



Information Bulletin - Use in Refrigeration Systems of Refrigerants Considered Ozone-Depleting Substances

Introduction

Chlorofluorocarbons (CFCs) and hydrochlorofluorocarbons (HCFCs) are among the refrigerants listed in CSA B52 Mechanical Refrigeration Code but are also considered ozone-depleting substances (ODSs). CFCs are being phased out by government legislation throughout Canada. This information bulletin addresses the use and re-use of CFCs and HCFCs as refrigerants in refrigeration equipment or systems.

Refrigeration system designers, users, owners, and service personnel are required to be familiar with refrigeration systems and the refrigerants used in them and also to comply with the legislative requirements of the jurisdiction where the refrigeration systems are installed and operated.

CFCs consist of chlorine, fluorine, and carbon. Common CFCs are R11, R12, R13, R113, R114, and R115. HCFCs consist of hydrogen, chlorine, fluorine, and carbon. Common HCFCs are R22, R123, and R401.

Legislative Requirements

Following agreement among the federal, provincial, and territorial governments relating to ODSs, British Columbia was the first jurisdiction to regulate ODSs, including measures to prohibit the refill of CFC chillers and other commercial refrigeration equipment and to require collection and disposal of surplus CFCs. Most of the rest of the jurisdictions have followed suit, with Ontario being the most recent to regulate ODSs. Nova Scotia and New Brunswick have yet to introduce similar regulations but are expected to do so shortly.

Requirements and implementation dates on banning the filling and refilling of CFC chillers and other refrigeration equipment can be found in the regulations of each jurisdiction. These regulations also require the replacement or conversion of a CFC chiller at the time of a major overhaul. In most cases, provinces permit a 12-month refilling extension if a major overhaul is required during a peak period of chiller use (e.g., the summer months).

It is worth noting that all the regulations provide for penalties against users or owners who do not comply with the legislative requirements.

Designers, users, owners, and service personnel of refrigeration equipment or systems need to fully understand these requirements. Details of the legislative requirements can be found in the ODS, refrigerant, or halocarbon regulations of the province or territory where the refrigeration equipment is installed and operated.

Conclusion

Most jurisdictions have established deadlines for the phasing out of HCFCs and CFCs, i.e., the replacement and conversion of the CFC chillers and a ban on refilling CFC equipment. The owner or user of any refrigeration system that is in violation of applicable regulations will face severe penalties. Therefore, it is the responsibility of all designers, users, owners, and service personnel of refrigeration equipment and systems to be familiar with up to date ODS regulations in their jurisdiction.

This bulletin was published on behalf of the CSA B52 Technical Committee on the Mechanical Refrigeration Code. For more information, please contact your local regulatory authority or:

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