Ozone

Advantage

The ozone layer surrounding the earth's atmosphere **acts as a shield by absorbing the harmful ultraviolet radiations of the sunlight to protect the living organisms from the harmful effects of UV rays**.

The depletion or reduction in the ozone layer is caused due to the use of various ozone-depleting substances by human beings.

The industries are the major sources of ozone-depleting substances such as chemical Chlorofluorocarbons (CFCs), carbon tetrachloride, methyl chloroform, methyl bromide, and nitrogen oxides, halogens, etc.

These chemicals continuously find a way to reach the ozone and react with it which has led to the depletion of ozone and an ozone hole is formed.

Causes

Ozone is formed when **heat and sunlight cause chemical reactions between oxides of nitrogen (NOX) and Volatile Organic Compounds (VOC)**,

Chlorofluorocarbons or CFCs are the main cause of ozone layer depletion. These are released by solvents, spray aerosols, refrigerators, air-conditioners, etc.

The nitrogenous compounds such as NO2, NO, N2O are highly responsible for the depletion of the ozone layer.

The ozone layer has been found to be depleted by certain natural processes such as Sun-spots and stratospheric winds.

Solutions

Buy air-conditioning and refrigeration equipment that do not use HCFCs as refrigerant.

Buy aerosol products that do not use HCFCs or CFCs as propellants.

Depletion of the ozone layer has no effect on a region or a country. In reality, the entire planet is vulnerable to its consequences.

Increased levels of UV radiation result in a higher rate of skin cancer and eye issues. Let’s have a look at some of the ozone layer depletion solutions.

Disadvantage

Breathing ozone can trigger a variety of health problems including chest pain, coughing, throat irritation and congestion.

It can worsen bronchitis, emphysema and asthma. "Bad" ozone also can reduce lung function and inflame the linings of the lungs. Repeated exposure may permanently scar lung tissue.

The ozone layer acts as a natural filter, absorbing most of the sun's burning ultraviolet (UV) rays.

Stratospheric ozone depletion leads to an increase in UV -B that reach the earth's surface, where it can disrupt biological processes and damage a number of materials.