Polysulfide Mercury Sorbent (Microporous)

Product Description: The mercury sorbent is a microporous polymer made from sulfur and renewable plant oils. The polymer is typically supplied as particles varying in size from 0.1 mm to 1.0 cm. The increased surface area imparted by the porosity makes this sorbent effective at capturing diverse forms of mercury including mercury metal, mercury vapour, inorganic mercury, inorganic mercury bound to organic matter, and alkylmercury compounds. These mercury species can be removed from air, water or soil. For mercury vapour, the optimal temperature is 75 ºC. Room temperature is sufficient for other forms of mercury, with 24 hours contact time recommended for maximum mercury capture. In a typical treatment of a 10 mL solution of an organomercury compound in water (0.15 mg/mL in organomercury), 2.00 g of sorbent removed 75% of the mercury after 2 minutes and 98% of the mercury after 24 hours.

Representative uses:
- Remove inorganic mercury (Hg$^{2+}$) from water
- Remove inorganic mercury (bound to organic or humic matter) from water
- Trap mercury vapour (e.g. from waste streams, fossil fuel combustion, or oil and gas refining)
- Remediate water contaminated with mixtures of mercury species
- Mill with contaminated soil to react with mercury metal
- Remediate fluids containing organomercury compounds
- Sorbent for liquid mercury spills

General Product Information

<table>
<thead>
<tr>
<th>Hazard category</th>
<th>Handling</th>
<th>Glass transition</th>
<th>Melting point</th>
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</thead>
<tbody>
<tr>
<td>Non-flammable, Non-dangerous</td>
<td>Handle with gloves (nitrile or rubber)</td>
<td>-9 ºC (Brittle below -9 ºC)</td>
<td>230 ºC (decomposes)</td>
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<tr>
<td>No known toxicity</td>
<td>Do not consume, use in a ventilated area, wash any exposed area with soap and water</td>
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The polymer is sparingly soluble in organic solvent, insoluble in water.
Optimal operating temperature is between 4 and 75 ºC.
Sequestered mercury must be disposed in accordance to local regulations.