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Poly(dl-ε-caprolactone) Microspheres

Introduction:
Poly(dl-ε-caprolactone) microspheres combine the uniform reactivity of monodisperse microspheres with the sustained release capabilities of a biodegradable polymer. They are dispersed in a hydrocarbon medium for anhydrous storage. With these beads, bioactive compounds adsorbed onto the surface can be released into the surrounding environment or through a membrane.

Poly(dl-ε-caprolactone) microspheres have a diameter of 0.63µ and a number average molecular weight of 8050. The density of poly(dl-ε-caprolactone) is 1.146 g/cc and the number of particles per ml is 1.93×10^{11}. The concentration of microspheres in suspension (in n-heptane) is 0.124 g/ml (16.7% w/w).

Conversion of the Organic to a Water-based Continuous Phase:

To change the suspending medium (usually heptane) to water or to an aqueous buffer:
1. Add the suspension to 5 times its volume of ethanol.
2. Allow the microspheres to settle about 30 minutes.
3. Replace the supernatant liquid with another equal quantity of fresh ethanol.
4. Repeat this procedures several times (usually 6 times) to removed traces of heptane.
5. Allow the microspheres to settle, then repeat steps 1, 2, 3, and 4 using water or the desired buffer instead of ethanol.

NOTE: Suspensions in aqueous media free of surfactants tend to flocculate. Prolonged exposure to aqueous media may also cause hydrolytic depolymerization of the particles.

It may be advantageous, for long term storage, to freeze-dry the water-dispersed microspheres.

Ordering Information:

Cat. #	Description	Size
21846	Poly(dl-ε-caprolactone) 2.5% solids in heptane diameter: 0.63µ	10ml

To Order:
In The U.S. Call: 1-800-523-2575 • 215-343-6484
In The U.S. FAX: 1-800-343-3291 • 215-343-0214

In Germany Call: (49) 6221-765767
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