

Flame Test Colors

<http://chemistry.about.com/library/weekly/aa110401a.htm>

Color	Metal
Red	<i>Carmin</i> : Lithium compounds. Masked by barium or sodium.
	<i>Scarlet or Crimson</i> : Strontium compounds. Masked by barium.
	<i>Yellow-Red</i> : Calcium compounds. Masked by barium.
Yellow	Sodium compounds, even in trace amounts. A yellow flame is not indicative of sodium unless it persists and is not intensified by addition of 1% NaCl to the dry compound.
White	<i>White-Green</i> : Zinc
Green	<i>Emerald</i> : Copper compounds, other than halides. Thallium.
	<i>Blue-Green</i> : Phosphates, when moistened with H_2SO_4 or B_2O_3 .
	<i>Faint Green</i> : Antimony and NH_4 compounds.
	<i>Yellow-Green</i> : Barium, molybdenum.
Blue	<i>Azure</i> : Lead, selenium, bismuth, CuCl_2 and other copper compounds moistened with hydrochloric acid.
	<i>Light Blue</i> : Arsenic and some of its compounds.
	<i>Greenish Blue</i> : CuBr_2 , antimony
Violet	Potassium compounds other than borates, phosphates, and silicates. Masked by sodium or lithium.
	<i>Purple-Red</i> : Potassium, rubidium, and/or cesium in the presence of sodium when viewed through a blue glass.

Color of Ions in aqueous solution

http://en.wikipedia.org/wiki/Colors_of_chemicals

Name	Formula	Color
Alkali metals	M^+	None
Alkaline earth metals	M^{2+}	None
Scandium (III)	Sc^{3+}	None
Titanium (III)	Ti^{3+}	Violet
Titanyl	TiO^{2+}	None
Vanadium (II)	V^{2+}	Lavender
Vanadium (III)	V^{3+}	Dark grey/green
Vanadyl	VO^{2+}	Blue
Pervanadyl	VO_2^+	Yellow
Metavanadate	VO_3^-	None
Orthovanadate	VO_4^{3-}	None
Chromate	CrO_4^{2-}	Yellow
Dichromate	$Cr_2O_7^{2-}$	Orange
Manganese (II)	Mn^{2+}	Light pink
Manganate (VII) (<i>Permanganate</i>)	MnO_4^-	Deep violet
Manganate (VI)	MnO_4^{2-}	Dark green
Manganate (V)	MnO_4^{3-}	Deep blue
Iron (II)	Fe^{2+}	Light green
Iron (III)	Fe^{3+}	Yellow/brown
Cobalt (II)	Co^{2+}	Light red
Nickel (II)	Ni^{2+}	Light green
Nickel-ammonium complex	$Ni(NH_3)_6^{2+}$	Lavender/blue
Copper (II)	Cu^{2+}	Blue
Copper-ammonium complex	$Cu(NH_3)_4^{2+}$	Royal Blue
Zinc (II)	Zn^{2+}	None
Silver	Ag^+	None

Color of Salts

http://en.wikipedia.org/wiki/Colors_of_chemicals

Name	Formula	Color	Picture
Copper (II) sulfate	CuSO_4	Blue	
Copper (II) sulfate pentahydrate	$\text{CuSO}_4 \cdot 5\text{H}_2\text{O}$	Blue	
Cobalt (II) chloride	CoCl_2	Deep blue	
Cobalt (II) chloride hexahydrate	$\text{CoCl}_2 \cdot 6\text{H}_2\text{O}$	Deep magenta	
Manganese(II) chloride tetrahydrate	$\text{MnCl}_2 \cdot 4\text{H}_2\text{O}$	Pink	
Copper(II) chloride dihydrate	$\text{CuCl}_2 \cdot 2\text{H}_2\text{O}$	Blue-green	
Nickel(II) chloride hexahydrate	$\text{NiCl}_2 \cdot 6\text{H}_2\text{O}$	Green	