Tentative Bulletin

MCS 681

A low cost heat transfer fluid for use to 575°F. A suitable flushing fluid for Therminol FR fluid conversions.

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Monsanto Industrial Chemical Co.
Specialty Products

3/72 R

TOWOLDMON0021334
WATER_PCB-00005803

Typical Properties of MCS 681

Composition	Refined, aromatic oil
Appearance	Yellow, oily liquid
Odor	Faint
Pour Point	-15°F
Flash Point, C.O.C.	350°F
Fire Point, C.O.C.	390°F
Autoignition Temperature	675°F
API Gravity 60/60	22
Specific Gravity at 75°F	0.925
Density, Lb./Gal. at 75°F	7.7

MCS 681 is a low cost, refined aromatic oil for use as a flushing and/or heating fluid.

Conversions from other heat transfer fluids, such as the PCB-containing Therminol FR fluids, can leave undesirable residual fluid in the system. A flush of the drained system with MCS 681 is suggested as a fast, effective method for removing undesirable residual fluid and dirt where heating surfaces are not heavily fouled.

MCS 681 has both compatibility and thermal stability for subsequent operation with most heat transfer fluids to 600°F. Should system temperatures above 600°F be required, we suggest MCS 681 flush fluid be removed as completely as possible to prevent formation of unnecessary decomposition products.

MCS 681 can also be used as a heat transfer fluid in non-pressurized, indirect heating systems to 600°F. For long term use we recommend a maximum bulk fluid temperature of 575°F.

MCS 681 is not a fire resistant fluid, even though it has a high flash and fire point. Suitable precaution should be taken to minimize the risk of fire when using MCS 681 above its flash point.

Heat transfer fluids are intended for indirect heating purposes only. Under no circumstances should flushing or heating fluids contact or in any way contaminate food, animal feed, food products, food packaging materials, pharmaceuticals or any food related items. Any contact may contaminate these items to the extent their destruction may be required.

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MCS 681

Variations of Physical Properties With Temperature

Temperature °F	Temperature °C	Density lb/gal.	Kg/m^3	Specific Heat Btu/lb.°F	Thermal Conductivity Btu/Hr.Ft.°F	Visc. cs	Vapor Pressure mm Hg at
0	-18	7.90	948	0.39	0.073	4000	-
100	38	7.60	912	0.431	0.071	32	0.8
200	93	7.31	877	0.472	0.069	5.7	5.5
300	149	7.01	841	0.516	0.067	2.3	28
400	204	8.71	805	0.556	0.064	1.25	100
500	260	6.43	770	0.599	0.062	0.87	300
600	3.6	6.13	735	0.640	0.060	0.63	700

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