



# Safety Data Sheet

Version 7.0  
Revision Date: 01/10/2020

## 1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product name: **Poly(4-vinyl pyridine)-*block*-poly( $\epsilon$ -caprolactone),  $\omega$ -thiol-terminated diblock copolymer**

Product abbreviation: 4VPCL-SH

Product use: For laboratory research purposes.

Supplier / Manufacturer: Polymer Source, Inc.

Address: 124 Avro street, Dorval (Montreal), Quebec H9P 2X8, Canada

Telephone: (+1) 514-421-5517

Toll free: 1-866-422-9842

Fax: (+1) 514-421-5518

Emergency phone: (+1) 514-887-5517


E-mail: [info@polymersource.com](mailto:info@polymersource.com)

## 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

---

|                      |   |  |
|----------------------|---|--|
| Formula:             | Poly(4-vinyl pyridine- <i>block</i> -ε-caprolactone): | [C <sub>7</sub> H <sub>7</sub> N] <sub>n</sub> [C <sub>6</sub> H <sub>10</sub> O <sub>2</sub> ] <sub>m</sub> |
| Concentration:       | ≤ 100%  |  |
| CAS registry number: | Poly(4-vinyl pyridine- <i>block</i> -ε-caprolactone): | n/a  |
|                      | Poly(4-vinylpyridine):                                | 25232-41-1   |
|                      | Poly(ε-caprolactone):                                 | 24980-41-4   |

### 4. FIRST AID MEASURES

---

|                          |  |
|--------------------------|--|
| General advice:          | Consult a physician. Show this safety data sheet to the doctor in attendance.<br>Move out of dangerous area.       |
| If inhaled:              | If breathed in, move person into fresh air. If not breathing, give artificial respiration.<br>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.<br>Consult a physician.             |

### 5. FIRE-FIGHTING MEASURES

---

|  |   |
|--|---|
| 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, Sulphur oxides, Hydrogen bromide (traces). |
| Explosion data:                                | Sensitivity to mechanical impact: no data available<br>Sensitivity to static discharge: no data available                                 |

### 6. ACCIDENTAL RELEASE MEASURES

---

|                            |  |
|----------------------------|--|
| Personal precautions:      | Use personal protective equipment. Avoid dust formation.<br>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

---

|                                |   |
|--------------------------------|---|
| 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

---

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

---

|              |                                 |                   |
|--------------|---------------------------------|-------------------|
| 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:                       | no data available |
| 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

---

|                                     |   |
|-------------------------------------|---|
| 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:<br>Carbon oxides, Nitrogen oxides, Sulphur oxides, Hydrogen bromide (gas, traces).<br><br>Other decomposition products: no data available. |

## 11. TOXICOLOGICAL INFORMATION

---

|                                    |                                      |   |
|------------------------------------|--------------------------------------|---|
| 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.<br>Causes respiratory tract irritation.  |
|                                 | Ingestion:  | May be harmful if swallowed.  |
|                                 | Skin:   | May be harmful if absorbed through skin.<br>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

---

|                                |                   |
|--------------------------------|-------------------|
| 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

---

|                         |  |
|-------------------------|--|
| 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

---

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

## 15. REGULATORY INFORMATION

---

|                       |   |
|-----------------------|---|
| WHMIS classification: | D2B. Toxic material causing other toxic effects.<br>Moderate skin irritant. Moderate respiratory irritant. Moderate eye irritant. |
|-----------------------|---|

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

---

Date of the latest revision: 1 October 2020

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.