Section 1 – Chemical Product and Company Identification

MSDS Name: Cyclohexylboronic acid, 1,3-propanediol cyclic ester

Synonyms: (1,3,2-Dioxaborinan-2-yl) cyclohexane

Company: Optima Chemicals Group, LLC
200 Willacoochee Hwy.
Douglas, Georgia 31533
Telephone (912) 384-5101  FAX (912) 384-6330
Emergencies: Telephone (912) 384-5101

Section 2 – Composition, Information on Ingredients

<table>
<thead>
<tr>
<th>CAS #</th>
<th>Chemical Name</th>
<th>%</th>
<th>OSHA-PEL</th>
</tr>
</thead>
<tbody>
<tr>
<td>NA</td>
<td>Cyclohexylboronic acid, 1,3-propenediol cyclic ester</td>
<td>97+</td>
<td>N/A</td>
</tr>
</tbody>
</table>

Section 3 – Hazards Identification

Hazards: Harmful if swallowed, Irritating to eyes, skin, respiratory system

Hazard Symbols: Xn  Risk Phrases: 22, 36/37/38

Safety Phrases: 26, 37/39

NFPA Rating: Health: 1  Flammability: 0  Reactivity: 0

Section 4 – First Aid Measures

Eyes: Flush eyes with plenty of water for at least 15 minutes, lifting upper and lower lids. Seek medical attention.

Skin: Flush skin with plenty of water and soap for at least 15 minutes while removing contaminated clothing.

Ingestion: Get medical aid. Wash mouth out with water.

Inhalation: Remove from exposure, to fresh air immediately. If not breathing give artificial respiration. If breathing is difficult, give oxygen.
Section 5 – Fire Fighting Measures

Fire Extinguishing Agents Recommended: Water Fog, CO2, dry chemical powder, or appropriate foam.

Fire Extinguishing Agents to Avoid: None

Special Fire fighting Procedures: Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes.

Unusual Fire and Explosion Hazards: May emit irritating fumes under fire conditions.

Section 6 – Accidental Release Measures

Large Spills: Contain the spill, wet the material with a light water spray, and place into appropriate containers for disposal.

Small Spills: Contain the spill, wet the material with a light water spray, and place into appropriate containers for disposal.

The material is Non-Hazardous, however, disposal should be done only through an approved waste disposal facility.

Section 7 - Handling and Storage

Handling: Avoid breathing dust, vapor, mist. Avoid contact with skin and eyes.

Storage: Store in cool, dry place. Store in tightly closed container.

Section 8 – Exposure Controls, Personal Protection

Engineering Controls: Use adequate ventilation to keep airborne concentrations low.

Eyes: Wear appropriate protective eyeglasses or chemical goggles.

Skin: Wear appropriate protective clothing and gloves to prevent skin exposure.

Respiratory: Wear NIOSH/MSHA approved respirator. Approved dust masks are effective.

Section 9 – Physical and Chemical Properties

Appearance and Odor: White to off-white liquid, essentially no odor.
Melting Point: N/A   Boiling Point: Unknown
Flash Point: N/A   Vapor Pressure: N/A
Specific Gravity: N/A   pH: N/A
Water Solubility: ~2.5%
Molecular Formula: C9H17BO2   Molecular Weight: 168.04

Section 10 – Stability and Reactivity

Stability: Stable under normal handling conditions.

Incompatibility: Avoid strong acids.

Hazardous Polymerization: Will not occur.

Hazardous Decomposition Products: None expected.

Conditions to Avoid: Acids, Strong oxidizing agents.

Section 11 – Toxicological Information

No LD50 or LC 50 information available

Acute Toxicity: Irritation of the eyes and skin.

Chronic Toxicity: Not listed as a Carcinogen by ACGIH, IARC, NIOSH, NTP, or OSHA.

Section 12 – Ecological Information

No information available.

Section 13 – Disposal Considerations

This material is non-hazardous, but must be disposed of in accordance with federal, state, and local regulations.

Section 14 – Transport Information

DOT Shipping Name: Cyclohexylboronic acid, 1,3-propanediol cyclic ester, Non Hazardous
DOT Hazardous Class: Not Regulated

**Section 15 – Regulatory Information**

European Labeling in Accordance with EC Directives

Hazard Symbols: Xn

Risk Phrases: R22 – Harmful if swallowed, R 36/37/38 – Irritating to eyes, skin, and respiratory system.

Safety Phrases: S 26 – In case of contact with eyes, rinse immediately with plenty of water and seek medical aid, S 37/39 – Wear suitable gloves and eye/face protection.

TSCA: Not listed on inventory

SARA Title 111 Reporting Requirements:

Section 311/312 Inventory reporting hazard categories: Acute

Section 313 Release reporting: Not required

Reportable Quantity: Not applicable

**Section 16 – Additional Information**

Creation Date: 5/14/07

This information is believed to be accurate and represents the best information currently available to Optima Chemicals, Incorporated. However, we make no warranty of merchantability, express or implied, with respect to such information and assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes.