



SUNOCO HEAT TRANSFER FLUIDS

OVERVIEW

SUNOCO HEAT TRANSFER OILS serve as excellent heat transfer media for manufacturing processes where temperatures will not exceed 600°F. In properly designed closed systems equipped with expansion tanks, they will provide excellent service and are non-corrosive. These premium oils are highly refined paraffinic oils with excellent oxidation stability and low temperature properties.

APPLICATIONS

SUNOCO HEAT TRANSFER OILS are designed for use in closed system boilers and other transfer systems equipped with expansion tanks where temperatures do not exceed 600°F. These fluids should only be utilized in sealed systems free from oxygen. Where the presence of oxygen may occur, inert gas blanketing is required to prevent rapid fluid oxidation.

- **Optimal system operating temperature for these fluids is between 250° F and 350° F for non-blanketed systems & 500 - 550° F for blanketed systems.**
- **Maximum continuous film temperature for these fluids is 550° F.**
- **Maximum momentary film, system or spot temperature for these fluids is not to exceed 600° F.**

FEATURES & BENEFITS

SUNOCO HEAT TRANSFER OILS employ highly refined base stocks for efficient heat conduction and excellent thermal and oxidation stability. They are non-corrosive and help minimize coking and varnish build up.

When fluid temperatures exceed 600° F, the degradation of this product will occur at a rapid and exponential rate. A properly maintained HTO system can utilize these fluids for many numbers of years.

TYPICAL PROPERTIES

PRODUCT CODE	12813	1613	12443	1603	1653
Product	HTO 22	HTO 32	HTO 21	HTO 46	HTO 68
Viscosity, cSt @ 100°C	3.8	5.6	6.2	7.0	8.6
Viscosity, cSt @ 40°C	22	32	40	46	68
Viscosity, SUS @ 100 °F	100	150	200	250	350
Viscosity Index	109	113	100	109	96
Flash Point, °C	190	215	225	230	240
Pour Point, °C	-17	-15	-13	-15	-12
Color	0.5	0.5	0.5	1.0	2.0
Conradson Carbon, %	Nil	Nil	Nil	Nil	Nil



SUNOCO HEAT TRANSFER FLUIDS TYPICAL THERMAL DATA

PROPERTY	METHOD				
ISO Grade		32/46	22	32	46
Specific Gravity @ 60°F					
@ 15.6°C (60°F)		0.867	0.854	0.864	0.871
@ 38°C (100°F)		0.853	0.840	0.850	0.857
@ 160°C (320°F)		0.775	0.762	0.772	0.779
@ 288°C (550°F)		0.693	0.680	0.690	0.697
@ 316°C (600°F)*		0.675	0.662	0.672	0.679
Density, lbs/gal @ 60°F					
@ 15.6°C (60°F)		7.22	7.11	7.19	7.25
@ 38°C (100°F)		7.10	6.99	7.08	7.13
@ 160°C (320°F)		6.45	6.34	6.43	6.48
@ 288°C (550°F)		5.77	5.66	5.74	5.80
@ 316°C (600°F)*		5.62	5.52	5.60	5.66
Color, ASTM D1500	ASTM D1500	0.5	1.0	1.0	1.0
Flash Point (COC), °C (°F)	ASTM D92	222 (432)	215 (419)	218 (424)	240 (464)
Auto-ignition Temperature, °C (°F)	ASTM E659	348 (658)	339 (642)	342 (648)	343 (649)
Pour Point, °C (°F)	ASTM D97	-15 (5)	-18 (0)	-42 (-44)	-39 (-38)
Viscosity	ASTM D445				
cSt @ 40°C		40.0	22.5	31.7	46.0
cSt @ 100°C		6.3	4.43	5.5	6.8
Viscosity Index	ASTM D2270	105	106	110	102
Acid Number, mg KOH/g	ASTM D974	0.02	0.28	0.28	0.28
Carbon Residue, wt %	ASTM D524	0.04	0.17	0.17	0.17
Oxidation Stability, RPVOT, minutes	ASTM D2272	---	57	57	57