

>> Diane Jewell: Salts made from a strong acid and a strong base will always result in a neutral solution, neutral meaning the pH is going to be 7. So, let's take a look at an example of one. If we take a strong acid, like HCl, hydrochloric acid, and a strong base, like sodium hydroxide, let's see what kind of salt we get from sodium hydroxide and hydrochloric acid. Taking off the hydrogen from the acid, we have chlorine. Taking off the hydroxide from the base, we have sodium. Putting together the sodium and the chlorine, we end up with sodium chloride. So, if you were to put sodium chloride, or table salt, into water, and then took the pH, you would find that the pH would be 7. It would be a neutral solution. Okay, this is what we mean by what we said here. Now, what happens if we just take something like this? This is KHSO_4 , and we're being given the salt, and we're being asked is this a neutral solution? We have to decide that ourselves. So, let's take it apart. The K, if we add the first part, K with the hydroxide would make KOH, potassium hydroxide. Potassium hydroxide is a group 1A hydroxide. All group 1A hydroxides are strong bases. And so, yes, that would be a strong base. Remember, 1A would be potassium, lithium, sodium. So, any of those. Sodium hydroxide, potassium hydroxide, lithium hydroxide would all be strong bases. Now, the rest of it here is HSO_4 . That we would add a hydrogen to to make the acid. So that would give us H_2SO_4 , sulfuric acid. We know from our table that sulfuric acid is one of our strongest acids. So, we have a strong base and a strong acid. This salt came from the strong base and the strong acid, and therefore, it made a neutral solution.