

## *Freon22*

### **Background**

Chlorofluorocarbons (CFCs), which were developed over 60 years ago, have many unique properties. They are low in toxicity, nonflammable, noncorrosive, and compatible with other materials. In addition, they offer the thermodynamic and physical properties that make them ideal for a variety of uses. CFCs are used as refrigerants; as blowing agents in the manufacture of insulation, packaging, and cushioning foams; as cleaning agents for metal and electronic components; and in many other applications.

However, the stability of these compounds, coupled with their chlorine content, has linked them to depletion of the earth's protective ozone layer. As a result, it has phased out production of CFC and introduced environmentally acceptable alternatives, such as the Suva® HP refrigerant family.

### **Suva® HP Refrigerants**

The products designated as Suva® HP refrigerants are intended as replacements for R-502 in medium- and low-temperature refrigeration systems. The Suva® HP refrigerant family contains two different types of refrigerants. Both types involve the use of refrigerant blends to achieve alternatives that will act very much like R-502 in refrigeration systems.

### **Uses**

The Suva® HP refrigerants can be used in virtually all R-502-based applications, either as a result of retrofitting existing equipment that uses R-502 or following development of new equipment designed to use the Suva® HP products.

### **Recovery, Recycle, Reclamation**

Responsible use of Suva® HP refrigerants requires that the product be recovered for re-use or disposal whenever possible. It purchases used refrigerant for reclamation through its distributor networks in the United States, Canada and Europe. In the United States, all Suva® HP products will be accepted as part of this program. Recovery and re-use of refrigerant makes sense from an environmental and economic standpoint. In addition, the

U.S. Clean Air Act and other global regulations prohibit venting of refrigerants now (in the case of CFCs and HCFCs) or in the near future for all refrigerants.

### **Recovery**

Recovery refers to the removal of refrigerant from equipment and collection in an appropriate container. As defined by the Air Conditioning and Refrigeration Institute (ARI), recovery does not involve processing or analysis of the refrigerants. Suva® HP refrigerants may be recovered from re-refrigeration equipment using permanent on-site equipment or many of the portable recovery devices now available in the marketplace. The portable devices contain a small compressor and an air-cooled condenser, and may be used for vapor (and in some cases, liquid) recovery. At the end of the recovery cycle, the system is evacuated thoroughly to remove vapors. In the United States, the Environmental Protection Agency (EPA) sets standards for recovery equipment. Before purchasing a specific recovery unit, check with the manufacturer to be sure that it contains proper materials of construction and lubricant for the refrigerants you intend to recover.

Due to the fact that Suva® HP products are not azeotropes, it is important that all refrigerant is removed from a system during recovery or recycle. It is always recommended that refrigerant transfers be made liquid phase whenever possible to minimize composition changes in the products.

### **Recycle**

Refrigerant recycle refers to reducing the contaminant levels in used refrigerants by passing the re-refrigerants through devices that separate out or reduce the amount of lubricant, water, acidity and particulates. Recycle is usually a field or shop procedure with no analytical testing of refrigerant. Suva® HP refrigerants may be recycled using many of the devices now available. In the United States, the EPA sets standards for these devices. Recycle is already standard practice in many portions of the commercial refrigeration industry. Consult with the manufacturer before specifying a recycle device for any refrigerant.

If you routinely recycle Suva® HP refrigerants through several cycles, we recommend that you have the composition of the refrigerant checked periodically. This will prevent loss of performance in the unlikely event that the composition has shifted.

### **Reclamation**

Reclamation refers to the reprocessing of used re-frigerant to new product specifications. Quality of the reclaimed product is verified by chemical analy-sis. In the United States, Suva® HP refrigerants are included in it's refrigerant reclamation pro-gram.

Reclamation offers advantages over on-site refrig-erant recycling procedures because recycling sys-tems cannot guarantee complete removal of all contaminants. Putting refrigerants that do not meet new product specifications into expensive equip-ment may cause damage.