

Name:

Class:

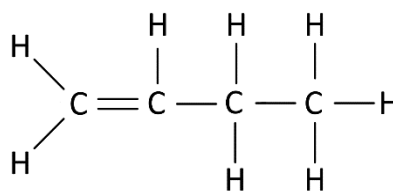


Describe a test to show that a gas is carbon dioxide.

Test: bubble the gas through limewater.

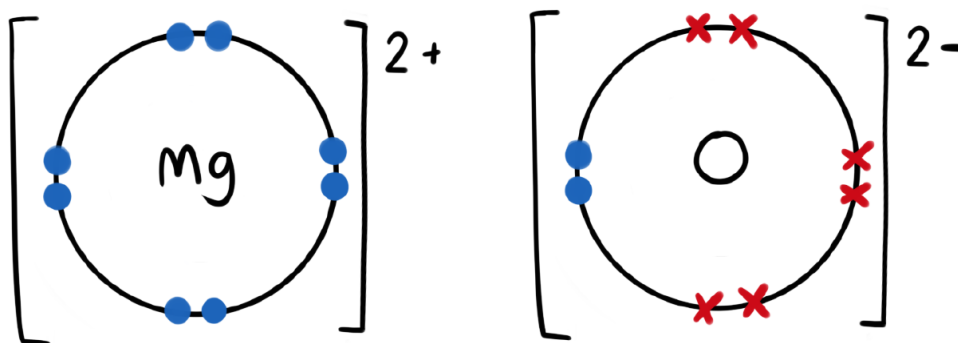
Positive result: the limewater will become cloudy.

Identify the following compound.

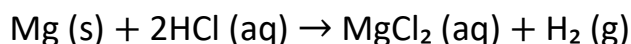


Butene

Magnesium oxide, MgO, is an ionic compound. Draw a 'dot and cross' diagram for the ions in magnesium oxide. Show the outer electron shells only.



A student investigates the reaction between magnesium and hydrochloric acid. The balanced chemical equation for the reaction is:



The student starts with a piece of magnesium ribbon with a mass of 4.8 g. She adds it to an excess of hydrochloric acid, meaning all the magnesium reacts.

Calculate the maximum mass of magnesium chloride (MgCl₂) that can be produced.

Calculate Mr of MgCl₂

$$24 + (2 \times 35.5) = 24 + 71 = 95$$

Calculate moles of Mg

$$\text{Moles} = \text{Mass} \div \text{Ar} = 4.8 \div 24 = 0.2 \text{ (mol)}$$

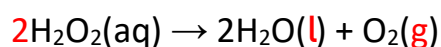
Calculate mass of MgCl₂

$$\text{Mass} = \text{Moles} \times \text{Mr} = 0.2 \times 95$$

$$\text{Mass} = 0.2 \times 95$$

$$\text{Mass} = 19 \text{ (g)}$$

Complete and balance the equation for the reaction and fill in the two missing state symbols.



In what two states do ionic compounds conduct electricity?

Molten and aqueous

How is electricity conducted in ionic compounds?

When molten or aqueous the ions move and carry charge.