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## **SPECIAL WARNING**

### **DO NOT Allow POE OIL to Come in Contact With PVC, CPVC or ABS**

Certain chemicals can cause Environmental Stress Cracking (ESC) in PVC, CPVC, and ABS piping materials. One such chemical that can be encountered in air conditioning and refrigeration condensate drains is Polyol Ester oil, commonly called POE oil, which is a type of Synthetic oil used to lubricate refrigeration compressors.

POE oil is highly incompatible with PVC, CPVC and ABS piping resulting in subsequent leaking. POE can enter the condensate system if the refrigerant circuit is opened during repair work. POE oil is also hygroscopic and can pick up moisture from the surroundings. In such cases, condensates may easily contain POE oils.

Plastic piping in hydronic heating systems can also occasionally fail because of chemical contamination by POE lubricant oil used in the heat-exchanger refrigerant. While leaks in the heat exchanger are rare, when a leak does occur, it can lead to almost immediate failure of the piping system owing to chemical attack by the POE oil lubricant in the refrigerant.

Today, there is substantial information commercially available on materials used in compressors and refrigeration equipment. It is the designer and installer's responsibility to insure that all equipment and operating conditions in the system show good compatibility with both refrigerants and lubricants. This includes but is not limited to different coatings, metals, seals, and plastic components including condensate drains.