

57. If therefore we add to a neutral solution of a magnesium salt, first, ammonium chloride and, then, ammonium carbonate, no precipitate will appear. *This reaction serves to distinguish magnesium salts and to separate them from those of the other bases of this group.*

Separation of Mg from Ba, Ca, Sr.

58. Magnesium compounds impart no color to the flame.

59. The addition of ammonia to a solution of a magnesium salt precipitates magnesium hydrate.

This precipitation is incomplete and is entirely prevented by ammonium chloride or other ammonium salts. A similar precipitation is produced by the hydrates of sodium, potassium, barium, or calcium, being nearly complete in this case, in the absence of ammonium salts or when the alkaline solution is boiled until all ammonia is expelled. Magnesium hydrate may be dissolved in a solution of ammonium chloride.

Mg(OH)₂.

a. Many compounds of magnesium (such as chloride, sulphate, carbonate, hydrate, nitrate), if strongly ignited and then moistened with cobalt nitrate solution and again ignited, exhibit a rose or pink coloration.

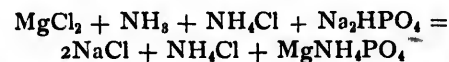
Blowpipe test for Mg.

60. Magnesium salts give no precipitate with sulphuric acid or with soluble sulphates.

MgSO₄ is soluble.

61. If a magnesium salt, in neutral solution, be treated with ammonium chloride, sodium phosphate and with ammonia, in large excess, a crystalline precipitate will appear, of magnesium ammonium phosphate, MgNH₄PO₄, soluble in dilute acids, slightly soluble in water, insoluble in ammonia water.

Precipitation of MgNH₄PO₄.



If the solution is dilute, this precipitate does not appear at once. Its formation is aided by violent shaking. If the inside of the glass tube be rubbed with a glass rod, the precipitate will form at and adhere to the rubbed places, so that visible lines may, in this way, be drawn upon the glass. In applying this test, the appearance of a non-crystalline precipitate is not to be regarded as indicative of magnesium. Sometimes the precipitate, when first formed, will not be crystalline, but will become so on standing over night in a warm place.

MgNH₄PO₄ must be crystalline.