

## Some Ozone Depleting Substances in Different Industry Sectors

### Aerosols, Sterilants and Carbon Tetrachloride

CFCs are used in aerosol products, as sterilants of medical equipment, and in a range of miscellaneous applications including food freezing, tobacco expansion, fumigation and cancer therapy. Carbon tetrachloride is used as a feedstock in the production of CFC-11 and CFC-12, in the production of key pharmaceuticals and agricultural chemicals, and as a catalyst promoter.

CFCs and carbon tetrachloride are ozone depleting substances whose production and consumption is controlled under the Montreal Protocol. With support from the Protocol's Multilateral Fund delivered by UNEP, UNDP, UNIDO, the World Bank and bilateral agencies, developing countries are phasing out these ozone depleting chemicals in this sector.

### Foams

CFCs have been used extensively in the manufacture of polyurethane, phenolic, polystyrene and polyolefin foam polymers, used in many different products. Common blowing agents have included CFC-11, CFC-12, CFC-113 and CFC-114.

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### Halons

Halon 1211 has been widely used in portable fire extinguishers. Halon 1301 has seen widespread use in fixed systems throughout the industrial, commercial, marine, defence, and aviation industries. Halon 2402 has primarily been used in the defence, industrial, marine and aviation sector in some countries.

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The strategy for the halon sector essentially consists of two approaches: replacing halons with alternatives, and halon banking. Alternatives to halons include halocarbon alternatives, inert gases, water mist, fine particulate aerosols and streaming agents. In some cases, fire protection strategies may be re-considered and the need for halons eliminated. Halon banking, which includes recovery, recycling and establishing inventories, is used by companies and countries for managing existing halon supplies to cover remaining critical uses.

### HCFCs (hydrochlorofluorocarbons)

HCFCs (hydrochlorofluorocarbons) are widely used in the refrigeration, foam, solvent, aerosol and fire fighting sectors as a transitional substance to substitute CFCs. HCFCs are also used as feedstock (raw material) in the production for other chemical products.