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Backgrounder

# Some Jobs Are Best Left to the Experts

***Would you fill your air conditioning system with propane?***

Mass marketers and retailers are aggressively promoting a hydrocarbon refrigerant "Do-It-Yourself (DIY)" kit directly to homeowners and building owners as a replacement refrigerant gas for home or commercial air conditioning systems. Unlike the non-flammable refrigerants used by qualified air conditioning technicians, hydrocarbon refrigerants are made up of a mixture of propane and isobutene and are extremely flammable similar to the gas in a barbecue tank.

The use of a flammable refrigerant in a home or building can create a serious fire and explosion risk. Heating and air conditioning systems for home and buildings typically involve combustion flames and spark igniters that are ignition sources. A leak in the refrigerant system could bring flammable vapors in contact with one of these ignition sources causing a serious explosion and fire resulting in injury and death.

Manufacturers of air conditioning systems do not support the use of hydrocarbon refrigerants in existing equipment that is not specifically designed and certified for this use. Currently in the Canadian market, there are no air conditioning systems for home or business applications designed for use with hydrocarbon refrigerants. Using hydrocarbons in an existing air conditioning system will likely void the manufacturer's warranty on the system.

In addition to these safety concerns, there is also a serious environmental concern associated with the use of hydrocarbon refrigerants in a "DIY" application. The refrigerants being replaced by the hydrocarbons are ozone depleting substances and/or have high global warming potential (GWP). Under provincial regulations, removal of these substances requires a qualified technician, which the retailers and hydrocarbon manufacturers are quick to point out in their instructions and warnings to the DIY customer.

However, it is unrealistic to expect homeowners to pay to have a qualified technician come to their home to remove the existing refrigerant so the homeowner can then refill the system with the hydrocarbon refrigerant. Any perceived "savings" associated with purchasing the hydrocarbon refrigerant would be lost by the DIY customer. If removal of the existing refrigerant is attempted by the homeowner, there is a good chance that most or the entire refrigerant in the system will be leaked into the atmosphere, which will have serious consequences for the ozone layer and global warning.

As well, if the homeowner does not fully remove the entire existing refrigerant from the system, a mixture of refrigerants will be created in the system which could also have a negative effect on the operation of the air conditioning system. In fact, it is illegal to use non-compliance refrigerant mixtures in air conditioning systems in Canada.

Though there are no specific regulations governing the use of hydrocarbons as refrigerants in Canada, most provincial regulations require that service on home and business air conditioning systems be done by a qualified refrigeration and air conditioning technician. Hydrocarbon refrigerants are an issue of concern for the provincial and federal authorities and regulations to deal with these safety and environmental concerns are currently being reviewed.

Homeowners and business owners should be fully aware of the potential hazards and liability of using hydrocarbon refrigerants in air conditioning systems. Would you want to install a product in your heating and cooling equipment that is flammable and increases the risk of fire, explosion and environmental damage? Do you want to be responsible for handling substances that are a potential danger to your home or business? Does it not make more sense to use a qualified contractor who is trained to know both the safety and environmental aspects of air conditioning systems?

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For additional information about HRAI, air conditioning systems or to locate a qualified contractor, visit www.hrai.ca