

CARBON AND
ITS COMPOUNDS Learning Objectives

After completing this lesson, students will be able to

- explain the special features of carbon.
- know about the isomerism and allotropic forms of carbon compounds.
- differentiate between the properties of graphite and diamond.
- recognise the various inorganic carbon compounds with their uses.
- know the common properties of carbon compounds.
- identify the codes of various plastics.
- understand the effects of plastics on human life and environment.
- know the legal measures to prevent plastic pollution.

**Introduction**

Carbon is one of the most important **non-metallic** element. Antoine Lavoisier named Carbon from the Latin word '**Carbo**' meaning coal. This is because carbon is the main constituent of coal. Coal is a fossil fuel developed from prolonged decomposition of buried plants and animals. So, it is clear that all the life forms contain carbon. The earth's crust contains only 0.032% of carbon (i.e. 320 parts per million by weight) in the form of minerals like carbonates, coal and petroleum and the atmosphere has only 0.03% of carbon dioxide (i.e. 300 parts per million by weight). Even though available in small amount in nature, carbon compounds have an immense importance in everyday life.

Carbon is present in our muscles, bones, organs, blood and other components of living matter. A large number of things which we

use in our daily life are made up of carbon compounds. So, without carbon there is no possibility for the existence of plants and animals including human. Thus, **Carbon Chemistry** is also called as **Living Chemistry**. In this lesson we will study about the special features of carbon, its properties and also about plastic which are the catenated long chain compounds.

15.1 Discovery of Carbon-Milestones

Carbon has been known since ancient times in the form of soot, charcoal, graphite and diamonds. Ancient cultures did not realize, of course, that these substances were different forms of the same element.

In 1772, French scientist **Antoine Lavoisier** pooled resources with other chemists to buy a diamond, which they placed in a closed glass jar.