CARBOPOL EZ-2
Safety Data Sheet
Product Code: 482
Revision Date: July 1, 2015

Section 1. Material and Manufacturer Identification

Distributor: Protameen Chemicals Inc.
Manufacturer: The Lubrizol Corporation
9921 Brecksville Rd.
Brecksville, OH 44141
Telephone: (216) 447-5000
Emergency Phone No.: CHEMTREC 1-800-424-9300

Product Trade Name: CARBOPOL EZ-2 POLYMER
Chemical Name: Polyacrylic Acid
Mixture
CAS No.: 

Issue Date: July 15, 2008
Revision Date: July 1, 2015

Section 2. Hazards Identification

Hazard Classification
Unknown Toxicity
- Acute Toxicity, Oral 0.0%
- Acute Toxicity, Dermal 0.0%
- Acute Toxicity, Inhalation, Vapor 99.5%
- Acute Toxicity, Inhalation, Dust/Mist 99.5%

OSHA Hazards
Combustible dust

Label Elements:
Hazard Symbol: None
Signal Word: Caution
Hazard Statement: May form combustible dust concentrations in air.
Precautionary Statement:
Response: If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.
Disposal: Dispose of contents/container to an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.
Other: None identified.
Section 3. Composition / Information on Ingredients

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>CAS Number</th>
<th>Percent by Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cyclohexane</td>
<td>110-82-7</td>
<td>0.1 – 0.5%</td>
</tr>
</tbody>
</table>

Section 4. First Aid Measures

Eye Contact: Any material that contacts the eye should be washed out immediately with water. If easy to do, remove contact lenses. Water (moisture) swells this product into a gelatinous film which may be difficult to remove from the eye using only water. Immediately flush eyes with plenty of one percent (1%) physiological saline solution for five (5) minutes while holding eyelids open. If no saline is available, flush with plenty of clean water for fifteen (15) minutes. See a physician.

Skin Contact: Wash with water and soap. Get medical attention if irritation develops. Launder contaminated clothing before reuse.

Inhalation: Remove exposed person to fresh air if adverse effects are observed. If breathing is labored, administer oxygen. If breathing has stopped, apply artificial respiration. If irritation persists or if toxic symptoms are observed, get medical attention.

Ingestion: Treat symptomatically. Get medical attention.

Section 5. Fire Fighting Measures

Flash Point: Not applicable
Auto-ignition Temperature: ~ 480°C (896°F)

General Fire Hazards: Avoid hose stream or any method which will create dust clouds.

Suitable Extinguishing Media: Use water spray or fog, dry chemical or foam for extinction. CO₂ may be ineffective on large fires.

Unsuitable Extinguishing Media: Avoid hose stream or any method which may create dust clouds

Specific Hazards: See Section 10 for additional information.

Special Fire Fighting Procedures: This material has been evaluated and is considered to be a risk for dust explosion. It is categorized as Dust Explosion Class ST1.

Special Protective Equipment: In the case of fighting any fire, it is recommended that self-contained breathing apparatus be worn.
Section 6. Accidental Release Measures

Personal Precautions: Personal protective equipment, as defined in Section 8, must be worn.

Methods for Containment And Clean-Up: Pick up free solid for recycle and/or disposal. Sweep up and place in a clearly labeled container for chemical waste. Avoid dust formation. Use wet sweeping compound or water to avoid raising a dust. Collect powder using special dust vacuum cleaner with particle filter or carefully sweep into closed container. Wash spill area with detergent. Material is slippery when wet. Prevent entry into sewers and waterways, dispose of in accordance with all federal, state and local environmental regulation.

Environmental Precautions: Avoid release to the environment. Do not contaminate water sources or sewer. Prevent further leakage or spillage if safe to do so. Prevent entry into sewers and waterways. Take precautions to avoid release to the environment.

Section 7. Handling and Storage

Precautions for Safe Handling: Wear personal protective equipment as defined in Section 8. Observe good industrial hygiene practices. Provide adequate ventilation. Avoid environmental contamination. Avoid conditions which create dust. Avoid breathing dust. Avoid contact with eyes and prolonged or repeated contact with skin. Ground container and transfer equipment to eliminate static electric sparks. Keep away from heat, sparks and open flame. Avoid drinking, tasting, swallowing or ingesting this product.

Maximum Handling Temp.: Not determined

Safe Storage: Store away from incompatible materials. See Section 10 for incompatible materials. Store in a dry, well-ventilated place. Keep containers closed when not in use.

Maximum Storage Temp.: < 80°C < 176°F

Section 8. Exposure Controls / Personal Protection

Control Parameters:
- Exposure Limits: None established
- Other Exposure Limits: Polyacrylic Acid, TWA, 0.05 mg/m³

Engineering Controls: To prevent dust explosions, employ bonding and grounding for operations capable of generating static electricity. Minimize dust generation and accumulation. Provide adequate ventilation.

