive toxicity.

<table>
<thead>
<tr>
<th>Column A</th>
<th>Column B</th>
</tr>
</thead>
<tbody>
<tr>
<td>Thiocyanic acid, compd. with guanidine (1:1)</td>
<td>no</td>
</tr>
</tbody>
</table>

State Regulatory Information: If a CAS# is listed below this material is subject to the listed state right-to-know requirements.

Thiocyanic acid not listed

SARA Toxic Release Chemicals (as defined in Section 313 of SARA Title III)
This list identifies the toxic chemicals, including their de minimis concentrations for which reporting is required under Section 313 of the Emergency Planning and Community Right-to-Know Act (EPCRA). The list is also referred to as the Toxics Release Inventory (TRI) List.

<table>
<thead>
<tr>
<th>Regulated name</th>
<th>de minimis conc. %</th>
<th>Rep. Thres.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Thiocyanic acid, compd. with guanidine (1:1)</td>
<td>not listed</td>
<td>not listed</td>
</tr>
</tbody>
</table>

SARA Extremely Hazardous Substances and TPQs
This list includes hazardous chemicals as defined in 29 CFR 1910.1200(c); and extremely hazardous substances regulated under Section 302 of SARA Title III with their TPQs (in pounds), as listed in 40 CFR 355, Appendices A and B.

<table>
<thead>
<tr>
<th>Regulated name</th>
<th>TPQ (pounds)</th>
<th>EHS-RQ (pounds)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Thiocyanic acid, compd. with guanidine (1:1)</td>
<td>not listed</td>
<td>not listed</td>
</tr>
</tbody>
</table>

CERCLA
The hazardous substances, and their reportable quantities (RQs) are listed in the federal regulations at 40 CFR Part 302, Table 302.4. Release of a CERCLA hazardous substance in an amount equal to or greater than its RQ, in any 24-hour period, must be reported to the National Response Center at (800) 424-8802.

<table>
<thead>
<tr>
<th>Regulated name</th>
<th>RQ (pounds)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Thiocyanic acid, compd. with guanidine (1:1)</td>
<td>Not listed</td>
</tr>
</tbody>
</table>

Section 16: Other Information

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END OF MSDS