

STEPS IN THE DEPLETION OF THE STRATOSPHERIC OZONE

1. Emissions: Halogen source gases are emitted at the Earth's surface by human activities and natural

2. Accumulation: These gases accumulate in the atmosphere and gets distributed throughout the lower atmosphere.

3. Transport: These gases then gets transported to the stratosphere by air motions.

4. Conversion: Most of this gases gets converted to reactive halogen gases.

5. Chemical Reaction: These reactive halogen gases cause chemical depletion of stratospheric ozone.

6. Removal: Air Containing reactive halogen gases returns to the troposphere and these gases are removed from air by moisture in clouds and rain.

Montreal Protocol have averted damage to human eyes and immune systems, and protected wildlife and agriculture

Halogen Source Gases/ODS

- CFCs
- Carbon Tetrachloride
- Methyl Chloride
- Halon
- HCFCs
- Mehtyl Bromide
- Methyl Chloroform

Chemical Conversion
Intense UV from the Sun

Reactive Halogen Gases

- Hydrogen Bromide
- Bromine Nitrate
- Hydrogen Chloride
- Chlorine Nitrate
- Chlorine Monoxide
- Bromine Monoxide
- Bromine atoms
- Chlorine Atoms



With the full implementation of the Protocol's provisions, the global ozone layer should return to pre-1980 levels by the middle of this century.