## Study 3.5.

Sodium Hypochlorite Topical Solution (USP 27)
Sodium Hypochlorite Solution 5.0 mL
Monobasic Sodium Phosphate monohydrate 1.02 g
Dibasic Sodium Phosphate anhydrous 17.61 g
Purified Water, a sufficient quantity to make 1000 mL

Dissolve the Dibasic Sodium Phosphate anhydrous and the Monobasic Sodium Phosphate monohydrate in about 500 mL of Purified Water. Add the Sodium Hypochlorite Solution and sufficient Purified Water to make the product measure 1000 mL and filter the product.

Questions:

1. How did you prepare the sodium hypochlorite solution? Show calculations.
2. What is the special name of this medicine? What purpose is it used for and how is it stored?
3. Add one drop of phenolphthalein solution to the 1 mL solution that you discarded, is there any discoloration? In what range should the pH of this solution be?
4. Describe the reason for the addition of potassium permanganate to the solution that you prepared.
5. How many sodium hypochloride solutions are used in practice? What are their names? What's the difference between them?

## Study 3.6.

## Active Chlorine Assay

Take 5 ml of the sodium hypochlorite solution and place in a balloon jug. Add 50 ml of water on top. After thoroughly shaking, 10 ml of the solution is pipetted into a flask, 4 ml of a $5 \% \mathrm{KI}$ solution is added and acidified with 0.5 ml of $25 \% \mathrm{HCl}$. This solution is titrated with the adjusted 0.1 N sodium thiosulfate solution to the light straw color conversion. At this time, 0.5 ml of $1 \%$ starch solution is added, and the titration is completed by shaking thoroughly until the blue color disappears.
$\mathrm{NaOCl}+2 \mathrm{HCl}+2 \mathrm{KI} \rightarrow \mathrm{NaCl}+2 \mathrm{KCl}+\mathrm{I}_{2}+\mathrm{H}_{2} \mathrm{O}$
$\mathrm{I}_{2}+2 \mathrm{Na}_{2} \mathrm{~S}_{2} \mathrm{O}_{3} \rightarrow \mathrm{Na}_{2} \mathrm{~S}_{4} \mathrm{O}_{6}+2 \mathrm{NaI}$
$1 \mathrm{ml} 0.1 \mathrm{~N}-\mathrm{Na}_{2} \mathrm{~S}_{2} \mathrm{O}_{3}=0.003723 \mathrm{~g} \mathrm{NaOCl}$

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=0.003546 \mathrm{~g} \mathrm{Cl}
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Questions:

1. What is the percentage of active chlorine in your sodium hypochlorite solution?
2. Write the tasks of the reagents you use in the study.
3. What is the maximum amount of chlorine in the water?

## Study 3.24.

Magnesium Citrate Solution (USP 27)
Magnesium Citrate Oral Solution
Magnesium carbonate 15.0 g

Citric acid (anhydrous).............. 27.4 g
Syrup ...................................... 60.0 ml
Talk 5.0 g

Lemon essence ......................... 0.1 ml
Potassium bicarbonate................. 2.5 g
Purified water......... e.q....... 350.0 ml

