



# Halocarbons

Halocarbons are chemical compounds such as chlorofluorocarbons (CFCs), hydrochlorofluorocarbons (HCFCs), hydrofluorocarbons (HFCs) and halons. Halocarbons are used in air conditioning/cooling systems and fire extinguishing systems. When released into the atmosphere, they contribute to global warming, and some of them are ozone-depleting substances (ODS) that destroy the stratospheric ozone layer, which protects the Earth from damaging ultraviolet rays.

Canadian federal and provincial regulations aim to progressively eliminate some halocarbons (CFCs, HCFCs, HFCs and halons). They also regulate the control of halocarbon releases and disposal, as well as the use of qualified labour to manage them.

At Bell, CFCs were phased out in early 2007, replaced by HCFCs and HFCs that are less harmful to the environment. However, HCFCs were only developed to serve as transition cooling agents. They are now targeted internationally, and their elimination is progressively planned in Canada. Specifically, the production of HCFC-22, intended to serve as a refrigerant, will not be allowed in Canada by 2020.

Under the Kigali amendment to the Montreal Protocol, HFCs are now targeted for eventual elimination. In 2018, all Bell's business units will have to review their phase out plan in order to include the HFCs since they were targeting only the HCFC-22.

Bell phased out halons by mid-2010.

Bell uses approximately 155 tons of refrigerant in more than 10,500 air conditioning systems across the country. These systems average 16 years of service. Of these, more than 79% use HCFC-22 as refrigerant. Bell also uses approximately 24 tons of FM-200 refrigerant in almost 500 fire-extinguishing systems.

## OUR HALOCARBON PROGRAM HAS CLEAR AND CONSISTENT OBJECTIVES:

- PROTECT THE OZONE LAYER
- MINIMIZE THE USE OF HALOCARBONS
- MAINTAIN SYSTEMS USING HALOCARBONS IN COMPLIANCE WITH APPLICABLE REGULATIONS
- DECOMMISSION EQUIPMENT USING HCFCs AS SOON AS POSSIBLE, IN ACCORDANCE WITH GOVERNMENT REGULATORS' EXPECTATIONS.

Bell's long-standing commitment to managing halocarbons has resulted in many advances over the last decade, including the following:

- Helping develop an air conditioning system that uses compressed CO<sub>2</sub> as a refrigerant rather than HCFCs
- Creating guidelines for the decommissioning of air conditioning/ cooling systems and halon fire extinguishing systems
- Converting or replacing air conditioning/cooling systems using CFCs
- Developing phase-out plans aligned with government and industry recommendations for equipment using HCFCs in all business units
- Implementing a reporting process in the event of a halocarbon leak.

Even with the preventive and routine maintenance we conduct on our equipment, releases of halocarbons are inevitable due to mechanical defects and breakdowns. In 2017, our number of halocarbon leaks decreased by 12% compared with 2016. Total leaks from air conditioning and fire extinguishing systems represented 5,157 kg of halocarbons, which is 10% lower than the volume leaked in 2016. This is just 3% of the 179 tons of halocarbons we use across the country.

To further reduce leaks and control any future impact, we perform root- cause analyses of incidents and equipment life cycles.

	TREND	2017	2016
Total weight in use (tons)	↓	179	180
Number of leaks	↓	347	395
Amount leaked (tons)	↓	5.2	5.7
Proportion of total weight leaked	-	3%	3%