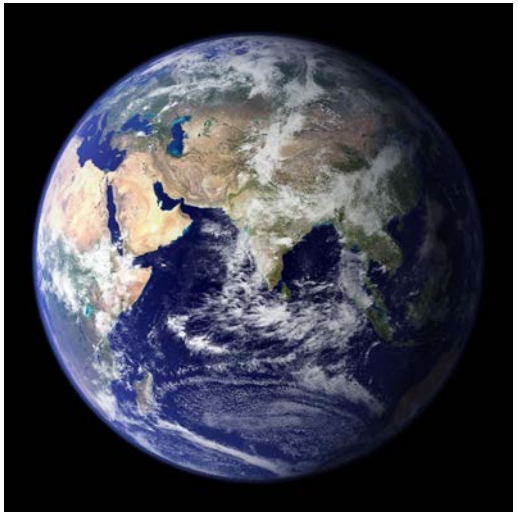
Chloroform poses new threat to ozone recovery

Read the full article at: rsc.li/2DUq1vQ



In the 1970s scientists discovered that chemicals called CFCs were linked with the depletion of the ozone layer. As a result in 1987 an international agreement to phase out the production of CFCs and other substances that are responsible for ozone depletion was made. This is known as the Montreal protocol.

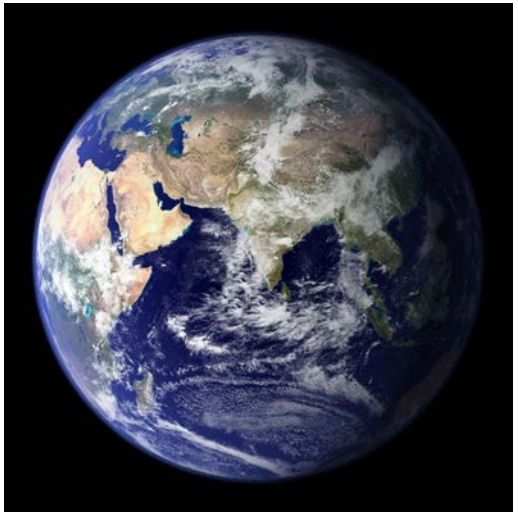
However the Montreal protocol did not cover short-lived chlorine containing substances such as chloroform ($CHCl_3$). These were thought to break down in the lower atmosphere before they could reach the ozone layer. Recent research though suggests that certain weather events can lift the chloroform high in the upper atmosphere where it helps to catalyse the destruction of the ozone layer.

During 2010–15, recordings revealed rises in levels of chloroform, and modelling suggests China as the main source of emissions. Although the impact is still small, it may become important in the future.

ROYAL SOCIETY OF CHEMISTRY

Chloroform poses new threat to ozone recovery

Read the full article at: rsc.li/2DUq1vQ



In the 1970s scientists discovered that chemicals called CFCs were linked with the depletion of the ozone layer. As a result in 1987 an international agreement to phase out the production of CFCs and other substances that are responsible for ozone depletion was made. This is known as the Montreal protocol.

However the Montreal protocol did not cover short-lived chlorine containing substances such as chloroform ($CHCl_3$). These were thought to break down in the lower atmosphere before they could reach the ozone layer. Recent research though suggests that certain weather events can lift the chloroform high in the upper atmosphere where it helps to catalyse the destruction of the ozone layer.

During 2010–15, recordings revealed rises in levels of chloroform, and modelling suggests China as the main source of emissions. Although the impact is still small, it may become important in the future.

1. Why is the ozone layer essential for life on earth?
2. Draw a dot and cross diagram for $CHCl_3$.
3. Find out how chlorine in the atmosphere catalyses the destruction of the ozone layer.

ROYAL SOCIETY OF CHEMISTRY