



# Safety Data Sheet

Version 7.0  
Revision Date: 07/05/2019

## 1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product name: **Poly(4-vinylpyridine)-b-poly(6-[4'-cyanobiphenyl-4-yloxy]-hexyl methacrylate)**, diblock copolymer

Product abbreviation: 4VP4CNBPHMA

Product use: For laboratory research purposes.

Supplier / Manufacturer: Polymer Source, Inc.

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## 2. HAZARDS IDENTIFICATION

Emergency overview: WHMIS classification: D2B. Toxic material causing other toxic effects.  
Moderate skin irritant. Moderate respiratory irritant.  
Moderate eye irritant.

GHS classification: Skin corrosion / irritation (Category 2).  
Serious eye damage / eye irritation (Category 2A).  
Specific target organ toxicity – single exposure (Category 3),  
respiratory system.

GHS Label elements, including precautionary statements:

Pictogram: 

Signal word: Warning

Hazard statements: H315. Causes skin irritation.  
H319. Causes serious eye irritation.  
H335. May cause respiratory irritation.

Precautionary statements: P261. Avoid breathing dust / fume / gas / mist / vapours / spray.  
P305 + P351 + P338.  
If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

HMIS classification: Health hazard: 2  
Flammability: 0  
Physical hazards: 0

Potential health effects:	Inhalation:	May be harmful if inhaled. May cause respiratory tract irritation.
	Skin:	May be harmful if absorbed through skin. May cause skin irritation.
	Eyes:	May cause eye irritation.
	Ingestion:	May be harmful if swallowed.

### 3. COMPOSITION / INFORMATION ON INGREDIENTS

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Formula:	Poly(4-vinylpyridine- <i>block</i> -6-[4'-cyanobiphenyl-4-yloxy]-hexyl methacrylate): [C <sub>7</sub> H <sub>7</sub> N] <sub>n</sub> [C <sub>23</sub> H <sub>25</sub> NO <sub>3</sub> ] <sub>m</sub>	
Concentration:	≤ 100%	
CAS registry number:	Poly(4-vinylpyridine- <i>block</i> -6-[4'-cyanobiphenyl-4-yloxy]-hexyl methacrylate): n/a	
	Poly(4-vinylpyridine):	25232-41-1
	Poly(6-[4'-cyanobiphenyl-4-yloxy]-hexyl methacrylate):	117318-92-0

### 4. FIRST AID MEASURES

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General advice:	Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.
If inhaled:	If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.
In case of skin contact:	Wash off with soap and plenty of water. Consult a physician.
In case of eye contact:	Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.
If swallowed:	Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

### 5. FIRE-FIGHTING MEASURES

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Conditions of flammability:	Not flammable or combustible.	
Suitable extinguishing media:	Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.	
Special protective equipment for firefighters:	Wear self contained breathing apparatus for firefighting if necessary.	
Hazardous combustion products:	Hazardous decomposition products formed under fire conditions: Carbon oxides, Nitrogen oxides (NO <sub>x</sub> ).	
Explosion data:	Sensitivity to mechanical impact:	no data available
	Sensitivity to static discharge:	no data available

### 6. ACCIDENTAL RELEASE MEASURES

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Personal precautions:	Use personal protective equipment. Avoid dust formation. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Avoid breathing dust.
Environmental precautions:	Do not let product enter drains.

Methods and materials for containment and cleaning up: Pick up and arrange disposal without creating dust. Sweep up and shovel. Keep in suitable, closed containers for disposal.

## 7. HANDLING AND STORAGE

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Precautions for safe handling: Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Provide appropriate exhaust ventilation at places where dust is formed.

Conditions for safe storage: Keep container tightly closed in a dry and well-ventilated place.

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

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Contains no substances with occupational exposure limit values.

Personal protective equipment:

- Respiratory protection: For nuisance exposures use type P95 (US) or type P1 (EU EN 143) particle respirator. For higher level protection use type OV/AG/P99 (US) or type ABEK-P2 (EU EN 143) respirator cartridges. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).
- Hand protection: Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.
- Eye protection: Safety glasses with side-shields conforming to EN166 Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).
- Skin and body protection: Wear impervious clothing. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.
- Hygiene measures: Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.
- Specific engineering controls: Use mechanical exhaust or laboratory fumehood to avoid exposure.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

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Appearance:	Form:	no data available
	Colour:	no data available
Safety data:	pH:	no data available
	Melting point / Freezing point:	no data available
	Boling point:	no data available
	Flash point:	no data available
	Ignition temperature:	no data available
	Auto-ignition temperature:	no data available

Lower explosion limit:	no data available
Upper explosion limit:	no data available
Vapour pressure:	no data available
Density:	no data available
Water solubility:	insoluble
Partition coefficient: n-octanol/water:	no data available
Relative vapour density:	no data available
Odour:	no data available
Odour threshold:	no data available
Evaporation rate:	no data available

## 10. STABILITY AND REACTIVITY

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Chemical stability:	Stable under recommended storage conditions.
Possibility of hazardous reactions:	no data available
Conditions to avoid:	no data available
Materials to avoid:	Strong oxidizing agents.
Hazardous decomposition products:	Hazardous decomposition products formed under fire conditions: Carbon oxides, Nitrogen oxides (NO <sub>x</sub> ). Other decomposition products: no data available.

## 11. TOXICOLOGICAL INFORMATION

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Acute toxicity:	Oral LD50:	no data available
	Inhalation LC50:	no data available
	Dermal LD50:	no data available
	Other information on acute toxicity:	no data available
Skin corrosion/irritation:	no data available	
Serious eye damage/eye irritation.	no data available	
Respiratory or skin sensitization:	no data available	
Germ cell mutagenicity:	no data available	
Carcinogenicity:	IARC:	No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
	ACGIH:	No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.
Reproductive toxicity:	no data available	

Teratogenicity:	no data available	
Specific target organ toxicity:	Single exposure (GHS):	Inhalation – May cause respiratory irritation.
	Repeated exposure (GHS):	no data available
Aspiration hazard:	no data available	
Potential health effects:	Inhalation:	May be harmful if inhaled. Causes respiratory tract irritation.
	Ingestion:	May be harmful if swallowed.
	Skin:	May be harmful if absorbed through skin. Causes skin irritation.
	Eyes:	Causes eye irritation.
Signs and symptoms of exposure:	To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.	
Synergistic effects:	no data available	
Additional information:	RTECS:	not available

## 12. ECOLOGICAL INFORMATION

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Toxicity:	no data available
Persistence and degradability:	no data available
Bioaccumulative potential:	no data available
Mobility in soil:	no data available
PBT and vPvB assessment:	no data available
Other adverse effects:	no data available

## 13. DISPOSAL CONSIDERATIONS

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Product:	Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material.
Contaminated packaging:	Dispose of as unused product.

## 14. TRANSPORT INFORMATION

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DOT (US):	Not dangerous goods.
IMDG:	Not dangerous goods.
IATA:	Not dangerous goods.

## 15. REGULATORY INFORMATION

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WHMIS classification:	D2B. Toxic material causing other toxic effects. Moderate skin irritant. Moderate respiratory irritant. Moderate eye irritant.
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This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all the information required by the Controlled Products Regulations.

## 16. OTHER INFORMATION

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Date of the latest revision: 7 May 2019

Further information: 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. See [www.polymersource.ca](http://www.polymersource.ca) for additional terms and conditions of sale.