

# Material Safety Data Sheet

Issue date: March 14<sup>th</sup> 2008

## Section 1- Product and company information

Product name: ***Polystyrene based block polymer***

Company address: **Polymer Source Inc.**  
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H9P 2X8, Canada

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## Section 2- Composition/Information on Ingredients

### Polystyrene based block polymers

(Mark the polymer for which this MSDS is applicable)

Name of the product	CAS#	Physical state*	Name of the product	CAS#	Physical State
Poly(styrene-b-bipyridylmethyl acrylate)	None	Solid	Poly(styrene-b-N-isopropyl acrylamide)	None	Solid
Poly(styrene-b-butadiene(1,2 addition))	None	Solid	Poly(styrene-b-n-propyl methacrylate)	None	Solid
Poly(styrene-b-butadiene(1,4 addition))	9003-55-8	Solid	Poly(styrene-b-Nylon6)	None	Solid
Poly(styrene-b-cyclohexyl methacrylate)	None	Solid	Poly(styrene-b-t-butoxystyrene)	None	Solid
Poly(styrene-b-dimethylsiloxane),	None	Solid	Poly(styrene-b-t-butyl acrylate)	None	Solid
Poly(styrene-b-disperse red 1 acrylate)	None	Solid	Poly(styrene-b-t-butyl methacrylate)	None	Solid
Poly(styrene-b-ethyl methacrylate)	None	Solid	Poly(styrene-b-t-butyl styrene)	None	Solid
Poly(styrene-b-ferrocenyldimethylsilane)	None	Solid	Poly(styrene-b-ε-caprolactone)	None	Solid
Poly(styrene-b-isoprene(1,2 addition or 3,4 addition))			Poly(styrene-b-lactide)		
Poly(styrene-b-isoprene(1,4 addition))	None	Solid	Poly(styrene-b-2-cholesteryloxycarbonyloxy ethyl methacrylate)	None	Solid
Poly(styrene-b-isoprene(1,4 addition)), hydrogenated	None	Solid	Poly(styrene-b-2-hydroxyethyl methacrylate)	None	Solid
Poly(styrene-b-N,N-dimethyl amino ethyl methacrylate)	None	Solid	Poly(styrene-b-2-hydroxypropyl methacrylate)	None	Solid
Poly(styrene-b-n-butyl methacrylate)	None	Solid	Poly(styrene-b-2-vinyl pyridine)	None	Solid
Poly(styrene-b-n-butyl acrylate)	None	Solid	Poly(styrene-b-4-hydroxyl styrene)	None	Solid

Poly(styrene-b-methyl methacrylate)	106911-77-7	Solid	Poly(styrene-b-4-methoxy styrene)	None	Solid
Poly(styrene-b-methyl phenyl siloxane)	None	Solid	Poly(styrene-b-4-vinyl pyridine)	None	Solid
Poly(p-chloromethyl styrene-b-t-butyl acrylate)	None	Solid	Poly( $\alpha$ -methylstyrene-b-4-vinyl pyridine)	None	Solid
Poly(4-methoxy styrene-b-t-butyl acrylate)	None	Solid	Poly(4-dimethylsilyl styrene-b-styrene)	None	Solid
Poly(4-methoxy styrene-b-ethyl methacrylate)	None	Solid	Tapered Block Copolymer Poly(styrene-b-butadiene)	66070-58-4	Solid
Poly(4-aminomethyl styrene-b-styrene)	None	Solid	Tapered Block Copolymer Poly(styrene-b-ethylene)	None	Solid

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\*b stands for block. Products are 100% by weight in composition.

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### Section 3 - Hazards Identification

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#### HMIS RATING

HEALTH: 0; FLAMMABILITY: 0; REACTIVITY: 0

#### NFPA RATING

HEALTH: 0; FLAMMABILITY: 0; REACTIVITY: 0

### Section 4 - First Aid Measures

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#### ORAL EXPOSURE

If swallowed, wash out mouth with water provided person is conscious. Call a physician.

#### INHALATION EXPOSURE

If inhaled, remove to fresh air. If breathing becomes difficult, call a physician.

#### DERMAL EXPOSURE

In case of contact, immediately wash skin with soap and copious amounts of water.

#### EYE EXPOSURE

In case of contact with eyes, flush with copious amounts of water for at least 15 minutes. Assure adequate flushing by separating the eyelids with fingers. Call a physician.

