Tentative Bulletin

MCS 681

A suitable flushing fluid for Therminol FR fluid conversions.

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Monsanto Industrial Chemical Co.
Specialty Products

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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 fluid.

Conversions from various heat transfer fluids, such as the PCB-contining Therminol® FR fluids, can leave an undesirable fluid residue 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 is both compatible and thermally stable to 600°F with most heat transfer fluids. Certain polyglycol-based heating fluids, however, are not completely soluble in MCS 681.

Should system temperatures above 600°F be required, we suggest MCS 681 flush fluid be removed completely to prevent formation of undesirable decomposition products.

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.

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	°C	Density lb/gal.	Kg/m^3	Specific Heat Btu/lb.°F	Thermal Conductivity Btu/Hr.Ft.°F	Visc. cs.	Vapor Pressure mm Hg abs.
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	316	6.13	735	0.640	0.060	0.63	700

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