



Inorganic Revision Sheet

Ion Tests for Edexcel

Flame Tests

METAL ION	COLOUR
Lithium, Li ⁺	Red
Sodium, Na ⁺	Yellow-Orange
Potassium, K ⁺	Lilac
Calcium, Ca ²⁺	Brick Red
Strontium, Sr ²⁺	Red
Barium, Ba ²⁺	Pale Green

Note:

Magnesium and Beryllium ions produce no colour in a flame

Ammonium, NH₄⁺

Test: Add sodium hydroxide and warm

Result: Ammonia formed (turn damp red litmus paper blue)



Turns damp red litmus paper blue

Halide Ions, Cl⁻, Br⁻ and I⁻

Test: Add dilute nitric acid followed by silver nitrate

Result: Solid precipitate forms

Precipitates have different solubilities in ammonia (NH₃)



WHITE precipitate dissolves in dilute ammonia (NH₃)



CREAM precipitate dissolves in concentrated ammonia (NH₃)



YELLOW precipitate unable to dissolve in concentrated ammonia (NH₃)



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Carbonate Ion, CO_3^{2-}

Test: Add weak acid (aq)
Result: Effervescence (gas produced), gas turns limewater from colourless to cloudy



Turns limewater cloudy
(from colourless)

Hydrogen Carbonate Ion, HCO_3^-

Test: Add weak acid (aq)
Result: Effervescence (gas produced), gas turns limewater from colourless to cloudy



Turns limewater cloudy
(from colourless)

Sulfate Ion, SO_4^{2-}

Test: Add acidified Barium Chloride, $\text{BaCl}_{(\text{aq})}$
Result: White precipitate forms



WHITE precipitate