

New ozone depleters

A range of new ozone depleting chemicals, used in everything from fire extinguishers to cleaning fluids, has triggered concerns regarding ozone layer recovery. Substances such as halon-1202 and n-propyl bromide, used as substitutes for banned ones, are not controlled by the Montreal Protocol. Though such substances are presently manufactured in small quantities, scientists at universities and institutes throughout the world are apprehensive about their production increasing later on. Mr. Klaus Töpfer, Executive Director of UNEP, has urged countries to assess new chemicals and ban those that are shown to have real ozone depleting potential. Recent measurements indicate that the level of some of these chemicals in the atmosphere is rising.

Though four new substances with potential to damage the ozone layer have been identified, a major hurdle to monitor and track such substances is that these chemicals can have up to 15 different names in international trade. Hexachlorobutadiene has an ODP higher than some ODS (0.07) that have been banned by the Montreal Protocol. Used as a solvent, hexachlorobutadiene is obtained as a by-product of chlorinated chemical production. It is classified as a high-volume production chemical by the Organization for Economic Cooperation and Development (OECD). A Canadian government report has concluded that hexachlorobutadiene has the potential to contribute to the depletion of stratospheric ozone.

N-propyl bromide, used as a solvent in applications such as degreasing, vapour cleaning and cold cleaning of metal parts, has been under intense scrutiny. The Montreal Protocol's Technology and Economic Assessment Panel (TEAP) has estimated that 5,000-10,000 t of this substance is being used and emitted annually. The emissions are predicted to reach 20,000-60,000 t/y by 2010, as a result of industries switching over to this chemical as a replacement for other banned substances. Preliminary studies indicate that n-propyl bromide may be as damaging as substances that are already banned or subject to phase-outs.

Presently, 6-bromo-2-methoxy-naphthalene (BMN) is utilized in the manufacture of methyl bromide. There is very little data about the scale of manufacture or ODP. Halon-1202 used by the military in some countries is an effective extinguishant. Scientists are yet to estimate the quantities being made and emitted. Its ODP has been estimated to be higher than some banned substances – between 0.3 and 1.7. *Contact: Mr. Nick Nuttall, Head of Media Services, UNEP, P.O. Box 30552, Nairobi, Kenya. Tel: +254 (2) 623 084; E-mail: nick.nuttall@unep.org. (Website: www.unepie.org)*