

## Aircol AMS

Refrigeration Oil

### Description

Castrol Aircol™ AMS 68 is high performance refrigeration compressor lubricant specially formulated from highly refined hydro-processed base oils and performance additives for systems running on Ammonia (NH<sub>3</sub>) refrigerant. They are specifically designed for systems where oil is allowed to separate from the refrigerant before the refrigerant passes the evaporator.

### Application

The operating conditions experienced in ammonia refrigeration compressors require very specific lubrication properties. Lubricants commonly used in Freon refrigeration compressors normally do not perform well with ammonia refrigerant, resulting in problems such as high oil carry-over from the compressor, high oil top-up rate, and rapid viscosity increase and carbon deposit formation in the compressor.

Aircol AMS is based on hydro-processed base oils, which have a narrow cut boiling point range, high degree of saturation, and low volatility properties, resulting in low carbon residues. These base oil properties, reinforced by unique additive technology, provide outstanding performance in ammonia refrigerating compressors, effectively reducing oil top-up rate, and minimising viscosity increases and carbon deposit formation in the compressor. Significant improvement in compressor cleanliness and multi-fold increase in oil life can therefore be expected when switching from conventional refrigeration oils to Aircol AMS.

Aircol AMS can be used in both reciprocating and screw type compressors running on ammonia refrigerant. Due to the high viscosity index of Aircol AMS compared to the normal naphthenic based refrigeration oils, it is capable of providing better wear protection to the compressor components, particularly under high discharge temperature.

To achieve the maximum benefits and increased oil life offered by Aircol AMS, it is recommended that flushing oil with high solvency should be used to clean the compressor of any residual oil before filling. One cost effective way to achieve this is by running the compressor on normal naphthenic based refrigeration oil for about 50 hours or so, then the flushing oil can then be drained off before refilling with a fresh charge of Aircol AMS.

### Advantages

- Good thermal stability with very low carbon residue formation tendency.
- Immiscible and non-reactive towards ammonia refrigerant over the entire operating temperature range, ensuring problem free operation.
- Good low temperature flow properties.

- Narrow cut base oils with low volatility, capable of reducing oil carry-over from the compressors, lowering the oil top-up rate, preventing rapid viscosity increase and prolonging oil life.
- High viscosity index providing good wear protection to the compressor components even at high discharge temperature.

### Typical Characteristics

Test	Method	Unit	Aircol AMS 68
Appearance	Visual	-	Clear light yellow
Density @ 15°C / 59°F	ASTM D4052	kg/m <sup>3</sup>	0.8696
Kinematic Viscosity @ 40°C	ASTM D445	mm <sup>2</sup> /s	68
Kinematic Viscosity @ 100°C	ASTM D445	mm <sup>2</sup> /s	9.5
Viscosity Index	ASTM D2270	-	114
Flash Point - open cup method	ASTM D92	°C	230
Foam Sequence I - tendency / stability	ASTM D892	ml/ml	10/0
Pour Point	ASTM D97	°C	< -36
Copper corrosion (24 hrs@100°C)	ASTM D130	Rating	1

Subject to usual manufacturing tolerances

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