

CHEMISTRY IN EVERYDAY LIFE



Learning Objectives

After the completion of this lesson, students will be able to:

- ◆ know about different types of hydrocarbons.
- ◆ understand the formation of fossil fuels.
- ◆ list out the properties and uses of different fuel gases.
- ◆ understand the process involved in the refining of petroleum.
- ◆ know about the types and uses of coal.
- ◆ know about the characteristics of ideal fuel.
- ◆ list out the applications of solar energy.



Introduction

When we hear the word chemistry we think of chemical reactions conducted in the laboratories. But chemistry is beyond that. We can find chemistry in everything in our surrounding. It is in the air we breathe, the food we eat and in everything we use in our daily life. Our body is made of elements like nitrogen, phosphorous, hydrogen, oxygen, calcium, potassium, sulphur, magnesium etc. All the chemical reactions taking place in our body are due to chemistry.

Our whole life is dependent on various chemical compounds. Among them, hydrocarbons are the most important one. They find application in our daily life. We can say that the whole civilization is driven by hydrocarbons because they make up the fossil fuels petroleum, coal and natural gas. In this lesson we are going to study about different types of hydrocarbons, fossil fuels like petroleum, coal and natural gas, characteristics of fuel and solar energy and its applications.

15.1 Hydrocarbons

Hydrocarbons are the organic compounds consisting of carbon and hydrogen atoms. They are combustible and produce large amount of heat energy along with carbon dioxide and water vapour, on burning. Hence, many hydrocarbons are used as fuels.

15.1.1 Sources of Hydrocarbons

Hydrocarbons occur naturally and they are found in fossil fuels like crude oil, natural gas and coal. About 300 million years ago plants and animals died and they were buried on the ocean floor. Overtime they were covered by silt and soil layers.

Then they were buried deep inside the earth and compressed through temperature and pressure and converted to fossil fuels like oil and natural gas. These fuels are found in porous rocks which lie below large bodies of water, especially oceans. By drilling these rocks hydrocarbons can be extracted. Hydrocarbons are present in different trees and plants also.