

Buffer Hints in Capillary Electrophoresis – How To

Making Your Own Buffers

As a general rule in making your own buffers, they are most effective within one to two pH units of its pKa. It is best to begin developing your HPCE method with a low concentration buffer. This will avoid non-specific ionic strength effects and will reduce Joule heating. A 50mM concentration is recommended starting point with buffers in your method.

The Operating Temperature of Buffers

Prepare buffers and adjust the pH at the operating temperature the buffer will be used.

Using Additives in your Buffers

If additives are to be utilized in your buffer system, re-test the pH after their addition since this will probably effect it.

Filter Your Buffers

All buffers should be filtered through a 0.2mm filter prior to use.

Reagent Grade or CE Grade Chemicals

Only reagent grade or CE grade chemicals should be used. The water you make your buffers with should be CE grade or at least be 18 megohm, reagent grade.

HPLC or other grade waters are NOT recommended as they are manufactured and quality tested for UV absorbance. The factors that effect HPCE can vary from lot to lot and not effect the quality of the HPLC certification.

Microbes and Your Buffers

Some buffers are highly susceptible to microbial contamination. To prevent contamination during storage, 3mM sodium azide (reagent grade) can be added. Refrigeration is also highly recommended.

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