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How Ozone Layer Depletion Affects Us



(Click to Read)



- How does the Ozone layer depletion impact you
- Use Ozone friendly products
- CERC observes Ozone Day by creating awareness



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How does the Ozone layer depletion impact you

What is Ozone?

Ozone is a gas that occurs naturally in two layers of the atmosphere:

- i) Troposphere (surface to 10-15 kms above) contains about 10% of Ozone. Excess Ozone near the earth's surface is considered 'bad' Ozone as it is harmful to life.
- ii) Stratosphere (above troposphere to about 50 kms) contains 90% of earth's Ozone, and is considered 'good' Ozone as it absorbs a large part of the sun's harmful ultraviolet (UV) radiation.

What is Ozone layer?

The Ozone layer is a shield of Ozone gas which protects life on earth from sun's harmful UV radiation.

What is Ozone hole?

The Ozone hole is a reduction in concentration of Ozone and thinning of the protective Ozone layer, caused by release of Ozone depleting gases due to human activities.

What is the Montreal Protocol?

The Montreal Protocol is an international agreement drawn up on 16 September 1987, aimed at protecting the Ozone layer through measures to phase out production and consumption of chemicals (chlorofluorocarbons (CFCs), halons etc.) responsible for depleting Ozone in the stratosphere.

What is Ozone Day?

16 September is celebrated each year as the Ozone day. The UN proclaimed it to be the International Day for the Preservation of the Ozone Layer on 19 December 1994.

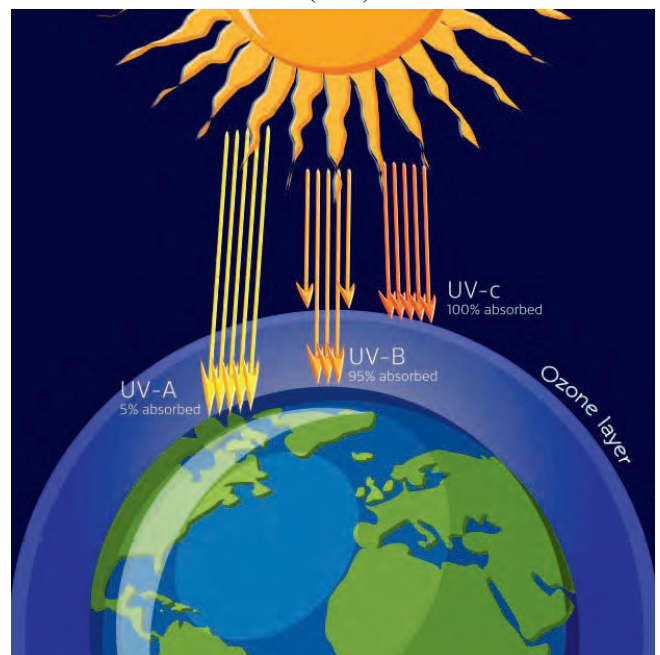
Impacts of Ozone depletion

- In humans: Skin cancer, premature skin ageing, affects the immune system, cataracts, blindness, worsens heart and lung conditions.
- In plants: Inhibits growth, affects crop quality and reduces yield, food web and soil erosion.
- In animals: Affects aquatic food chain, marine life, affects biogeochemical cycles.

Mending the Ozone hole

The only way to mend the Ozone hole is to stop releasing CFCs and other Ozone depleting substances (ODSs) into the atmosphere. High fossil fuel consumption and industrial activities are the greatest sources of these pollutants.

International efforts under the Montreal Protocol have been successful in reducing emission of pollutants to protect the Ozone layer, through controls on the production and consumption of ODSs. Concentration of ODSs is consequently falling and the Ozone layer is showing first signs of recovery. However, it is not expected to recover fully before midcentury as ODSs stay in the atmosphere for many years and continue to cause damage.





Use Ozone friendly products

Products made with, or containing Ozone Depleting Substances (ODSs) can contribute to Ozone layer depletion. Buy products which do not contain chemicals which deplete Ozone. Such products are made using alternatives to these chemicals.

Ozone depleting substances - Chlorofluorocarbons (CFCs), Hydrochlorofluorocarbons (HCFCs), Hydrobromofluorocarbons (HBFCs), Halons, Methyl bromide, Carbon tetrachloride, Methyl chloroform.

Products in which ODSs are used - Air conditioners and refrigerators, firefighting apparatus, aerosol spray propellants e.g. in body sprays, room fresheners, hair sprays, nasal inhalers; chemicals for agriculture use, foam blowing agents, industrial solvents and solvents for cleaning (including dry cleaning).

Eco friendly substitutes of ODSs

- Hydrofluorocarbons (HFCs)
- Perfluorocarbons (PFCs)

Be an Ozone-friendly consumer

- Buy products like aerosol sprays, refrigerators, air conditioners, fire extinguishers that are 'Ozone friendly' or 'CFC free'. These should not contain Ozone depleting substances such as CFCs, HCFCs or Halons. Look at labels or ask for more information from the seller to ensure that the product is Ozone friendly.
- If you already own some appliances that are not 'CFC free', get them regularly serviced, as any malfunction can cause CFC to escape into the atmosphere. Also regularly check your car and home air conditioners and refrigerator for any leaks and get them repaired immediately.
- While disposing your old appliances take special care to not damage the cooling circuit, as this is the part that contains the ODS. Ensure that a qualified technician recovers and recycles the ODS from the appliances so that it is not released into the atmosphere.
- Old insulation foams that contain ODS should be disposed of as environmentally hazardous waste.
- Avoid using polythene or plastic completely. Use reusable and recyclable bags instead.
- Use traditional cleaning products rather than the ones which have chemicals that not only have ODSs but are also harmful to your health.
- Consider using public transport or carpooling whenever possible. Vehicle emissions are harmful for the Ozone layer.
- Greenhouse gases produced during manufacture of chemical fertilisers also contribute to Ozone layer depletion. Avoid use of such fertilisers, instead use organic fertilisers.



CERC observes Ozone Day by creating awareness

Ozone depletion impacts human, plant and animal life on earth as it allows sun's harmful UV radiation to reach us. Ozone is depleted by human activity. Awareness about what we can and should do to help limit/stop this depletion is important. To bring focus on this, 16 September is celebrated globally as The International Day for the Preservation of the Ozone Layer, or as the World Ozone Day. The theme this year is 'Ozone for Life – 35 years of Ozone Layer Protection'.

Every year, CERC – ENVIS Resource Partner (by MoEF&CC) devotes this day to spreading awareness on the subject. In 2019, the OzoneDay was celebrated with school children. A presentation was made and a quiz was conducted to create awareness. Prizes were distributed to the winners. A poster and a banner on World Ozone Day were also made to raise awareness.

This year, due to the ongoing COVID pandemic, all awareness activities have been carried out online or virtually.

- A webinar on 'Ozone for Life' was conducted on World Ozone Day. Dr. Manthan Tailor, MS University spoke on 'Convention & protocol on Ozone layer protection', and Dr. Karan Rana, Navrachna University talked about 'Ozone friendly products'. This was attended by more than 100 participants which included scientists, researchers and students.
- An online quiz was conducted which received an overwhelming response, from more than 1465 participants.
- A poster and an info-graphic were created on Ozone Depleting Substances (ODSs) and their substitutes, for further awareness.
- An in-house awareness programme for CERC staff was conducted featuring videos, posters and info-graphics on Ozone Layer Protection.



Links to our recent issues

1. Misleading Corona Protection Advertisements - Watch Out
2. COVID care for vulnerable
3. Buyers' Guide - Steam Inhalers
4. COVID home care services
5. Technology helps in COVID times