**Cobalt chloride Test for Water**

<https://www.youtube.com/watch?v=YGdArTxQVq0>

Anhydrous form (without water) = **BLUE**



Hydrated form (with water) = PINK



**Le Chatelier and Cobalt Chloride**

<https://www.youtube.com/watch?v=JyJrgc8XgVA> – slowest video ever!!

When cobalt (2) chloride dissolves in water it establishes an equilibrium involving 2 differently coloured complex ions.

The two different coloured Co(2) complex ions, **[Co(H2O)6]2+** and **[CoCl4]2-**, exist together in equilibrium in solution in the presence of chloride ions according to the following equation:

**Heat E + [Co(H2O)6]2+(aq) + 4Cl-(aq) ⇌ [CoCl4]2-(aq) + 6H2O(l)**

 Hydrated Form Anhydrous Form

 PINK BLUE

**Keq**  =