# **Refrigeration Lubricants**

# CARINA ES





### **Desciption**

**CARINA ES** lubricant range is based on synthetic polyol esters (POE) formulated for performance in refrigeration and air conditioning compressors using HFC, CFC or HCFC refrigerants.

#### **Features**

These synthetic lubricants are chemically and thermally stable for cleaner operating performance, and provide wear protection for contact surfaces for longer system life and system efficiency. They are miscible over the required broad temperature ranges of commercial/industrial systems.

# **Typical Physical and Chemical Properties**

| CARINA ES                         | Test Method | 22    | 32    | 46    | <i>5</i> 5 | 68    | 100   |
|-----------------------------------|-------------|-------|-------|-------|------------|-------|-------|
| Appearance                        | Visual      | C & B | C & B | C & B | C & B      | C & B | C & B |
| Kinematic Viscosity @ 40°C, cSt   | ASTM D 445  | 22    | 32    | 46    | 55         | 68    | 95    |
| Kinematic Viscosity @ 100°C, cSt  | ASTM D 445  | 4,20  | 5,85  | 7,25  | 8,20       | 9,10  | 11    |
| Neutralization Number, mg KOH/g   | ASTM D 974  | <0,01 | <0,01 | <0,01 | <0,01      | <0,01 | <0,01 |
| Density @ 15°C, g/cm³             | ASTM D 1298 | 0,995 | 0,985 | 0,980 | 0,970      | 0,964 | 0,961 |
| Flash Point COC, °C               | ASTM D 92   | 240   | 250   | 251   | 253        | 260   | 265   |
| Pour Point, °C                    | ASTM D 97   | -50   | -45   | -42   | -40        | -39   | -27   |
| CARINA ES                         |             | 120   | 170   | 220   | 320        | 370   |       |
| Appearance                        | Visual      | C & B | C & B | C & B | C & B      | C & B |       |
| Kinematic Viscosity @ 40°C, cSt   | ASTM D 445  | 120   | 165   | 220   | 320        | 370   |       |
| Kinematic Viscosity @ 100°C, cSt  | ASTM D 445  | 13,6  | 17    | 19    | 27         | 31    |       |
| Neutralization Number, mg KOH/g   | ASTM D 974  | <0,01 | <0,01 | <0,01 | <0,01      | <0,01 |       |
| Density @ 15°C, g/cm <sup>3</sup> | ASTM D 1298 | 0,965 | 0,968 | 0,968 | 0,970      | 0,972 |       |
| Flash Point COC, °C               | ASTM D 92   | 275   | 290   | 288   | 289        | 290   |       |
| Pour Point, °C                    | ASTM D 97   | -27   | -26   | -26   | -25        | -24   |       |

#### Packaging and Storage

Should be stored sealed under normal storage conditions. Shelf life in original package and at room temperature is 2 years. Available in 5 LT & 20 LT pails and 208 LT drums.

## **Health and Work Safety**

Normal safety precautions (i.e. gloves and safety goggles) should be employed when handling. Avoid eye and prolonged skin contact. Wash thoroughly after handling material. For more information please see the Material Safety Data Sheet (MSDS).

Data brought back in the present informative technical sheet describe the indicative medium characteristics of the product: these can be varied without warning and they do not constitute sale specifications.

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Manufactured in an ISO 9001, 14001 and 18001 certified plant.