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E. I. du Pont de Nemours and Company
Haskell Laboratory for Toxicology and Industrial Medicine

HASKELL LABORATORY REPORT NO. 2-63 MR NO. 597

Material Tested: Tetrafluoro-2-(heptafluoropropoxy)-propionic acid, ammonium salt — Haskell No.: 3108

Submitted by: C. W. Maynard, Jr., Organic Chemicals Department, Pioneering Research Division — Other Codes: PR-143J, HFPO Dimer Acid

ACUTE ORAL TEST

Procedure: The test material was administered by stomach tube as an aqueous solution in single doses to young adult ChR-CD male rats. Survivors were killed 14 days later.

Sol'n %	Dose (mg/kg)	Mortality*	Toxic Signs	Weight When Killed: Body (gm)	Weight When Killed: Liver (gm)	Liver Wt. / Body Wt. x 100	ALD
70	17,000	D - 2 hr.	Lethal Doses: Discomfort, gasping or tonic convulsions before death.				
70	12,963	D - 1 1/4 hr.					
70	11,000	D - 3 1/4 hr.					
70	7500	D - 3 1/4 hr.					
50	5000	S - 14 d.		331	17.2	5.2	7500 mg/kg
70	3400	S - 14 d.	Nonlethal Doses: Discomfort, increased water intake, inactivity, polyuria at higher levels, initial weight loss at 5000, 3400 and 2250 mg/kg.	365	18.6	5.1	
70	2250	S - 14 d.		380	18.9	5.0	
10	1000	S - 14 d.		372	16.5	4.4	
1	130	S - 14 d.		385	16.8	4.4	
0.1	12	S - 14 d.		360	14.7	4.1	
0.01	1.5	S - 14 d.		375	16.5	4.4	

* D - ( ) hr. = Found dead ( ) hours after dosing
S - ( ) d. = Sacrificed ( ) days after dosing

Summary:

HFPO dimer acid has low acute oral toxicity for the rat, its Approximate Lethal Dose (ALD) being 7500 mg/kg. At the three highest sublethal levels, the animals had slightly enlarged livers. As judged by histological examination, the slight effects on the liver (enlarged hepatocytes, pronounced cell membranes) resembled those caused by AHT, but were much less severe. These liver changes were the predominant ones noted and were seen at doses down to and including 2250 mg/kg. Of the other organs affected, the slight to moderate degenerative changes in the pancreas were notable. If this compound develops usefulness as a surface active agent and there is a possibility of customer exposure, further toxicity studies should be considered, particularly repeated exposures.

Report by: Henry Sherman
Henry Sherman
Toxicologist

Approved by: D. B. Hood
D. B. Hood
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J. Wesley Clayton, Jr.
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Date: January 3, 1963