



# HYDRO EPSILON HEAT TRANSFER OIL

## Product Description:

United Hydro Epsilon Heat Transfer Oil is premium heat transfer oil designed to give outstanding service in a variety of applications. United Hydro Epsilon Heat Transfer Oil is blended from highly refined hydro-treated base oil and fortified with oxidation inhibitors to enhance high temperature performance and stability. United Hydro Epsilon Heat Transfer Oil is resistant to oxidation and high temperature degradation, giving this fluid a long usable life and minimizing deposit formation that can be inhibit efficient heat transfer.

United Hydro Epsilon Heat Transfer Oil may be used in both open and inert gas blanketed close heat transfer systems. The maximum temperature for use in an open system shall not exceed 150°C at the point where the oil is exposed to the air. In closed, inert gas blanketed systems, United Epsilon Heat Transfer Oil can be used up to 320°C.

## Applications / Benefits:

- ▣ Blended with naturally high VI base oils.
- ▣ Contains high temperature oxidation inhibitors.
- ▣ Minimizes deposit formation.
- ▣ Long fluid life.

## Typical Characteristics:

| Test Description                 | Method      | 22     | 32      | 46      | 68      | 100     |
|----------------------------------|-------------|--------|---------|---------|---------|---------|
| ISO Viscosity Grade              | -           | 22     | 32      | 46      | 68      | 100     |
| Specific Gravity @ 15 °C         | ASTM D 4052 | 0.854  | 0.863   | 0.869   | 0.872   | 0.873   |
| Flash Point, °C                  | ASTM D 92   | 210    | 220     | 225     | 228     | 238     |
| Pour Point, °C                   | ASTM D 97   | -24    | -24     | -21     | -18     | -18     |
| Kinematic Viscosity, cSt @ 40°C  | ASTM D 445  | 22     | 32      | 46      | 68      | 100     |
| cSt @ 100°C                      | ASTM D 445  | 4.47   | 5.34    | 6.69    | 8.61    | 11.3    |
| Viscosity Index                  | ASTM D 2270 | 115    | 98      | 97      | 97      | 98      |
| Color                            | ASTM D 1500 | <0.5   | <0.5    | <0.5    | <0.5    | <0.5    |
| Coefficient of Thermal Expansion | per °c      | 0.0074 | 0.00076 | 0.00077 | 0.00078 | 0.00079 |

### Specific Heat Capacity

| Temperature, °C                          | 25   | 100  | 150  | 200  | 250  | 300  |
|--|------|------|------|------|------|------|
| ISO 22 Specific Heat Capacity, kJ/kg.°C  | 1.82 | 2.08 | 2.21 | 2.49 | 2.73 | 2.91 |
| ISO 32 Specific Heat Capacity, kJ/kg.°C  | 1.89 | 2.17 | 2.33 | 2.51 | 2.72 | 2.88 |
| ISO 46 Specific Heat Capacity, kJ/kg.°C  | 1.95 | 2.21 | 2.36 | 2.52 | 2.7  | 2.87 |
| ISO 68 Specific Heat Capacity, kJ/kg.°C  | 1.97 | 2.24 | 2.41 | 2.53 | 2.67 | 2.85 |
| ISO 100 Specific Heat Capacity, kJ/kg.°C | 1.99 | 2.27 | 2.45 | 2.55 | 2.65 | 2.82 |

|                           |     |
|---------------------------|-----|
| Max. Film Temperature, °C | 340 |
| Max. Bulk Temperature, °C | 320 |