

Product Data Sheet

Mobil EAL Arctic Series Synthetic Refrigeration Lubricants

Product Description

Mobil EAL Arctic Series are high performance Environmental Awareness Lubricants (EAL) that are fully synthetic products designed specifically for the lubrication of refrigeration compressors and systems, using ozone-friendly HFC refrigerants. (HFCs are chlorine-free products replacing chlorine-containing refrigerants in the world market). Mobil EAL Arctic Series oils are formulated from proprietary synthesised polyol esters (POEs) and a unique additive system to provide outstanding lubricity, wear protection, chemical and thermal stability, and hydrolytic stability. They are miscible with HFC refrigerants and have well-defined viscosity/temperature/pressure relationships with widely used HFCs. The performance of the Mobil EAL Arctic Series has been well documented with HFCs in a broad range of refrigeration and air conditioning systems and are used by many major compressor and system builders around the world.

Mobil EAL Arctic Series are available in ISO Viscosity grades 15 to 220. They are recommended for use in household and commercial refrigeration and air conditioning systems where HFC refrigerants are used.

Note! Mobil EAL Arctic 22CC has also been developed especially for Copeland refrigeration compressors where it provides outstanding protection against compressor wear. See separate Product Data Sheet.

Features & Benefits

The Mobil EAL brand of lubricants are recognised and appreciated around the world for their compatibility with the environment and their excellent performance. The Mobil EAL Arctic Series of products were designed by our research scientists to complement the new generation of ozone-friendly refrigerants mandated by the Montreal Protocol and succeeding world-wide agreements. Development of these products symbolises our continuing commitment to use advanced technology to provide outstanding lubricant products. A key factor in the development of Mobil EAL Arctic Series of lubricants was the close contacts between our scientists and key compressor OEMs and system designers to ensure that our product offerings will provide exceptional performance in a wide range of applications

This work in combination with our lab testing has helped confirm the exceptional performance of the Mobil EAL Arctic Series lubricants. This cooperative work allowed our scientists to design optimum synthetic POE structures for each viscosity grade in the product series and to develop an additive package to meet the stability and compatibility requirements for refrigeration applications

Mobil EAL Arctic Series oils offer the following features and potential benefits:

Features	Advantages and Potential Benefits
Excellent high temperature stability	Improved evaporator cleanliness, less unscheduled downtime and reduced maintenance costs
Well defined miscibility and P-V-T relationships with HFC refrigerants	Assures high system efficiency and proper oil return in refrigeration system designs
Very good anti-wear properties	Reduced compressor wear resulting in lower maintenance costs
High Viscosity Index and wax-free	Excellent low temperature fluidity, no waxy deposits and improved evaporator efficiency
Wide viscosity range	Can meet specific viscosity requirements of a wide range of equipment and applications

Applications

Application considerations: Mobil EAL Arctic Series oils are hygroscopic and care must be taken to avoid moisture absorption during handling. Packages should be tightly closed when not in use. Product should not be transferred to plastic containers that may allow moisture ingress.

Mobil EAL Arctic Series oils are recommended for refrigeration systems where HFC refrigerants are used. Specific applications include:

- Household refrigeration such as refrigerators, freezers, air conditioners and heat pumps
- Commercial refrigeration applications such as business, shopping mall and hotel air conditioning, and low temperature transportation
- Industrial applications such as food preparation and freezing, as well as cryogenic applications

Typical Properties

Mobil Arctic EAL		22	32	46	68
	Test Method				
ISO Viscosity Grade		22	32	46	68
Viscosity, cSt at 40°C	ASTM D445	23.2	34.2	49.2	68.0
Viscosity, cSt at 100°C	ASTM D445	4.6	5.8	7.3	8.7
Viscosity Index	ASTM D2270	130	115	115	95
Pour Point, °C	ASTM D97	-57	-48	-42	-36
Flash Point, °C	ASTM D92	236	236	230	230
Specific Gravity at 15°C, kg/l	ASTM D 1298	1.00	0.98	0.97	0.96
Moisture Content, ppm	ASTM E1064	<50	<50	<50	<50
Floc Point, HFC-134a, °C	ASHRAE 86	-53	-56	-50	-42

Health and Safety

Based on available information, this product is not expected to produce adverse effects on health when used for the intended application and the recommendations provided in the Material Safety Data Bulletin (MSDB) are followed. MSDBs are available upon request through Esso Petroleum Company Ltd., by telephoning 01372 222000. This product should not be used for purposes other than its intended use. If disposing of used product, take care to protect the environment.

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Typical Properties may vary slightly.

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