

I have bleach that literally says that "it contains cca 40 g/l of active chlorine in the moment of filling".

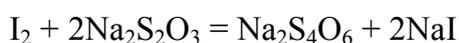
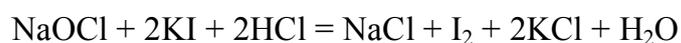
What is the explanation and calculation way, to make 5% NaOCl solution from it?

Strengths of bleaches are expressed in so many ways (% , vol%, grades of chlorine) that it makes very difficult to calculate amounts of bleach and solvent, to make a specific concentration.

What is the bleach strength determined by Cl⁻ ion, ClO⁻ ion amount of NaOCl dissolved or something else?

Is there any source of comparative values so that this confusion can be cleared up?

Answer: Active component in all bleaches is the sodium hypochlorite, which slowly disintegrates during storage. You will be unable to say, what concentration of NaOCl is in the bleach after some time of its storage. If you want to calculate the exact concentration of NaOCl in your bleach, you'll have to use the iodometric titration of the precise sample of the bleach according to these reactions:



After that you will be able to calculate the amount of NaOCl in the bleach in weight % (technique of the iodometric titration can be found in any book on the analytical chemistry).

Also, you can buy a recently produced bleach (check the date of packing), such as Clorox Regular-Bleach (The Clorox Company) which contains 6 weight % of NaOCl; or Brite Bleach (Sunbelt Chemicals Corp.) which contains 5,25 weight % of NaOCl and make from it the solution with the concentration of NaOCl which you need.