

Chemically aldehydes  
and ketones start a  
series



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BUSTER**

Chemically it has a high percentage of SO<sub>2</sub> and is known as reducing smog, on the other hand photochemical smog is oxidizing. As the sun rises, ultraviolet and visible radiations fall on the earth; the molecules of nitric oxide, ozone, aldehydes and ketones start a series of reaction and generate smog. The composition of smog depends a great deal on atmosphere condition but ozone, some aldehydes and certain hydrocarbons are always present in smog. Smog reduces visibility, irritates eyes, nose and throat and damage plant wealth. Q. 2.

What are Freons and how do they cause pollution? Ans. Chlorofluorocarbons such as CFC<sub>13</sub>, CF<sub>2</sub>Cl, and CF<sub>3</sub>Cl are commonly known as Freons. Freons have unique combination properties such as low boiling point, low viscosity, non Freons have unique combination properties such as low boiling point, low viscosity, non toxic, non-flammable, inert, thermally stable and cheap which make them highly useful as refrigerants, aerosol propellant, solvents for cleaning of electronic components, fire fighting agents and packing materials.

Freons have the ability to trap the warmth of the sun and disturb green house effect thereby leading to higher temperatures which would damage crops. The decomposition of Freon molecules by absorbing the radiations of sun produces chlorine which breaks down the ozone present in the atmosphere. This produces holes in the ozone layer thereby exposing the atmosphere to ultraviolet radiations whose harmful effects can be experienced by humans, animals and plants. Q. 3. What is Greenhouse effect? Ans.

A greenhouse is a special enclosure (glass) used for maintaining plants at specified temperatures. Because of the ability of a greenhouse to remain warm due to heat trapped by its glass enclosure the analogous atmosphere warming due to trapped heat is called the greenhouse effect. Certain atmospheric emission resulting due to various human activities (i. e. which result in emission of gases like CO<sub>2</sub>, CFCs, CH<sub>4</sub>, N<sub>2</sub>O water vapours) have an ability to trap heat and lead to warming of earth's atmosphere also known as Global warming Q.

4. Name how oxides of nitrogen which are pollutant on earth Ans. (i) Nitric Oxide (NO) and (ii) nitrogen dioxide (NO<sub>2</sub>) Q. 5.

What is meant but B. O. D.? Ans. Aerobic bacteria use dissolved oxygen of water when converting organic waste into nutrients. The quantity of oxygen used up by microorganisms in degradation of organic wastes in a water body is called biological oxygen demand (BOD).

The greater the amount of organic waste in the water body, the greater is the amount of oxygen required to break it down biologically and therefore higher is the biological oxygen demand. The BOD value is a good measure in evaluating the degree of pollution in a water body. Q.

6. How can lead poisoning are cured. Ans.

Lead poisoning can be cured by feeding the patient with an aqueous solution of calcium complex EDTA. Lead ions displace calcium in the EDTA Complex to form Pb - EDTA and Ca - EDTA + Pb<sup>+2</sup> Ca<sup>+2</sup> + Pb - EDTA Ca<sup>+2</sup> ions. The soluble lead complex of Pb - EDTA is excreted through the urine.

EDTA stands for ethylene diamine tetra acetic acid which is a ligand. Q. 7.

How is the presence of excess of nitrates in drinking water harmful to humans? Ans.

Nitrate ions ( $\text{NO}_3^-$ ) are converted by intestinal bacteria into nitrites. These ions combine with haemoglobin to form methaemoglobin thus inhibiting the supply of oxygen. This causes a disease called methaemoglobinaemia.

Q. 8. Why chlorination is not the most desirable method of disinfecting polluted water? Ans. Because chlorine reacts with organic matter to produce highly toxic chlorinated hydrocarbons rendering water unfit. Therefore, complete removal of even traces of organic matter is necessary before chlorine is passed through a water body.