

Chemistry in Society

Worksheet 1

1) Which of the following compounds is a raw material in the chemical industry?

A Sodium chloride

B Ammonia

C Sulphuric acid

D Ethene

2) How many moles of zinc will react with 50cm3 of 2 mol l-1 hydrochloric acid?

Zn(s) + 2HCl(aq) ⭢ ZnCl2(aq) + H2(g)

A 0∙01

B 0∙02

C 0∙05

D 0∙10

3) How many moles are in 120.9g of Magnesium oxide (MgO)?

4) What mass of Calcium Carbonate (CaCO3) is 10.5 moles?

5) Avogadros constant is the same as the number of

a) atoms in 1 mole of Hydrogen

b) atoms in 40g of Calcium

c) atoms in 18g of Carbon

d) ions in 1 mole of potassium bromide

6) 3.2g of oxygen occupies 3360cm3

Calculate the molar volume of oxygen under these conditions

7) Calculate the volume occupied by 4.4g of carbon dioxide gas. (molar volume is 24 litres/mol)

8) Calculate the number of moles in 88g of carbon dioxide

9) Calculate the number of molecules in 88g of carbon dioxide

10) Calculate the number of atoms in 88g of carbon dioxide