

Worksheet 12.1

Identifying salts

- 1 Tests can be carried out to identify the ions present in a salt. Complete the following table, where necessary deducing the metal ion present in each case.

Add sodium hydroxide solution to a solution of the salt	Add concentrated ammonia solution to a solution of the salt	Carry out a flame test	Metal ion present in salt
nothing observed		lilac	a
white precipitate produced, insoluble in excess alkali		brick red	b
c		d	Fe ³⁺ present
white precipitate produced which dissolved in excess alkali	white precipitate produced which dissolved in excess alkali	nothing observed	e
light green precipitate produced which slowly turns reddish-brown		nothing observed	f
g		h	Na ⁺ present

- 2 The following table shows the results from an analysis of the ions present in three salts. The tests were carried out on the solids. Complete the table by filling in the spaces and deduce the identities of the first two solids.

Add dilute acid	Add sodium hydroxide solution and warm	Add sodium hydroxide solution and warm – then add aluminium	Flame test	Substance
nothing observed	nothing observed	gas evolved, turns damp red litmus blue after aluminium added	yellow	a
fizzing, gas turns limewater milky	gas evolved turns damp red litmus blue	nothing observed	nothing observed	b
c	d	e	f	calcium carbonate