

Product Information

Cellulose phosphate

Product Number **C2258**
Store at Room Temperature

Product Description

CAS Number: 9015-14-9

Cellulose phosphate is a cation exchange medium used in the purification of proteins based on the establishment of electrostatic bonds between the positive charges on the protein and the negative charge on the phosphate group.¹

Cellulose phosphate should be pretreated before use to maximize performance as a cation exchanger. A preparative method for doing this has been reported.²

An alternate method for doing this would be as follows:

1. Swell 1 g of powder in 50 ml of 0.05 M NaOH containing 0.5 M NaCl for exactly 5 minutes. Swirl to mix. Do not use a stir bar or rod as this will generate resin fines.
2. Pellet the resin by spinning 1 minute at approximately 1,000 x *g*. Pour off supernatant. It should have a strong ammonia odor.
3. Suspend the resin in 50 ml of water. Pellet the resin and measure the pH of the water supernatant. If the pH is <10.0, pour off the water and continue to step 4. If not, pour off the water and repeat step 3.
4. Suspend the resin in 50 ml of 0.5 M HCl for exactly 5 minutes. Swirl to mix.
5. Pellet the resin and pour off the supernatant.
6. Suspend the resin in 50 ml of water. Pellet the resin and measure the pH of the water supernatant. If pH is >4.0, pour off the water and continue to step 7. If not, pour off the water and repeat step 6.

7. Suspend the resin in 50 ml of column running buffer and equilibrate 30 minutes. Pellet the resin and repeat step 7 twice.
8. Suspend the resin in 1 volume of running buffer and pour the column.

After use, the resin will need to be regenerated by following the same procedure used to prepare it. Hydrolysis may occur if the resin is exposed to acid or alkali for longer than the time indicated. This will result in a lower ion exchange capacity. This material is principally used in column chromatography, but may also be used in batch techniques.

Precautions and Disclaimer

For Laboratory Use Only. Not for drug, household or other uses.

Storage/Stability

Suspensions of cellulose phosphate may be stored at 2-8 °C in the presence of a bacteriostat (0.02% sodium azide or thimerosal) for up to 1 year.

References

1. Peterson, E. A., and Sober, H., Column chromatography of proteins: substituted celluloses. *Methods Enzymol.*, **5**, 3-27 (1962)
2. Rutter, W. J., et al., Fructose diphosphate aldolase. *Methods Enzymol.*, **9**, 479-498 (1966).

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