### Section 5 - Fire Fighting Measures

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#### FLASH POINT

N/A

#### AUTOIGNITION TEMP

N/A

#### FLAMMABILITY

N/A

#### EXTINGUISHING MEDIA

Suitable: Water spray. Carbon dioxide, dry chemical powder, or appropriate foam.

#### FIREFIGHTING

Protective Equipment: Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes.

Specific Hazard(s): Emits toxic fumes under fire conditions.

### Section 6 - Accidental Release Measures

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#### PROCEDURE(S) OF PERSONAL PRECAUTION(S)

Exercise appropriate precautions to minimize direct contact with skin or eyes and prevent inhalation of dust.

#### METHODS FOR CLEANING UP

Sweep up, place in a bag and hold for waste disposal. Avoid raising dust. Ventilate area and wash spill site after material pickup is complete.

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**Section 7 - Handling and Storage**

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**HANDLING:**

User Exposure: Avoid inhalation. Avoid contact with eyes, skin, and clothing. Avoid prolonged or repeated exposure.

**STORAGE:**

Suitable: Keep tightly closed.

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**Section 8 - Exposure Controls / PPE**

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**ENGINEERING CONTROLS**

Safety shower and eye bath. Mechanical exhaust required.

**PERSONAL PROTECTIVE EQUIPMENT**

Respiratory: Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU). Respiratory protection is not required. Where protection from nuisance levels of dusts are desired, use type N95 (US) or type P1 (EN 143) dust masks.

Hand: Protective gloves.

Eye: Chemical safety goggles.

**GENERAL HYGIENE MEASURES**

Wash thoroughly after handling.

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**Section 9 - Physical/Chemical Properties**

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Appearance Physical State: See Table in page 1.

**Property**

Molecular Weight N/A; pH N/A; BP/BP Range N/A

MP/MP Range N/A; Freezing Point N/A; Vapor Pressure N/A

Vapor Density N/A; Saturated Vapor Conc. N/A; SG/Density N/A

Bulk Density N/A; Odor Threshold N/A; Volatile% N/A

VOC Content N/A; Water Content N/A; Solvent Content N/A

Evaporation Rate N/A; Viscosity N/A; Surface Tension N/A

Partition Coefficient N/A ; Decomposition Temp. N/A

Flash Point N/A; Explosion Limits N/A; Flammability N/A

Autoignition Temp N/A; Refractive Index N/A; Optical Rotation N/A

Miscellaneous Data N/A; Solubility N/A

N/A = not available

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**Section 10 - Stability and Reactivity**

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**STABILITY**

Stable: Stable.

Materials to Avoid: Strong oxidizing agents.

**HAZARDOUS DECOMPOSITION PRODUCTS**

Hazardous Decomposition Products: Carbon monoxide, Carbon dioxide.

**HAZARDOUS POLYMERIZATION**

Hazardous Polymerization: Will not occur

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**Section 11 - Toxicological Information**

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**ROUTE OF EXPOSURE**

Skin Contact: May cause skin irritation.

Skin Absorption: May be harmful if absorbed through the skin.

Eye Contact: May cause eye irritation.

Inhalation: Material may be irritating to mucous membranes and upper respiratory tract. May be harmful if inhaled.

Ingestion: May be harmful if swallowed.

**SIGNS AND SYMPTOMS OF EXPOSURE**

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

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**Section 12 - Ecological Information**

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No data available.

### Section 13 - Disposal Considerations

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#### APPROPRIATE METHOD OF DISPOSAL OF SUBSTANCE OR PREPARATION

Contact a licensed professional waste disposal service to dispose of this material. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber. Observe all federal, state, and local environmental regulations.

### Section 14 - Transport Information

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#### DOT

Proper Shipping Name: None

Non-Hazardous for Transport: This substance is considered to be non-hazardous for transport.

#### IATA

Non-Hazardous for Air Transport: Non-hazardous for air transport.

### Section 15 - Regulatory Information

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#### UNITED STATES REGULATORY INFORMATION

SARA LISTED: No

#### CANADA REGULATORY INFORMATION

WHMIS Classification: This product has been classified in accordance with the hazard criteria of the CPR, and the MSDS contains all the information required by the CPR.

DSL: Yes

NDSL: No

### Section 16 - Other Information

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#### DISCLAIMER

For Research & Development use only. *Not for drug, household or other uses.*

#### WARRANTY:

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. **Polymer Source Inc.**, shall not be held liable for any damage resulting from handling or from contact with the above product. Buyers assume all risk and the liability for the use and /or results obtained by the use of the product individually or in combination with any other product/s. The product is ***solely research and development purpose*** and not intended for food, drug or household purposes.