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PUROLITE
ION EXCHANGE RESINS

Product Data Sheet

PUROLITE® S920

Chelation Resins

CHELATING RESIN FOR MERCURY REMOVAL

Purolite S920 is a macroporous polystyrenic based chelating resin, with thiouronium groups designed for the selective removal of mercury.and for the recovery of precious metals from the industrial effluents. The mercury, in particular, is strongly bound to the functional groups to form highly stable complexes, with high selective affinity compared with those of other heavy metals. These properties are largely unaffected by high chloride (or sulphate) content of the effluent. Effluent solutions which may typically contain 2-20ppm of mercury can be treated to reduce the concentration in solution to less than 0.005ppm. Purolite S920 can load up to 200g of mercury, or gold, or 60g approx. of platinum or palladium for each litre of resin, equivalent to 12.5, and 3.75 lb/ft3 respectively. Purolite S920 is designed for the removal of low concentrations of soluble mercury salts from waste streams and for the recovery of precious metals from rinse waters in the galvanic and electronic industries. Purolite S920 is also used in hydrometallurgy for the separation of precious metals from acid liquors. Mercury and precious metals are so strongly held, and run lengths are so long (thousands of hours) that it is not normally considered economic to regenerate the resin for reuse. Purolite S920 is more resistant to oxidation than many thiol based resins and contact with the atmosphere is not detrimental, however free chlorine and other strong oxidizing agents may damage the resin and their removal from solution by filtering through activated carbon is recommended.

Basic Features:

Application	Mercury Removal
Polymer Structure	Macroporous crosslinked polymer
Appearance	Spherical beads
Functional Group	Thiouronium
Ionic form as shipped	H

Typical Physical and Chemical Characteristics:

Mercury Capacity min.		200 g/l
Moisture Retention (H)		48-54 %
Mean Size Typical		0.60-0.85 mm
Uniformity Coefficient (max.)		1.70
Swelling H->Hgmax		5
Specific Gravity		1.11 g/ml
Shipping Weight (approx.)		700-735 g/l
Temp Limit	H^+	80 °C
Temp Limit	H^+	176 °F
pH Limits		0-10 (Stability)
pH Limits		1-10 (Operating)