Monsanto

FROM (NAME & LOCATION) L. R. Stark - Research Center

DATE : June 16, 1970

SUBJECT : AUTO TRANSMISSION SEAL SWELL AGENTS

REFERENCE :

cc W. R. Richard
H. S. Bergen
D. Hall/DFS/DAP
P. Heimsch/PDF

HBERG
DHALL
D. Olson

TO : N. T. Johnson - NJOHN

Aroclor 1221 is recommended as a "biodegradable" replacement for Aroclor 1242 in automatic transmission seal swell formulations (Wynn Oil and Radiator Specialties).

At concentrations of 2 and 5% in a commercial ATF fluid (Amoco Type F) and at 150°F and 180°F for one week, swelling of Neoprene and Buna N "O" ring seals were equivalent with both Aroclor 1242 and 1221 (see attached table).

Direct chlorinated Aroclor 1232 and 1237 as well as Aroclor 5442 were included in this series of tests. These also gave swell results equivalent to 1242, but would not be first choice due to potential manufacture and handling problems.

At this time we are not aware of other functional properties expected of this additive other than swell. This may be a question which should be asked of Wynn and Radiator Specialties.

L. R. Stark

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Att.

DSW 200260

STLCOPCB4058324

SEAL SWELL AROCLOR 1242

AND AROCLOR 1221 IN TYPE F ATF FLUID*

ADDITIVE		Swell Vol. % NEOPRENE 150°F**		Swell Vol. % NEOPRENE 180°F		Durometer Initial / Durometer Final BUNA N 150°F		Durometer Initial / Durometer Final BUNA N 180°F	
Aroclor 1221	0% wt.	16.3	74/66	19.5	74/64	0.76	71/70	0.81	71/72
	2%	18.9	74/66	22.4	74/64	2.3	71/70	3.3	71/68
	5%	22.9	74/65	25.8	74/63	4.9	71/68	3.7	71/68
Aroclor 1242	0%	16.3	74/66	19.5	74/64	0.76	71/70	0.81	71/72
	2%	18.4	74/66	21.8	74/64	1.6	71/70	2.9	71/69
	5%	21.6	74/65	25.3	74/63	3.9	71/68	4.9	71/72

* Amoco ATF Fluid

** 168 hr exposure time

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