

Colours of selected ions and solids

Ions (aq)

Colourless ions	Most solutions such as chloride, bromide, iodide, fluoride, hydroxide, sulfide, sulfate, nitrate, carbonate, hydrogen carbonate, phosphate, sodium, calcium, barium, magnesium, zinc, lead, silver, ammonium.
Blue ions	copper(II)
Pale green ions	iron(II)
Pale orange ions	iron(III)

Solids (s)

White solids	Most ionic compounds formed from the ions above are white solids with the exception of some compounds containing lead or a transition metal such as copper, iron or silver. Common exceptions are given below:
Green solid	copper(II) carbonate, iron(II) hydroxide, iron(II) carbonate iron(II) chloride
Blue-green solid	copper(II) chloride
Blue solid	copper(II) hydroxide and hydrated copper(II) sulfate
Yellow-brown solid	iron(III) phosphate
Blue-grey solid	iron(II) phosphate
Red/brown solid	iron(III) oxide (“rust”)
Orange solid	iron(III) chloride
Yellow solid	lead(II) iodide
Cream solid	silver bromide
Pale yellow solid	silver iodide
Shiny, silvery solid	All metals except for gold and copper