

# The Fluorocarbon-Free Option

## The Fluorocarbon-Free Option - for the sake of the environment

Climate change has become a serious problem. To help solve this problem, we have the option to purchase products that do not use fluorocarbons, "Fluorocarbon-free products"

### What are Fluorocarbons? • • • • • • •

Various types of fluorocarbons are used in various applications

Fluorocarbons are composed of Fluorine and Carbon. Fluorocarbons have many advantages such as being hard to burn, chemically stable, easy to liquefy and safe to humans. Because of this, they have become used widely as refrigerants, which carry heat in air-conditioners, mobile air-conditioners, refrigerators, vending machines, drinks coolers, freezer showcases and water coolers. They are also used as foam agents for insulation, cleaning agents for semiconductors and precision components and propellants for aerosols such as air dusters. There are many types of fluorocarbons; the first type was CFCs, followed by HCFCs and then HFCs.

#### Types of Fluorocarbons

##### • CFCs (Chlorofluorocarbons)

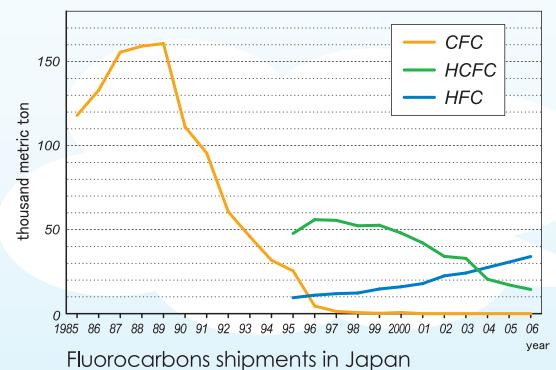
Compounds of Carbon, Fluorine and Chlorine

##### • HCFCs (Hydrochlorofluorocarbons)

Compounds of Carbon, Fluorine, Chlorine and Hydrogen

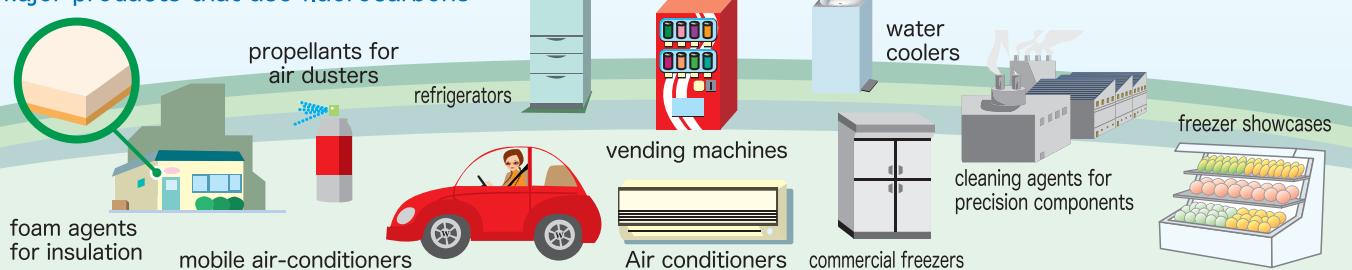
##### • HFCs (Hydrofluorocarbons)

Compounds of Carbon, Fluorine and Hydrogen



Fluorocarbons shipments in Japan  
Based on data of Japan Fluorocarbon Manufacturers Association

#### Major products that use fluorocarbons



However, Freons are a cause of  
climate change and ozone layer depletion!!