



Perfecto HTS 0801

Synthetic Heat Transfer Fluid

Description

Castrol Perfecto™ HTS 0801 is a clear, off-white, synthetic heat carrier basing on isomere dibenzyltoluene.

Application

Castrol Perfecto HTS 0801 is recommended for use in pressureless closed heat transfer systems with high operating temperatures. Castrol Perfecto HTS 0801 can be used in an operating temperature range between $-5\text{ }^{\circ}\text{C}$ (up to this temperature it can be conveyed by means of usual centrifugal pumps) and approx. $+350\text{ }^{\circ}\text{C}$ flow temperature. The film temperature, i.e. the wall temperature on the heat carrier side, must not exceed $380\text{ }^{\circ}\text{C}$ at any point of the plant. Otherwise you would be running the risk of a thermal decomposition of the heat carrier. Prior to filling the heat carrier system it should be subject to a pressure test with regard to any possible leakages (do not use water). Subsequently the system should be rinsed and filled with new Castrol Perfecto HTS 0801. During the filling process it should be ensured that the heat carrier system is adequately ventilated. During commissioning the system should slowly be heated up. At approx. $120\text{ }^{\circ}\text{C}$ the temperature should be kept at a constant level for some time in order to allow any existing moisture to evaporate. The expansion vessel is the only place where the heat carrier gets into contact with air. Although Castrol Perfecto HTS 0801 is resistant to oxidation the heat carrier should be covered with inert gas (e.g. nitrogen) at very high temperatures.

Advantages

- broad temperature range
- good thermal stability
- maximum operating temperature is higher compared to heat carriers based on mineral oil
- no boiling range but elevated boiling point
- high maximum allowable film temperature

Typical Characteristics

Name	Method	Units	HTS 0801
Appearance			Yellow
Density at 15°C	ISO 12185/ ASTM D4052	g/ml	1.04
Viscosity @ 20°C	ISO 3104/ ASTM D445	mm ² /s	47
Viscosity @ 40°C	ISO 3104/ ASTM D445	mm ² /s	16.5
Viscosity @ 100°C	ISO 3104/ ASTM D445	mm ² /s	3.1
Flash Point, COC	ISO 2592/ ASTM D92	°C	200
Flash Point, PMC	Visual	-	205
Pour Point	ISO 3016	°C	- 34
Acid Number, Total (Potentiometric)	DIN 51558	mg KOH/g	<0.05
Tendency to carbonize	DIN 51551	% by weight	0.03
Specific heat capacity (At 0°C / At 360°C)		kJ/kg K	1.48 / 2.82
Thermal conductivity (At 0°C / At 360°C)		W/mK	0.133 / 0.086
Increase in volume (At 100°C / At 200°C / At 350°C)		%	7.1 / 15.5 / 30.5
Steam pressure at 360°C		hPa	470
Admissible operating temperature (Flow temperature / Film temperature)		°C	350 / max. 380
Autoignition Temperature	DIN 51794	°C	450
Cl - org.	DIN 51408	ppm	< 10

Subject to usual manufacturing tolerances

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