About Klea® 134a

Safety Precautions

Klea® 134a is used in many applications. It has the dual advantages of non-flammability in use and very low toxicity. These features make it very safe and easy to use in a wide range of applications. It is used to keep food cold preventing spoilage, to protect blood supplies, and for cooling buildings and automobile passengers. It is also used to make thermal insulation foam, as a non-flammable propellant in tire inflators and electronics dusters, and as a solvent.

HFCs like Klea® 134a are proposed for regulation under the Kyoto Protocol as contributors to global warming along with other gases like carbon dioxide and methane. Life Cycle Climate Performance (LCCP) is a tool used to gauge the overall impact on global warming from an activity. The LCCP considers the total contribution of the HFC or other global warming gas along with the contribution of energy used to power the equipment the HFCs are used in.

In many of the applications where Klea® 134a is used -- like refrigeration and air conditioning -- the global warming impact of the refrigerant may only be a very small part of the overall impact of the activity. The energy consumed by the refrigeration or air-conditioning equipment is almost always produced in power plants using coal, oil, or gas as the fuel source. In an automobile, the air-conditioning system is powered by the engine, using gasoline as a fuel source. The carbon dioxide released by the power plant may produce a significantly larger global warming effect than the release of the Klea® 134a from the equipment.

Klea® 134a equipment is designed to be highly energy efficient which reduces the amount of carbon dioxide released from power plants. LCCP is used to compare different technologies on an even basis. A technology which uses a low global warming gas but has a low energy efficiency may have a higher climate change impact than an application using HFCs. Focusing only on the direct global warming of the gas can lead to poor decisions on what is good for the environment.

Responsible use of HFCs, like Klea® 134a, include minimizing the emissions from equipment to the lowest practical level. It also includes use of recovery and recycling of the HFCs during service and disposal of equipment. Many applications, like refrigeration and air- conditioning, have greatly reduced their emissions of refrigerants over the last several years. Currently built systems are manufactured more tightly and new systems being designed now will have even lower emissions in the future. According to the IPCC assessment the projected overall impact of HFCs to global warming will remain very low -- about two percent of the total amount.