[redacted] CHEMICAL COMPANY

[redacted]
St. Louis 66, Missouri

June 19, 1961

Mr. O. M. Fletcher
[redacted]
P. O. Box 1642
Shreveport, Louisiana

Dear Ollie:

As we discussed by phone this morning, this letter will confirm the data on our new low pour point version of OS-81. This product will be known as MCS 153. Comparative data with OS-81 are given in the enclosed table.

MCS 153 is very similar to OS-136, which I have previously discussed with you, except for water sensitivity and emulsibility. In these respects, MCS 153 is quite satisfactory and is very similar to OS-81. The curves I sent you on variation of thermal conductivity, specific heat, and specific gravity with temperature for OS-136 are applicable to MCS 153.

MCS 153 appears to be a direct replacement for OS-81 as a fire-resistant turbine lubricant. Preliminary evaluations have shown that the two fluids are compatible and have similar effects on materials of construction. Fire-resistance, lubricating ability and general characteristics of MCS 153 make it useful in the same applications as OS-81. The advantage of MCS 153 is a 50°F. lower pour point. This is also shown by the viscosity-temperature data which indicates that MCS 153 and OS-81 have about the same viscosity at 50°F. and 40°F., respectively.

I hope I have covered all the points we discussed. If not or if you have further questions, please let me know.

Very truly yours,

Roger E. Eatton
Project Manager
DEVELOPMENT DEPARTMENT

Enclosure

TW2-2003825

WATER_PCB-00038068

COMPARATIVE DATA ON MONSANTO FIRE-RESISTANT TURBINE LUBRICANTS

	MCS 153	OS-81
Viscosity, SUS:		
at 210°F.	3[illegible]	[illegible]
at 175°F.	42.1*	4[illegible].2*
at 100°F.	10[illegible]	159
at 40°F.	2,160	14,800
at 20°F.	17,000	920,000**
Four-Ball Wear (in mm scar diameter):		
600 rpm, 167°F., [illegible]		
Steel/[illegible] 10 kg	0.23	0.27
[illegible]	0.33	0.35
Steel/[illegible] 10 kg	0.92	1.25
Timken Test:		
Passing load	40 lbs.	30 lbs.
Oxidation-Corrosion (168 Hr., 250°F.):		
Metal Attack, mg/cm		
Al	-0.01	0
Mg	-0.01	-0.01
Cu	-0.04	-0.08
Fe	0	0
Cd/Fe	-0.01	-0.10
Viscosity, cs		
100°F Initial	22.55	34.9
100°F Final	24.71	35.6
% Change	+9.6	+2.0
210°F Initial	3.24	3.12
210°F Final	3.31	3.15
% Change	+2.1	+1.6
Acidity		
Initial, TAN	0.0	0.6
Final, TAN	0.0	0.11
Specific Gravity, 60°/60°F.	1.34	1.40
Pour Point, °F.	0	+20
Flash Point, COC	300°F.	385°F.
Fire Point, COC	560°F.	660°F.
Air Oxidation [illegible]	1130°F.	1260°F.

* Interpolated
** Extrapolated

6-19-61

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