Eye/Face Protection: Use tight fitting goggles if dust is generated. Wear approved chemical safety glasses or goggles where eye exposure is reasonably probable.
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Protameen Chemicals Inc.
375 Minnisink Road
Totowa, NJ 07511
(973) 256-4374
(973) 256-8764 FAX
www.protameen.com

Skin Protection: Use good industrial hygiene practices to avoid skin contact. If contact with the material may occur wear chemically protective gloves. Long sleeve shirt is recommended.

Respiratory Protection: Consult with an industrial hygienist to determine the appropriate respiratory protection for your specific use of this material. A respiratory protection program compliant with all applicable regulations must be followed whenever workplace conditions require the use of a respirator. Under normal conditions of use, respirator is not usually required. Use appropriate respiratory protection if exposure to dust particles, mist or vapors is likely.

Hygiene Measures: Always observe good personal hygiene practices such as washing after handling the material and before eating, drinking and/or smoking. Routinely wash work clothing to remove contaminants. Discard contaminated footwear that cannot be cleaned. Wash thoroughly after handling.

Section 9. Physical and Chemical Properties
The below data are typical values and do not constitute a specification. Vapor pressure data are calculated unless otherwise noted.

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance:</td>
<td>White Powder</td>
</tr>
<tr>
<td>Odor:</td>
<td>Mild, sour, acidic</td>
</tr>
<tr>
<td>pH:</td>
<td>2.5 – 3.0 (1% Water)</td>
</tr>
<tr>
<td>Melting Point:</td>
<td>No data available</td>
</tr>
<tr>
<td>Boiling Point:</td>
<td>No data available</td>
</tr>
<tr>
<td>Flash Point:</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Evaporation rate:</td>
<td>No data available</td>
</tr>
<tr>
<td>Explosion Data:</td>
<td>Dust can form explosive mix</td>
</tr>
<tr>
<td>Flammable Limit (UFL/LFL):</td>
<td>Not determined</td>
</tr>
<tr>
<td>Explosive Limit:</td>
<td>No data available</td>
</tr>
<tr>
<td>Vapor Pressure:</td>
<td>No data available</td>
</tr>
<tr>
<td>Vapor Density:</td>
<td>No data available</td>
</tr>
<tr>
<td>Relative Density:</td>
<td>1.4 (20°C)</td>
</tr>
<tr>
<td>Solubility in Water:</td>
<td>Will Swell in Water</td>
</tr>
<tr>
<td>Partition Coefficient:</td>
<td>Not determined</td>
</tr>
<tr>
<td>Auto-Ignition Temp.:</td>
<td>~ 896°F (480°C)</td>
</tr>
<tr>
<td>Decomp. Temp.:</td>
<td>No data available</td>
</tr>
<tr>
<td>Viscosity:</td>
<td>Not determined</td>
</tr>
</tbody>
</table>

Other Information:
- Dust Explosion Properties: 157 – 193 m. b./s
- Minimum Ignition Energy: 100 – 300 mJ
- Minimum Ignition Temp.: ~ 896°F (480°C)
- Volume Resistivity: 4.70x 10+15 ohm-cm

Section 10. Stability and Reactivity

Stability: Material is stable under normal conditions.

Reactivity: No data available.

Hazardous Polymerization: Will not occur.

Conditions to Avoid: Static discharge, moisture, heat.

Incompatible Materials: Strong bases, alkalis, bases.

Decomposition Products: Thermal decomposition or combustion may liberate carbon oxides and other toxic gases or vapors.
Section 11. Toxicological Information

Information on likely routes of exposure:
- Inhalation: No data available
- Ingestion: No data available
- Skin Contact: No data available
- Eye Contact: No data available

Acute Toxicity:
- Oral: Not classified for acute toxicity based on available data
- Dermal: Not classified for acute toxicity based on available data
- Inhalation: Not classified for acute toxicity based on available data
Persons with sensitive airways (e.g., asthmatics) may react to vapors. Avoid inhalation of dust. Animal studies indicate the inhalation of respirable polyacrylate dust may cause inflammatory changes in the lung.
- Skin Corrosion: Classification: Not irritating. (Read across); Rabbit. Not expected to be a primary skin irritant.
Remarks: Pre-Existing skin conditions may be aggravated by prolonged or repeated exposure. Prolonged or repeated exposure may cause severe irritation.
- Serious Eye Damage: Classification: Not irritating. (Read across); Rabbit.
Remarks: Particles in the eyes may cause irritation and smarting.
Remarks: Not expected to cause eye irritation.

Respiratory Sensitization: No data available.
Skin Sensitization: Classification: Not a skin sensitizer. (Read across); not a skin sensitizer.

Specific target Organ Toxicity – Single Exposure:
- Aspiration Hazard: Cyclohexane: Material can be aspirated into the lungs during the act of swallowing or vomiting. This could result in severe injury to the lungs and death.
Product: This material readily absorbs moisture and may become thick and gelatinous upon contact with mucous membranes of the eye or upon inhalation into the nasal passages.

