Section 1: Chemical Product and Company Identification

Cat#: 25673
Part Name: POLY(ALLYLAMINE HYDROCHLORIDE) MW 120 000-200 000 AQUEOUS SOLUTION
Supplier: Polysciences, Inc.

400 Valley Road
Warrington, PA 18976 USA
MSDS Telephone #215-343-6484 Emergency only #215-378-4526

Identified uses: Laboratory use, manufacture of substances

Section 2: Hazards Identification

Hazard Overview
Causes severe skin and eye burns.
May be irritant if swallowed
Toxic to fish and other water organisms.

GHS Classification

Acute Toxicity Oral Category 5

Serious Eye Damage Cat 1C, Skin Corrosion Cat 1C, Eye Irritation Cat 2B

Signal word: Danger

Hazard and Precautionary Statements

H314 Causes severe skin burns and eye damage.
H410 Very toxic to aquatic life with long lasting effects.
P280 Wear protective gloves/protective clothing/eye protection/face protection.
P280A Wear protective gloves
P285 In case of inadequate ventilation wear respiratory protection.
P302+P352 IF ON SKIN: Wash with plenty of soap and water.
P305B IF IN EYES, Separate eyelids with finger tips.
P315 Get immediate medical advice/attention.
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
3 0 0

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>2-Propen-1-amine, hydrochloride, homopolymer</td>
<td>Unknown</td>
<td>0071550124</td>
<td>41 - 50</td>
</tr>
<tr>
<td>2</td>
<td>Water</td>
<td>231-791-2</td>
<td>0007732185</td>
<td>61 - 70</td>
</tr>
</tbody>
</table>

Section 4: First Aid Measures
Contact medical personnel immediately.
Flush eyes with flowing water for at least 15 minutes.
If swallowed, wash out mouth with water if person is conscious.
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: oxides of carbon, hydrogen chloride, oxides of nitrogen

**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.

Absorb liquids on absorbent material.
Contain spilled liquids.
Protect personnel from exposure.
Use appropriate personal protective equipment.
Ventilate the area.

**Section 7: Handling and Storage**

Store at room temp
Store in a tightly closed container.

**Section 8: Exposure Controls/ Personal Protection**

**OSHA (ACGIH) Exposure Limits**

<table>
<thead>
<tr>
<th>CAS#: 0007732185</th>
<th>TWA ppm</th>
<th>mg/</th>
<th>STEL ppm</th>
<th>mg/m3</th>
<th>CEILING ppm</th>
<th>mg/m3</th>
</tr>
</thead>
<tbody>
<tr>
<td>OSHA</td>
<td>NE</td>
<td>NE</td>
<td>NE</td>
<td>NE</td>
<td>NE</td>
<td>NE</td>
</tr>
<tr>
<td>ACGIH</td>
<td>NE</td>
<td>NE</td>
<td>NE</td>
<td>NE</td>
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<td>NE</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>CAS#: 0071550124</th>
<th>TWA ppm</th>
<th>mg/</th>
<th>STEL ppm</th>
<th>mg/m3</th>
<th>CEILING ppm</th>
<th>mg/m3</th>
</tr>
</thead>
<tbody>
<tr>
<td>OSHA</td>
<td>NE</td>
<td>NE</td>
<td>NE</td>
<td>NE</td>
<td>NE</td>
<td>NE</td>
</tr>
<tr>
<td>ACGIH</td>
<td>NE</td>
<td>NE</td>
<td>NE</td>
<td>NE</td>
<td>NE</td>
<td>NE</td>
</tr>
</tbody>
</table>

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.
Use process enclosures, local exhaust ventilation, or other engineering controls.

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: no data  vapor pressure: no data
Formula Weight: no data  vapor density: no data
boiling point: 100C  Specific gravity: 1.13
melting point: no data  ph: 2-3
solubility: soluble  appearance: viscous liquid

**Section 10: Stability and Reactivity**

Chemical Stability: stable
Conditions to Avoid: no data
Incompatibility with other materials: oxidizing agents, bases, metals, anionic materials
Hazardous Decomposition Products: oxides of carbon and nitrogen, hydrogen chloride
Hazardous Polymerization: will not occur

Section 11: Toxicological Information
Acute Data: LD50 oral (mouse) - 1600 mg/kg
Subchronic data: no data

Section 12: Ecological Information
Fish (oryzias latipes) - 48h - TLm 0.42 ppm

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>CAS#</th>
<th>Waste Code</th>
<th>Regulated Name</th>
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<tbody>
<tr>
<td>0007732185</td>
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<td>not listed</td>
</tr>
<tr>
<td>0071550124</td>
<td>not listed</td>
<td>not listed</td>
</tr>
</tbody>
</table>

Section 14: Transportation Data
Proper Shipping Name: Corrosive liquid, acidic, organic, n.o.s.
Chemical Name: Homopolymer of 2-propene-1-amine hydrochloride
UN: UN3265
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 identifies items which are known to the State of California to cause reproductive toxicity.

<table>
<thead>
<tr>
<th>CAS#</th>
<th>Column A</th>
<th>Column B</th>
</tr>
</thead>
<tbody>
<tr>
<td>0007732185</td>
<td>no</td>
<td>no</td>
</tr>
<tr>
<td>0071550124</td>
<td>no</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.

<table>
<thead>
<tr>
<th>CAS#</th>
<th>Not listed</th>
</tr>
</thead>
<tbody>
<tr>
<td>0007732185</td>
<td></td>
</tr>
<tr>
<td>0071550124</td>
<td></td>
</tr>
</tbody>
</table>

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></th>
<th></th>
<th></th>
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<tbody>
<tr>
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</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>CAS#</th>
<th>Regulated name</th>
<th>TPQ (pounds)</th>
<th>EHS-RQ (pounds)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0007732185</td>
<td>not listed</td>
<td>not listed</td>
<td>not listed</td>
</tr>
<tr>
<td>0071550124</td>
<td>not listed</td>
<td>not listed</td>
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</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>CAS#</th>
<th>Regulated name</th>
<th>RQ (pounds)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0007732185</td>
<td>Not listed</td>
<td>Not listed</td>
</tr>
<tr>
<td>0071550124</td>
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</tr>
</tbody>
</table>

Section 16: Other Information
POLYSCIENCES, INC. provides the information contained herein in good faith but makes no representation as to its comprehensiveness or accuracy. Individuals receiving this information must exercise their independent judgment in determining its appropriateness for a particular purpose. POLYSCIENCES, INC. makes no representations or warranties, either expressed or implied of merchantability, fitness for particular purposes with respect to the information set forth herein or to which the information refers. Accordingly, POLYSCIENCES, INC. will not be responsible for damages resulting from the use of or reliance upon this information.

END OF MSDS