MOTUL TECH

DATA SHEET

SAFCAL 55

Heat Transfer Oils

DESCRIPTION

SAFCAL 55 is a fluid based on modified polyalkylene glycol to ensure optimum performance in heat transfer applications.

In particular, it is completely soluble in water and absorbs it in case of accidental pollution in the systems, thereby minimising the risks of appearance of vapour.

SAFCAL 55 furthermore acts as a solvent for its own thermal degradation products, preventing deposits of sludge and gum in the systems.

APPLICATIONS

Most types of material, including synthetic rubber are compatible with **SAFCAL 55**. Special seals, gaskets and packaging are generally not necessary except in the case of very high temperature applications; in this instance VITON / FKM seals are recommended.

ADVANTAGES

- Completely soluble in water.
- Excellent heat-transfer capacity.
- Excellent lubricating power.
- High flash point.
- Excellent viscosity / temperature performance.
- Can be used up to 260 - 270 °C.
- Better system cleanliness.
- High chemical, thermal and hydrolytic stability.

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TECHNICAL INFORMATION

NAME	UNITS	METHOD	SAFCAL 55
Density at 20°C (68°F)	g/mL	ASTM D1298	1.039
Viscosity at 40°C (104°F)	mm²/s	ASTM D445	55.0
Viscosity at 100°C (212°F)	mm²/s	ASTM D445	11.0
Viscosity Index	-		200.0
Flash point	°C	ASTM D92	244.0
Pour point	°C	ASTM D97	-37.0
Expansion Coefficient	per °C		0.00076 at 20 °C
Self-Ignition Point	°C		400.0
Temperature range	-		Max. 290 °C
Specific Gravity	-		1.05 at 60 °C
Moisture content, max.	%		<0.25

These characteristics are given only for information and can be updated over time.

FLUID FLOW

Two essential parameters for determining fluid flow are the temperature uniformity required across the processing equipment and the circulation rate required in the heaters to prevent local overheating of the fluid. The heat demand of the equipment determines the first parameter. The circulation rate in the equipment must be sufficient to ensure that the temperature drop between inlet and outlet is within temperature tolerances required by the process.

For example, for a working temperature of 260 °C a skin temperature of 280 °C is permitted for the fluid providing the fluid flow is at least 3 m/sec.

THERMAL STABILITY

Heat transfer applications in properly designed closed, vented systems with bulk fluid temperatures up to 260 °C. Above 260 °C the fluid life is not long enough to make it practicable for process heating except in a few cases where certain properties of the fluid may be desired. Below 260 °C a charge of fluid will usually last from one to several years, depending on the design of the system and the operating temperature.

HEAT TRANSFER SYSTEM PREPARATION

The presence of oil residue, sludge, scale-like material or other contaminants can disrupt the sensitivity of controls, foul up valves and impair the heat transfer characteristics of a system. Contamination also reduces the service life of a new fluid charge. Therefore, when the service life of a fluid is exhausted, or when **SAFCAL 55** is substituted for a competitive product, or even with initial charge of a new system, the system should be thoroughly cleaned before introducing the fresh fluid. This operation will prolong the service life of the replacement fluid and ensure satisfactory operation conditions of the system.

SERVICES AND EQUIPMENT

In addition to its product ranges, MotulTech can provide tools and services for the maintenance and monitoring of your lubricants. Please contact your technical sales representative for more information.