

Re: what is buffer concentration?

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On 25 Mar 2005 19:34:41 -0600,
gllrmrtfld@yahoo-dot-com.no-spam.invalid (Guillermo) wrote:

>What is 1M buffer solution?

>

>Is 1M ethanoic buffer something with $[CH_3COOH] + [CH_3COO^-] = 1M$?

yes

>

>I am asking because if it is both concentrations together it is no

>possible to prepare ethanoic buffer pH=5 from 1M ethanoic acid and 1M

>NaOH - it is stupid and very complicated then.

One way is to prepare 1 M each of the acid and base forms (ethanoic acid and sodium ethanoate in your case). Mix them to the desired pH; the buffer conc will be 1 M regardless of the volumes of each.

Another way is to use 1 M ethanoic acid plus "very concentrated" NaOH, so that the base has "little" effect on the volume. That may not be sufficient in this case.

Another way... Start with 500 mL 2 M ethanoic acid, titrate to desired pH with base, then bring the final volume to 1 L, which gives you 1 M buffer. (You need to check that the pH is still ok, but that usually is not a big problem.)

Did you really mean 1 M buffer? That is rather concentrated. In any case, ideas are the same.

bob