1. PRODUCT AND COMPANY INFORMATION
Product Name: Styrene/ethylene-butylene, ABA block copolymer
Catalog Number: 452
Company: Scientific Polymer Products, Inc.
6265 Dean Parkway
Ontario, NY 14519
Telephone: 585/265-0413
Fax: 585/265-1390
Website: www.scientificpolymer.com
Emergency Phone Number: 800-255-3924 (CHEM TEL)

2. COMPOSITION/INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>CAS Number</th>
<th>Concentration (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Styrene/ethylene-butadiene, ABA block</td>
<td>66070-58-4</td>
<td>100</td>
</tr>
</tbody>
</table>

3. HAZARDS IDENTIFICATION
EMERGENCY OVERVIEW: Electrostatic charges may be generated during handling. Risk of self-ignition of bulk product above certain temperatures.

HMIS Classification:
HEALTH HAZARD: 0  Flammability: 1  Reactivity: 0  Protective Equipment: B

POTENTIAL HEALTH EFFECTS: This component is a synthetic rubber compound, which is essentially non-toxic. Material is non-irritating. If polymer dusts are generated, they could scratch the eyes and cause minor irritation to the respiratory tract.

4. FIRST AID MEASURES
Inhalation: If dust is inhaled, obtain medical attention
Skin: Flush skin with water
Eyes: Flush eyes with water
Ingestion: None
5. **FIRE FIGHTING MEASURES**

<table>
<thead>
<tr>
<th>Flash Point:</th>
<th>N/A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Auto Ignition Temperature:</td>
<td>N/A</td>
</tr>
</tbody>
</table>

**Suitable extinguishing:** Foam, water spray or fog, dry chemical powder, carbon dioxide, sand or earth may be used for small fires only. Water in a spray may disperse fire.

**Fire Fighting Procedures:** Wear self-contained breathing apparatus and protective clothing.

**Unusual Fire & Explosion Hazards:** Not flammable but will burn. Combustion products may include carbon monoxide and carbon dioxide.

6. **ACCIDENTAL RELEASE MEASURES**

Avoid generating dusts. Shovel up and place in a properly labeled container for proper disposal. Wear appropriate personal protective equipment when responding to spills. Shovel and sweep up or use industrial vacuum cleaner.

7. **HANDLING AND STORAGE**

**Handling:**
Avoid generation of dust. Take precautionary measures against static discharges, earth/ground all equipment. Do not breathe dust. Use local exhaust over processing area. When processing this polymer, maintain a fire watch if the material reaches 225°C. Degradation of the polymer (polymer breakdown) will start at lower temperatures depending on the specific processing conditions. Therefore, operating below these temperatures does not guarantee the absence of product degradation.

Static charge buildup can be a potential fire hazard when used in the presence of volatile, flammable vapors or in high airborne dust concentrations. This material can accumulate an electrostatic charge when rubbed, chafed or abraded and can charge unearthed components. Considering the risks of electrostatic discharges handling the products in potentially flammable atmospheres should be evaluated carefully. Suitable precautions should be taken at all times, in particular when emptying bags or other packaging.

**Storage:**
Keep container dry. Keep in cool, well ventilated place. This material contains an antioxidant to aide in stabilizing the polymer over its recommended use and storage conditions. Exposure to direct sunlight or elevated temperatures over prolonged periods of time consumes the antioxidant at an increased rate and may lead to self heating and thermal degradation. Avoid storage pressure or at elevated temperatures to minimize particulate clustering.

8. **EXPOSURE CONTROLS/PERSONAL PROTECTION**

**Exposure limits:** In the absence of occupational exposure standards for this product, it is recommended that the following be adopted: TWA (8h) 10 mg/m³ if dust is generated.
PERSONAL PROTECTIVE EQUIPMENT:
Respiratory: Where local exhaust ventilation is not practicable an odors are detected use a negative pressure half face respiratory equipped with a cartridge designed to protect against organic vapors and if dust is also present a particulate pre-filter should also be used. For high airborne dust concentrations use a cartridge designed to be used against nuisance dust.

