

## Year 12 Chemistry: Distinguish between 1

Describe a chemical test that would enable you to distinguish between the following pairs of chemicals. You need to describe what would be observed with each of the chemicals.

a) hydrochloric acid and nitric acid

Test \_\_\_\_\_

Observation with HCl \_\_\_\_\_

Observation with HNO<sub>3</sub> \_\_\_\_\_

b) propanal and propanone

Test \_\_\_\_\_

Observation with propanal \_\_\_\_\_

Observation with propanone \_\_\_\_\_

c) aqueous NaCl and aqueous NaI

Test \_\_\_\_\_

Observation with NaCl \_\_\_\_\_

Observation with NaI \_\_\_\_\_

d) propanoic acid and methyl ethanoate

Test \_\_\_\_\_

Observation with propanoic acid \_\_\_\_\_

Observation with methyl ethanoate \_\_\_\_\_

e) propene and propane

Test \_\_\_\_\_

Observation with propene \_\_\_\_\_

Observation with propane \_\_\_\_\_

f) silver metal and zinc metal

Test \_\_\_\_\_

Observation with silver \_\_\_\_\_

Observation with zinc \_\_\_\_\_

## Year 12 Chemistry: Distinguish between 1 **answers**

Describe a chemical test that would enable you to distinguish between the following pairs of chemicals. You need to describe what would be observed with each of the chemicals.

g) hydrochloric acid and nitric acid

Test **add aqueous  $\text{AgNO}_3$**

Observation with HCl **a white precipitate will form when solutions combined**

Observation with  $\text{HNO}_3$  **two colourless solutions combined and no visible reaction occurs**

h) propanal and propanone

Test **add acidified  $\text{KMnO}_4(\text{aq})$**

Observation with propanal **when the purple  $\text{KMnO}_4$  is added the colour fades to pale pink**

Observation with propanone **when the purple  $\text{KMnO}_4$  is added the purple colour remains**

i) aqueous NaCl and aqueous NaI

Test **add  $\text{Br}_2(\text{aq})$**

Observation with NaCl **orange solution added to colourless solution and orange colour remains**

Observation with NaI **orange solution added to colourless solution and orange colour fades and grey solid forms**

j) propanoic acid and methyl ethanoate

Test **add  $\text{Mg}(\text{s})$  to both**

Observation with propanoic acid **colourless, odourless bubbles form**

Observation with methyl ethanoate **no visible change**

k) propene and propane

Test **add  $\text{Br}_2(\text{aq})$  to both colourless solutions**

Observation with propene **the orange colour of  $\text{Br}_2(\text{aq})$  fades**

Observation with propane **the orange colour of  $\text{Br}_2(\text{aq})$  remains**

l) silver metal and zinc metal

Test **add  $\text{HCl}(\text{aq})$  to both**

Observation with silver **no visible change**

Observation with zinc **colourless, odourless bubbles form**