



**LUBRICANTS™**

**POWER TO PERFORM™**

## HYTHERM S

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Hytherm S is a premium quality Heat Transfer Oil specifically developed for heat transfer system where skin temperature goes up to 345°C and bulk temperatures up to 330°C. This product is derived from synthetic base stocks and is fortified with high performance additives to enhance the performance at higher temperature.

#### THE SALIENT FEATURES ARE GIVEN BELOW:

- Ability to withstand higher bulk operating temperatures up to 330°C
- Reduced oxidation and improved thermal degradation, hence longer life
- Reduced tendency of thermal cracking and hence lower drop in flash point as compared to mineral oil

#### APPLICATION AREAS:

Hytherm S gives excellent performance in high temperature Heat Transfer. When provided with proper nitrogen blanketing this fluid can perform well and resist thermal cracking over a period of time leading to lower drop in flash point as compared to mineral oils. This is an excellent heat transfer fluid and finds a wide range of applications in Textile, Pharmaceutical, Chemical and Processing units.

|  |                |
|--|----------------|
| Appearance   | Clear & Bright |
| Max. Film temperature, °C                          | 345            |
| Pour point, °C                                     | -45            |
| Flash point, °C                                    | 204            |
| Fire point, °C                                     | 224            |
| Auto ignition temp; °C                             | 426            |
| Copper Strip Corrosion, At 3 Hrs, 100°C, ASTM, Max | 1              |
| Total acid no; mgKOH /g                            | 0.02           |
| Boiling range, °C Initial (IBP)                    | 350            |
| Final (FBP)  | 400            |
| Ash, %wt.  | 0.005          |
| CCR, %wt.  | 0.07           |
| RBOT oxidation life, minutes                       | >500           |



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|                      |                       |       |       |       |       |       |       |       |       |       |       |
|----------------------|-----------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Temp, °C             | 50                    | 100   | 150   | 200   | 240   | 250   | 260   | 270   | 280   | 290   | 300   |
| Sp.Heat, Btu/Lb/ of  | 0.478                 | 0.526 | 0.574 | 0.634 | 0.672 | 0.682 | 0.692 | 0.703 | 0.715 | 0.728 | 0.741 |
| Sp. Gravity          | 0.858                 | 0.825 | 0.792 | 0.758 | 0.741 | 0.724 | 0.717 | 0.711 | 0.704 | 0.698 | 0.691 |
| Kin. Viscosity, cSt  | 25.52                 | 4.34  | 1.96  | 1.52  |       |       |       |       |       |       |       |
| Vapour               |                       |       |       |       |       |       |       |       |       |       |       |
| pressure; mm Hg      | $0.45 \times 10^{-3}$ | 0.03  | 0.72  | 8     |       | 50    |       |       |       | 240   |       |
| Thermal conductivity |                       |       |       |       |       |       |       |       |       |       |       |
| Btu / Hr / ft of     | 0.089                 | 0.083 | 0.079 | 0.073 | 0.069 | 0.068 | 0.067 | 0.066 | 0.065 | 0.065 | 0.064 |

### PANEL COKER PERFORMANCE TEST

(For evaluation of Thermal Stability of Heat Transfer Fluids)

|                            |         |         |         |         |         |
|----------------------------|---------|---------|---------|---------|---------|
| TEST CONDITIONS            |         |         |         |         |         |
| Panel Temperature, °C      | °C 250  | 275     | 300     | 325     | 350     |
| Sump Temperature, °C       | 121     | 121     | 121     | 121     | 121     |
| Duration, hrs              | 4       | 4       | 4       | 4       | 4       |
| Run/Bake Cycle, min        | 2.2/0.8 | 2.2/0.8 | 2.2/0.8 | 2.2/0.8 | 2.2/0.8 |
| Nitrogen flow rate, lt/min | 0.3     | 0.3     | 0.3     | 0.3     | 0.3     |
| Sump Capacity, gms         | 233     | 233     | 233     | 233     | 233     |
| RESULTS                    |         |         |         |         |         |
| HYTHERM S                  | 0.00    | 0.00    | 1.3     | 2.7     | 18.9    |