

## The Production and Release to the Atmosphere of Volatile Halocarbons

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For many years, the chemical industry has voluntarily reported the annual production and sales of a number of important fully halogenated chemicals (chlorofluorocarbons - CFCs) through a series of global surveys conducted by an independent auditor. The purpose of the surveys is to provide the scientific community with data on the annual atmospheric release of these compounds. This requires an analysis of the use profile for each compound as well as the pattern and timescale of release from the various uses. In the absence of firm information for countries not involved in the industry surveys, assumptions have to be made about the amount of production and type of use. The uncertainties involved in deriving atmospheric releases, and ultimately atmospheric lifetimes, will be discussed.

More recently, surveys have been initiated for 1,1,1-trichloroethane (methyl chloroform) and hydrochlorofluorocarbon (HCFC) 22. These are of particular significance because knowledge of their emission rates can be used together with atmospheric measurements to determine independently the average tropospheric abundance of hydroxyl radicals. Moreover, HCFC 22 which is currently the most widely used HCFC can serve as a surrogate for the study of other HCFCs that will eventually be released to the atmosphere in increasing amounts as they take over some of the current uses of CFCs.

More limited data are available on the sales and uses of three shorter-lived chlorinated solvents: methylene chloride, perchloroethylene and trichloroethylene. The most recent results will be presented.

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