

216a Role of Polar Stratospheric Clouds & Catalysts in Ozone Destruction

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The Ozone (O₃) layer in the stratosphere protects life on earth from exposure to dangerous levels of ultraviolet light. It does so by filtering out harmful ultraviolet radiation from the sun. In this paper we have discussed the various ozone depleting substances, the processes and the reactions involved in its depletion and its harmful effects due to its diminution. The ozone layer present in our atmosphere is being wiped out due to the emanation of various ozone depleting substances {O.D.S} like CFCs, HCFCs, halons, methyl bromide, carbon tetra chloride and methyl chloroform. Ozone layer absorbs a portion of radiation from the sun preventing it from reaching the earth's surface. Most importantly it absorbs a portion of ultra-violet light called UVB. Ultra-violet light breaks apart these ODS molecules, which on reaching the stratosphere release chlorine or bromine atoms depending upon the source. It is these atoms that brings about the depletion of the ozone layer and not the ODS molecules. Reduction in ozone level will lead to higher level of UVB reaching the earth's surface causing various types of skin cancer, cataracts, harmful effects to crops, certain materials and even some forms of life. Prevention of this can be brought about by finding safe and effective alternatives to ODS.