



INDUSTRIAL
LUBRICANTS &
SERVICES LIMITED

Technical Data sheet

ILS Heat Transfer Fluid

Solvent Refined Paraffinic Mineral Oil

Description

ILS Heat Transfer fluid is produced from high quality (Group II) solvent refined mineral oil base stock. This highly paraffinic oil has been produced using solvent extraction of high vacuum distilled feedstock to provide a thermally stable product with low vapour pressure and high specific heat conductivity with a spontaneous combustion temp of greater than 380°C.

The low viscosity of the **ILS Heat Transfer fluid** ensures good circulation from cold start up and a higher efficiency of heat transfer than the higher viscosity, higher flash point products.

Applications

ILS Heat Transfer fluid is suitable for use in closed, liquid phase, non-pressurized, circulating heat transfer systems operating at bulk fluid temperatures of up to 300°C and a maximum film temperature of 340°C.

Commonly used in many industries such as the food, construction, timber processing & metal industries where process heat is required as part of the manufacturing process and direct heating is not suitable.

While oxidatively stable, all mineral oil-based heat transfer fluids do require good system design to maximize their working life. An effective venting system should be incorporated into the system design and the only exposure to atmospheric oxygen should be via the expansion tank where temperatures should not exceed 50°C. (If temperatures of >50°C are encountered then Nitrogen blanketing is recommended.)

Purpose built system filtration is highly recommended to reduce any wear attributable to carbonaceous deposits.

System Flush

Most heat transfer systems run 10-15 years between change outs and during this time sludge and varnish deposits inevitably accumulate in lower temperature/ low flow segments of the system.

Prior to changing a heat transfer fluid it is recommended to use a suitable highly basic organic detergent to be added to the existing system to facilitate the removal of these deposits which will increase replacement oil life and improve heat transfer efficiency.

Contact the technical help line on 0800 10 40 17 for further details on a suitable product.

Product Data

Parameter	Test Method	Units	Typical Results	Specification
Appearance		-	C&B	C&B
Density @ 15 °C	ASTM D1298	Kg/L	.855	Report
Kinematic Viscosity @ 40°C	ASTM D445	cSt	29	28-35
Kinematic Viscosity @ 100°C	ASTM D445	cSt	5.2	4.5-5.5
Viscosity Index	ASTM D2270	-	110	100 min
Flash Point, PMCC	ASTM D93	°C	210	200 min
Flash Point, COC	ASTM D92	°C	222	report
Auto ignition Temperature		°C	>380	
Copper Strip Corrosion (3 hrs @ 100°C)	ASTM D130	-	1A	1A max
Pour Point	ASTM D5950	°C	-15	-12 max
Total Acid Number	ASTM D94	Mg(KOH) /g	0.01	0.03 max
Hydrocarbon Type				
Paraffinic	ASTM D2140	%w/w	66	
Aromatic			1	
Napthenic			33	
Water Content	ASTM D 1744	%vol	<.005	.01 max

Thermodynamic Characteristics

Specific Heat Capacity			
@ 200°C	-	kJ/kg°C	2.5
@ 300°C	-	kJ/kg°C	2.9
Thermal Conductivity			
@ 200°C	-	W/m°C	0.120
@ 300°C	-	W/m°C	0.113
Coefficient of Thermal Expansion	-	per °C	0.00077

The above figures are typical values and do not constitute a specification