

Answer on Question#39317 - Chemistry - Other

Question:

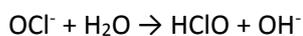
After you explain how pool chemicals react to a friend, they tell you, "But I don't understand why the sodium hypochlorite won't react any more with the chloride ions and the hydrogen ions." Knowing that this reaction displays an equilibrium, what would be a good response to their comment

Answer:

Sodium hypochlorite (NaOCl) is applied for water disinfection. It dissociates to ions in the water:



Hypochlorous acid (HOCl) is a weak acid. The hypochlorous ion hydrolyses in the water:



The hypochlorous acid presence in the water explains the disinfection effect.

When the certain amount of Sodium hypochlorite (NaOCl) is added to the water all the processes – dissociation and hydrolyses are occurring. At a certain moment the balance of each component (NaOCl, HOCl, OH⁻) is established. That is why the reaction occurs only until this balance.