Ficoll® 400

for biochemistry

Order number   **1345**

General Information

Ficoll® 400 (CAS 26873-85-8) is a highly branched non-ionic synthetic polymer of sucrose. It is formed by the copolymerization of sucrose and epichlorohydrin and has a molecular weight of ~400 kDa. Ficoll® 400 is very hydrophilic and dissolves readily in aqueous solutions attaining concentrations of 50 % (w/v). Ficoll® 400 is stable in alkaline and neutral solutions. In the presence of acids (pH < 3) it hydrolyzes, particularly at elevated temperatures. Besides acidic pH values, strong oxidizing and reducing agents are to be avoided. For sterilization, autoclave Ficoll® 400 at a neutral pH, at 110°C for 30 minutes.

Ficoll® 400 is a registered trademark of Pharmacia Biotech. Other names for this chemical are Polysucrose 400 and Sucrose-Epichlorohydrin Copolymer. It is also offered in solutions of defined density by the name of Histopaque®.

Application

Due to its high molar mass, Ficoll® 400 shows practically no osmotic activity and is therefore perfectly suited for density gradient centrifugation – better than sucrose, especially. Density ranges up to 1.2 g/ml can be attained. As such a separation medium, Ficoll® 400 is used in biological and medical research and diagnostics for the separation and isolation of eukaryotic cells, organelles and bacterial cells. Most commonly it is used to isolate mononuclear cells (PBMC) and lymphocytes from blood. But it has also been utilized in a variety of other applications. As a component of the sample buffer for agarose gels, it increases the density of the DNA-containing solution introduced into the sample wells, which thus remains in the wells longer.

Testing Parameters

Appearance	white odourless powder
Solubility (10 % in water)	clear, colorless
pH (10 % w/v in water)	7.0 - 9.0
αD 20°	53° - 59°
Heavy metals (as Pb)	max. 0.001 %
Loss on drying	max. 3 %

JB01102020