Skin: Cloth gloves if desired
Eyes: Dust tight mono goggles

Engineering Controls: Use local exhaust ventilation

9. PHYSICAL AND CHEMICAL PROPERTIES

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>Crumbs</td>
</tr>
<tr>
<td>Odor</td>
<td>Essentially odorless</td>
</tr>
<tr>
<td>Specific Gravity</td>
<td>0.91</td>
</tr>
<tr>
<td>Solubility in Water</td>
<td>Insoluble</td>
</tr>
<tr>
<td>Styrene Content</td>
<td>29%</td>
</tr>
<tr>
<td>Approximate Mw:</td>
<td>120,000 [GPC]</td>
</tr>
<tr>
<td>Brookfield Viscosity</td>
<td>1,500 cp (25 wt% in toluene (25°C))</td>
</tr>
</tbody>
</table>

10. STABILITY AND REACTIVITY

Stability:
Stable under normal ambient conditions. Oxidizes exothermically above ambient temperatures

Hazardous polymerization: Will not occur
Materials to avoid: None known

Conditions to avoid:
Avoid contact with strong oxidizing agents. Accumulation of product in areas exposed to elevated temperatures for extended periods in air may result in self-heating and auto ignition. Avoid elevated temperatures in storage for prolonged periods of time.

Hazardous Decomposition Products: Hazardous vapors from heated products are not expected to be generated under normal processing temperatures and conditions. Although highly dependent on temperature and environmental conditions, a variety of thermal decomposition products may be present if the product is over heated, is smoldering or catches fire. Typical decomposition products are ultimately oxides of carbon.
### 11. TOXICOLOGICAL INFORMATION

**Basis for Assessment:**
Toxicological data has not been determined for this product. Information based on similar products.

<table>
<thead>
<tr>
<th>Test Type</th>
<th>Expected/Not Expected</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute Toxicity Oral</td>
<td>Expected to be of low toxicity, LD50 &gt;2,000 mg/kg</td>
</tr>
<tr>
<td>Acute Toxicity Dermal</td>
<td>Expected to be of low toxicity, LD50 &gt;2,000 mg/kg</td>
</tr>
<tr>
<td>Skin Irritation</td>
<td>Not expected to be irritating</td>
</tr>
<tr>
<td>Eye Irritation</td>
<td>Not expected to be irritating</td>
</tr>
<tr>
<td>Skin Sensitization</td>
<td>Not expected to be a skin sensitizer</td>
</tr>
<tr>
<td>Repeated Dose Toxicity</td>
<td>Repeated exposure does not cause toxic effects</td>
</tr>
<tr>
<td>Mutagenicity</td>
<td>No data available, but not expected</td>
</tr>
</tbody>
</table>

This product is not classified by the following: The International Agency for Research on Cancer (IARC), The National Toxicology Program (NTP) or The American Conference of Governmental Industrial Hygienists (ACGIH).

**Other Information:**
This product is of high molecular weight which are non-toxic and biologically inactive.

We do not intentionally add organotin compounds or phthalates to our products.

These products are manufactured with synthetic raw materials that do not contain animal products or by-products.

This polymer does not contain natural rubber or natural rubber latex.

We do not use naturally occurring food allergens.

### 12. ECOLOGICAL INFORMATION

**Basis for Assessment:** No ecotoxicological data has been generated for this product. The information below is based on components and on similar products.

<table>
<thead>
<tr>
<th>Test Type</th>
<th>Expected/Not Expected</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mobility</td>
<td>Floats on water. Remains on surface of soil.</td>
</tr>
<tr>
<td>Persistence/Degradability</td>
<td>Not expected to be inherently biodegradable. Persists under anaerobic conditions.</td>
</tr>
<tr>
<td>Bioaccumulation</td>
<td>Not expected to bioaccumulate</td>
</tr>
<tr>
<td>Acute Toxicity-Fish</td>
<td>Expected to be practically non-toxic, LC/EC/IC 50 &gt;1,000 mg/L</td>
</tr>
<tr>
<td>Acute Toxicity-Invertebrates</td>
<td>Expected to be practically non-toxic, LC/EC/IC 50 &gt;1,000 mg/L</td>
</tr>
<tr>
<td>Acute Toxicity-Algae</td>
<td>Expected to be practically non-toxic LC/EC/IC 50 &gt;1,000 mg/L</td>
</tr>
<tr>
<td>Acute Toxicity-Bacteria</td>
<td>Expected to be practically non-toxic, LC/EC/IC 50 &gt;1,000 mg/L</td>
</tr>
<tr>
<td>Sewage Treatment</td>
<td>Expected to be practically non-toxic, LC/EC/IC 50 &gt;1,000 mg/L</td>
</tr>
</tbody>
</table>
13. DISPOSAL CONSIDERATIONS
DO NOT DUMP INTO ANY SEWERS, ON THE GROUND, OR INTO ANY BODY OF WATER. All disposal practices must be in compliance with all Federal, State/Provincial and local laws and regulations. Regulations may vary in different locations. Waste characterizations and compliance with applicable laws are the responsibility solely of the waste generator. SP2 HAS NO CONTROL OVER THE MANAGEMENT PRACTICES OR MANUFACTURING PROCESSES OF PARTIES HANDLING OR USING THIS MATERIAL. THE INFORMATION PRESENTED HERE PERTAINS ONLY TO THE PRODUCT AS SHIPPED IN ITS INTENDED CONDITION DESCRIBED IN SECTION 2.

