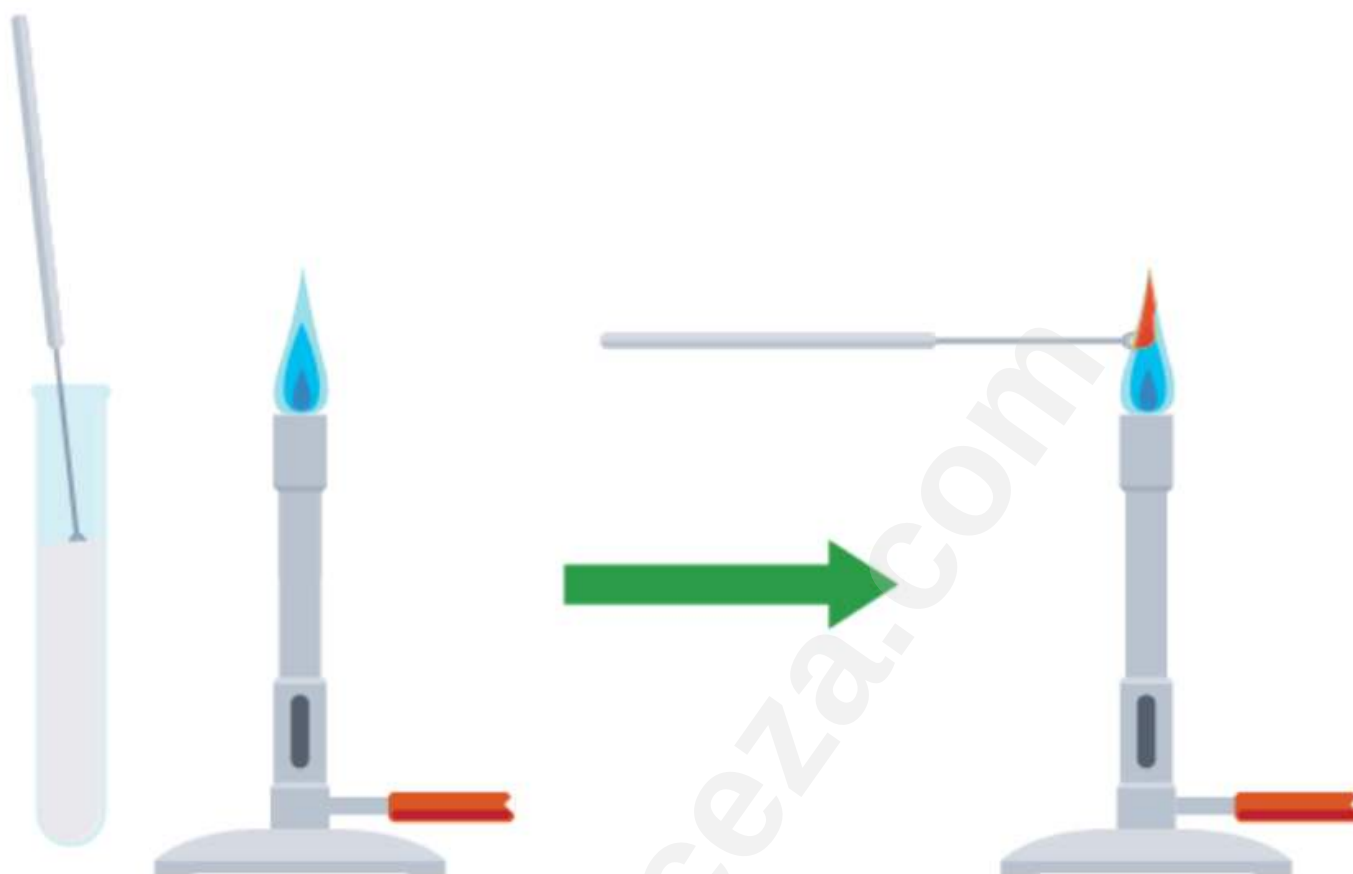




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A cleaned, moistened flame test wire is dipped into a solid sample of the compound. It is then put into the edge of a blue Bunsen flame. The flame colour produced indicates which alkali metal ion is present in the compound.

ion	Flame colour
Lithium	red
sodium	Orange
potassium	lilac
copper(II)	green

Aqueous cations - with sodium hydroxide**Ammonium: add sodium hydroxide and heat**

- Ammonia gas is made
- Turn damp red litmus paper to blue

Metal ion + sodium hydroxide

Metal ion	Colour of precipitate
iron(II)	green
iron(III)	Rust colour
copper(II)	blue
zinc	White
calcium	white

Observation with NaOH

ion	Few drops	excess
Zinc	white	Precipitate redissolves
Calcium	white	No change

Observation with ammonia

ion	Few drops	excess
Zinc	white	Precipitate redissolves
Calcium	No participation formed	No participation formed

Anions

- Carbonate - reacts with dilute acid - carbon dioxide is bubbled - lime water becomes milky
- Chloride - reacts with silver nitrate in acidic condition - becomes white
- Bromide - reacts with silver nitrate in acidic condition - becomes creamy
- Nitrate - reacts with aluminium powder - heat strongly - ammonia gas bubbles - Turn damp red litmus paper to blue
- Sulfate - reacts with barium ions in acidic condition - white precipitate is formed

✂ acidic condition - made by a few drops of hydrochloric acid

Gas

- Hydrogen - lighted splint makes a popping sound
- Oxygen - glowing splint relights
- Carbon dioxide - makes limewater milky
- Chlorine - makes damp blue litmus paper turn red, and then bleaches it white
- Ammonia - makes damp red litmus paper turn blue