Chronic Effects:
- Carcinogenicity: Not listed as a carcinogen or suspected carcinogen by NTP, IARC, or OSHA
- Mutagenicity: No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.
- Reproductive Toxicity: No data available
- Tetrogenicity: No data available

Specific Target Organ Toxicity – Repeated Exposure:
- Product: A two-year inhalation study in rats exposed to a respirable, water absorbent sodium polyacrylate dust resulted in lung effects such as inflammation, hyperplasia, and tumors. There were no observed adverse effects at exposures of 0.05 mg/m³. In addition, long-term medical monitoring of potentially exposed workers has not revealed lung effects such as those observed in the rat. However, the inhalation of respirable dusts should be avoided by implementing respiratory protection measures and observing the recommended permissible exposure limit of 0.05 mg/m³.
Section 12. Ecological Information

Ecotoxicity:
- Fish: Cyclohexane: LC50 (Fathead Minnow, 4d): 4.5 mg/L
- Aquatic Invertebrates: Cyclohexane: EC50 (Water flea (Daphnia magna), 2d): 0.9 mg/L
- Toxicity to Aquatic Plants: Cyclohexane: EC50 (Green algae (Seleniastrum capricornutum), 3d): 9.317 mg/L
- Toxicity to Soil Dwelling Organisms: No data available
- Sediment Toxicity: No data available
- Toxicity to Terrestrial Plants: No data available
- Toxicity to Above-Ground Organisms: No data available
- Toxicity to Microorganisms: No data available

Environmental Fate:
- Biodegradation: Cyclohexane: OECD TG 301 F, 77%, 28d
- Miscellaneous, 9%, 28d, Not readily degradable

Bioaccumulation:
- Bioconcentration Factor (BCF): No data available
- Partition Coefficient: n-octanol/water (log Kow):
  - Cyclohexane: Log Kow (3.44)
- Soil Mobility: Not determined

Section 13. Disposal Considerations

Disposal Instructions: Treatment, storage, transportation, and disposal must be in accordance with applicable Federal, State/Provincial, and Local regulations. Dispose of packaging or containers in accordance with local, regional, national and international regulations. Empty container contains product residue which may exhibit hazards of product.

Contaminated Packaging: Container packaging may exhibit hazards.

Section 14. Transport Information

DOT:
- UN Number: UN 3077
- UN Proper Shipping Name: Environmentally hazardous substance, solid, n.o.s.
- Transport Hazard Class:
  - Class: 9
  - Label: 9
- Packing Group: III
- Marine Pollutant: Yes
- Special precautions for user: None established
- Reportable Quantity:
  - Cyclohexane: 1000 lbs
  - Ethyl Acetate: 5000 lbs

IMDG: Not regulated
IATA: Not regulated

Transport in Bulk according to Annex II of MARPOL 73/78 and the IBC Code: None Known.
Section 15. Regulatory Information

Global Chemical Inventories:
United States (TSCA): All components of this material are on the US TSCA Inventory or exempt.
European Union (REACH): All components are in compliance with the EC Seventh amendment Directive 92/32/EEC. To obtain information on the REACH compliance status of this product, please visit Lubrizol.com/REACH, or email Lubrizol at REACH_MSDS_Inquiries@Lubrizol.com.
Japan (ENCS): All components are in compliance with the Chemical Substance Control Act of Japan.
Australia (AICS): All components are in compliance with the chemical notification requirements in Australia.
New Zealand (NZIoC): All components are in compliance with the chemical notification requirements in New Zealand.
Canada (DSL/NDSL): All components are in compliance with the Canadian Environmental Protection Act and are present on the Domestic Substances List.
Switzerland (SWISS): All components are in compliance with Environmentally Hazardous Substance Ordinance in Switzerland.
Korea (ECL): All components are in compliance in Korea.
Philippines (PICCS): All components are in compliance with the Philippines Toxic Substances and Hazardous and Nuclear Wastes Control Act of 1990 (R.A. 6969).
China (IECSC): All components of this product are listed on the Inventory of Existing Chemical Substances in China.
Taiwan (TCSCA): All components are listed on the Taiwan inventory.

Other U.S. Federal Regulations:
SARA Hazard Categories: None known
SARA 302 Ext. Haz. Subst.: No information available
SARA 304 Emergency Release Notification: No information available
SARA 311/312 Hazardous Chemical: No information available
SARA Section 313: This product may contain chemicals regulated under the Superfund Amendments and Reauthorization Act (SARA). For additional information, please contact Lubrizol Customer Service.
Americas: AmerLZAMCustomerAssistance@Lubrizol.com
Europe: EMEAICustomerAssistance@Lubrizol.com
Asia: APCustomerAssistance@Lubrizol.com

State Regulations:
California Proposition 65: This product contains the following chemical(s) known to the State of California to cause cancer and/or birth defects based on maximum impurity levels of components: None

The information that was used to confirm the compliance status of this product may deviated from the chemical information shown in Section 3.
Section 16. Other Information

<table>
<thead>
<tr>
<th>HMIS Rating</th>
<th>NFPA Rating</th>
</tr>
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<tbody>
<tr>
<td>Health:</td>
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<tr>
<td>Flammability:</td>
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<td>Reactivity:</td>
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<td>Personal Protection:</td>
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History:

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MANUFACTURER'S STATEMENT:

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