14. TRANSPORT INFORMATION

DOT/IATA INFORMATION:
- Proper Shipping Name: Not regulated
- Class: N/A
- Packing Group: N/A
- UN#: N/A

15. REGULATORY INFORMATION
GLOBAL CHEMICAL INVENTORY STATUS-All of the substances are acceptable for use under:
- Australia-Inventory of Chemical Substances (AICS)
- Canada – (CEPA) Domestic Substances List (DSL)
- China – Inventory of Existing Chemical Substances (IECSC)
- EU – European Inventory of Existing Chemical Substances (EINECS)
- Japan – Inventory of Existing and New Chemical Substances (IENCS)
- Korea – Existing Chemicals Inventory (KECL)
- New Zealand – New Zealand Inventory of Chemicals (NZIOC)
- Philippines – Inventory of Chemicals and Chemical Substances (PICCS)
- USA – Toxic Substances Control Act (TSCA)

This document is compliant with the Globally Harmonized System (GHS) for the classification, labeling, and packaging (CLP) of substances and mixtures.

EU REACH Article 19 (Requirements for Safety Data Sheets) and Japan Ministry of Economy, Trade, and Industry (METI), Ministry of Health, Labor, and Welfare (MHLW) and Ministry of the Environment (MOE).


Canada Workplace Hazardous Materials Information Systems (WHMIS): This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the SDS contains all the information required. This is NOT a WHMIS controlled product.

EU Regulation (EC) 1907/2006 REACH: Polymers are exempted from registration and evaluation. Therefore, SP2 products are exempted by regulation. Annex V exempts from registration additives used in our polymers as antioxidants, defoaming agents, stabilizers, etc., and exempts substances that are naturally occurring that have not been chemically modified, Article 2(7)(b). Use of our products in medical devices regulated by Council Directive 90/385/EEC of 20 June 1990 and 93/42/EEC of 14 June 1993 and Directive 98/79/EC, or used in cosmetic products by Directive 76/768/EEC or used as a food contact material under Regulation (EC) No 1935/2004 are also exempted.

International Nomenclature of Cosmetic Ingredients (INCI): Styrene/butadiene copolymer


EU Directive 94/62/EC as amended by 2004/12/EC (Packaging and packaging waste): Not regulated. The product meets the requirement for the total amount of cadmium, chromium, lead and mercury to be less than 100 parts per million.


EU Directive 2037/2000 Ozone Depletors (Class I or II) as defined in Montreal Protocol: Not regulated


INTERNATIONAL CONVENTIONS:
Chemical Weapons, Rotterdam PIC (Prior Informed Consent), Persistent Organic Pollutants (POP), Drug Precursors: Not regulated

UNITED STATES: FEDERAL REGULATIONS:
Toxic Substances Control Act (TSCA) Section 4, 5(a)(2), (e), (f), 6, 7 or 12(b): Not regulated
Clean Air Act Amendments Section 602 (Class I or II) Ozone Depletors: Not regulated
Clean Air Act Section 111 Volatile Organic Compounds (VOC): Not regulated
Clean Air Act Section 112 Hazardous Air Pollutants (HAP): Not regulated
Clean Water Act Section 307 Priority Pollutants: Not regulated
UNITED STATES: STATE REGULATIONS:
Right-to-Know Laws (Massachusetts, New Jersey, New York, Pennsylvania) Not regulated

16. OTHER INFORMATION
This material is intended for laboratory use only. It is not sold or intended for drug, household or other uses. The information represents the most accurate and complete data currently available to us. However, we make no warranty, express or implied, with respect to such information, and we assure no liability resulting from its use.