

Answer on Question #42069 - Chemistry - Physical Chemistry

Question:

Describe a chemical test to show that a given colourless liquid is water.

Answer:

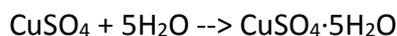
A pure water has such physical and chemical properties:

- A boiling point at 100°C provided atmospheric pressure was 1 atm;
- A refractive index of water is 1.332986 (at 20°C);
- Melting point of water is very close to 0 °C, 32 °F (273.15 K);
- It's tasteless and odorless;
- At 25° C the pH of pure water is very close to 7;
- A molar mass of water is 18 g/mole.

Boiling at 100°C is a test for pure water. The other test for it is that pure water melts at 0°C.

The tests with copper sulfate and cobalt chloride are tests to see if the sample contains water. Water turned white anhydrous copper sulfate into blue hydrated copper sulfate.

Reaction:



Also blue anhydrous cobalt (II) chloride crystals will turn into pink hydrated cobalt (II) chloride when water is added.

Reaction:

