

**REGENERATION OF CM-CELLULOSE**  
**Sigma Prod. Nos. C0806, C3896, C4021 and C4146**  
**for Dry Resin**

This procedure should be conducted in a Buchner funnel. If done in a column, channeling may result which may not be apparent to the operator.

1. Suspend dry resin in 5 volumes of distilled water and allow to settle 30-45 minutes.
2. Measure the settled volume of the resin. This is the Column Volume (CV) to be used for measuring the washing solutions. Continue at Step 3.

**for Suspended Resin (used or new)**

3. Filter the suspension.
4. Suspend the resin in 2 CV of 0.1 M NaOH containing 0.5 M NaCl for 10 min.<sup>1</sup> and pour the slurry into a Buchner funnel (volume = 3 CV) while applying GENTLE suction, and allowing a flow of 1 V buffer in 5 minutes. Continue pouring in slurry until all the resin is added to the funnel. Continue washing with 2 CV of the above solution.
5. Repeat Step 4 using 0.5 M NaCl (no 0.1 M NaOH).<sup>2</sup>
6. Repeat Step 4 using 0.1 M HCl containing 0.5 M NaCl.
7. Repeat Step 4 using distilled or deionized water.
8. Continue washing with 5-10 CV of distilled or deionized water or until the effluent pH is 5 or greater.
9. Suspend the resin in 2 CV of 1 M NaCl and adjust pH of slurry to 7-8 with NaOH. Store (Step 10) or use (Step 11).
10. **To Store Resin:** Label container and store material at 0-5°C.<sup>3</sup>
11. **To Use Resin:** Filter resin then pass 5 CV of water through the resin on the filter. Resuspend resin with 2 CV of 10X buffer of your choice and filter. Remove resin from funnel and resuspend with 5 CV of 1 X buffer and filter. Resuspend resin with 2 CV of 1 X buffer. Filter a small portion of the suspension and measure the pH of the filtrate; if the pH is within 0.15 pH units of the 1X buffer, **resin is ready for use**. If not, repeat Step 11.
12. Pack resin into column. Gravity flow of buffer is best. Pumping may cause channeling.
13. Apply sample, wash resin, and elute sample.
14. Regenerate as in Steps 3-8.

<sup>1</sup> Maximum of 30 minutes

<sup>2</sup> If resin is very dirty, add 3-5 CV of 0.5 M NaCl after the basic or/and acidic washes. Allow washes to go as fast as possible using this rate as a maximum.

<sup>3</sup> To use resin from storage buffer, start at step 11. If bacterial contamination is suspected, begin at step 4.

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