

OVERVIEW

Duratherm 450FG is rated for use up to 450°F and ideal for applications such as blow molding, injection molding or any application where lower working temperatures are required or for applications requiring both heating and cooling cycles between 30°F and 450°F.

Duratherm 450FG meets USDA requirements for incidental food contact and NSF registered HT1 and meets the requirements of 21CFR1783570.

APPLICATION

Duratherm 450FG is specifically engineered for applications requiring a food grade thermal fluid for process heating and cooling precisely and efficiently between 30°F and 450°F.

Offering precise temperature control and long life at an economical cost Duratherm 450FG is ideal for low temperature applications such as blow molding, injection molding, pharmaceutical manufacturing or any application requiring batch heating and cooling

THE DIFFERENCE

Our exclusive additive package, including a proprietary dual stage anti-oxidant, ensures long trouble free operation. Duratherm 450FG also incorporates metal deactivators, a seal and gasket extender, de-foaming and particle suspension agents.

LASTS LONGER

In the heat transfer fluid industry cost is always a concern, however, fluid longevity and resistance to harmful fouling are of equal importance.

Air contact is normally detrimental to a fluid. Oxidation can cripple your system and if left unchecked will ultimately cause catastrophic failure. Unscheduled downtime due to oil failure has a high cost and negative effect on production.

The Duratherm product line was developed with this in mind. Most other fluids fall short in their protection from oxidation and can quickly foul a system. Duratherm is engineered to give unsurpassed levels of protection and service life.

ENVIRONMENTAL

Duratherm 450FG is environmentally friendly, non-toxic, non-hazardous and non-reportable. Worker health and safety is of great concern, Duratherm 450FG poses no ill effect to worker safety. After its long service life it can easily be disposed of with other waste oils.

DURATHERM 450FG PROPERTIES

Appearance: colorless, clear and bright liquid		
Maximum Bulk/Use Temp.*	450°F	232°C
Flash Point ASTM D92	302°F	150°C
Fire Point ASTM D92	327°F	163°C
Autoignition ASTM E-659-78	625°F	329°C
Viscosity ASTM D445		
cSt at 104°F / 40°C	4.8	
cSt at 250°F / 121°C	1.3	
cSt at 450°F / 232°C	0.6	
Pour Point ASTM D97	-49°F	-45°C
Density ASTM D1298		
at 100°F / 38°C	lb/ft ³	g/ml
	53.1	0.850
at 250°F / 121°C	49.5	0.793
at 450°F / 232°C	44.8	0.717
Average Molecular Weight	372	
Carbon Residue ASTM D189	0.005	% Mass
Sulphur Content X-RAY	<.001	weight %
CU Strip Corrosion ASTM D130	1a	
Thermal Expansion Coefficient		
	0.0564 %/°F	0.1011 %/°C
Thermal Conductivity		
	BTU/hr F ft	W/m.K
at 100°F / 38°C	0.082	0.142
at 500°F / 260°C	0.079	0.137
at 600°F / 316°C	0.074	0.128
Heat Capacity		
	BTU/lb F	kJ/kg K
at 100°F / 38°C	0.510	2.135
at 250°F / 121°C	0.57	2.386
at 450°F / 232°C	0.650	2.721
Vapor Pressure ASTM D2879		
	psia	kPa
at 100°F / 38°C	0.09	0.62
at 250°F / 121°C	0.33	2.28
at 450°F / 232°C	3.23	22.27
Distillation Range ASTM D2887		
	10%	481°F (249°C)
	90%	851°F (455°C)
*Maximum Film Temp.	490°F	254°C

The values quoted are typical of normal production. They do not constitute a specification.