

Refrigeration Lubricants

Lubricants are essential for the performance and longevity of a refrigeration system. The choice of lubricant depends on the system, the refrigerant and the type of application. The range of refrigeration lubricants available from IDS has been carefully selected to include a wide portfolio of well-known brand names in a range of viscosity's and packaging sizes. Our range includes Emkarate, Mobil, Reflo, Shell, Suniso and Zerol. IDS Refrigeration is able to offer assistance in selecting the correct lubricant for your particular application.

There are several categories of oils:

Mineral oils	Mineral oils used for the lubrication of refrigeration compressors are mixtures of hydrocarbons without wax, specially selected for their excellent fluidity at low temperature. They are particularly suited for use with CFC, HCFC refrigerants and ammonia.
Alkyl Benzene Oils (AB)	Alkyl benzene oil types were the first synthetic oils to be used in the refrigeration industry. They are thermally and chemically stable (less oils decomposition at high temperature) and are perfectly miscible at low temperatures. AB oils are specially recommended for refrigerants like R-22 and HCFC blends. They are compatible with all traditional mineral oils which they can replace where a system malfunctions with the original lubricant.
Poly Alpha Olefins (PAO)	Poly alpha olefin oils – or PAO – can be described as 'mineral synthetic oils' because of the identical chemical structure of traditional mineral oils, the only difference being that they are formulated from monomers. PAO oils can be used in refrigeration systems working in extreme conditions with R-22 or ammonia thanks to their low pour points and excellent thermal stability.
Poly Alkylene Glycols (PAG)	Poly alkylene glycol oils – or PAG – were the first oils developed for use with HFC refrigerants and are perfectly miscible with these products. However they are very hygroscopic. PAG oils are mainly used in copper-less car air conditioning systems using R-134a, because of their tendency to absorb water and their incompatibility with copper. Being perfectly miscible with ammonia, PAG oils were adopted in refrigeration systems using this refrigerant.
Polyol Ester Oils (POE)	Polyol ester oils – or POE – constitute the second generation of lubricants which were developed for use with HFC's. POE oils are excellent lubricants, less hygroscopic than PAG and chemically more stable than PAG when in the presence of water. POE oils are intended for all refrigeration and air conditioning applications.

<http://www.idsrefrigeration.co.uk/lubricants.php>