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HASKELL LABORATORY REPORT NO. 788-82 [redacted]

Material Tested*	Haskell No.	Other Codes
Octanoic acid, pentadecafluoro-, ammonium salt	12,037	[redacted] C-8

Study Initiated/Completed
2/3/82-10/15/82

Material Submitted by
[redacted]
CR&D Department
Haskell Laboratory

ACUTE ORAL TOXICITY OF [redacted] AS A FUNCTION OF AGE

Summary: Ammonium perfluorooctanoate was slightly toxic when administered in single oral doses to the following groups of rats: weanlings (21 days old): males, LD50 = 573 mg/kg and females, LD50 = 580 mg/kg; young adults (approx. 8-10 weeks old): males, LD50 = 470 mg/kg and females, LD50 = 453 mg/kg; older rats: males, LD50 = 336 mg/kg and females, LD50 = 343 mg/kg ; newborn (< 2 days old): males, LD50 = 243 mg/kg and females, LD50 = 258 mg/kg. Toxicity in regards to the sex of the rats showed no significant difference. However, newborn (< 2 days old) and older rats had lower LD50 values than weanlings or young adult rats.

Procedure: The test material, as suspensions in corn oil, was administered by intragastric intubation in single doses to groups of Crl:CD® rats. The groups were (1) Male - Newborn (< 2 days old); (2) Female - Newborn (< 2 days old); (3) Male - Weanlings (21 days old); (4) Female - Weanlings (21 days old); (5) Female - Young adults (approx. 8-10 weeks old); (6) Male - Older rats; and (7) Female - Older rats. A Range Finding Study was conducted to determine the initial dose level for the LD50 test on Newborn (< 2 days old) rats**. The surviving rats were weighed and observed during a 14-day recovery period and then sacrificed. The LD50 values were calculated from the mortality data using the method of D. J. Finney.***

Results:

Dose (mg/kg)	Average Body Weight (g)	Suspension (%)	Average Dose (mL)	Mortality Ratio	LD50 ****
Male - Newborn (< 2 days old)					
370	6.2	1.0	0.23	10/10	243 mg/kg
330	6.1	1.0	0.20	10/10	
280	6.4	1.0	0.18	10/10	
240	6.2	1.0	0.15	4/10	
200	6.9	1.0	0.14	0/10	
130	7.6	1.0	0.10	0/10	
Deaths occurred up to 6 days after dosing.					
Female - Newborn (< 2 days old)					
320	5.8	1.0	0.19	10/10	258 mg/kg
280	5.7	1.0	0.16	6/10	
240	6.2	1.0	0.15	5/10	
220	7.1	1.0	0.15	0/10	
200	8.0	1.0	0.16	0/10	
160	6.0	1.0	0.10	0/10	
130	7.7	1.0	0.10	0/10	
Deaths occurred up to 4 days after dosing.					
Male - Weanlings (21 days old)					
710	68	3.0	1.62	8/10	573 mg/kg
670	82	2.5	2.21	7/10	
525	69	3.0	1.20	3/10	
450	87	2.5	1.56	2/10	
400	84	2.5	1.34	2/10	
350	87	2.5	1.21	0/10	
Clinical Signs: Stained and wet perineal area, weakness and weight loss. Deaths occurred up to 3 days after dosing.					
Female - Weanlings (21 days old)					
670	80	2.5	2.14	6/10	580 mg/kg
450	87	2.5	1.55	3/10	
400	80	2.5	1.28	3/10	
350	82	2.5	1.15	1/10	
Clinical Signs: Stained and wet perineal area, stained face, weakness and weight loss. Deaths occurred up to 3 days after dosing.					

Male - Young Adults (approx. 8-10 weeks old) [redacted]

470 mg/kg

Female - Young Adults (approx. 8-10 weeks old)

670	185	5.0	2.48	10/10	453 mg/kg
500	185	5.0	1.85	8/10	
425	182	5.0	1.54	2/10	
350	180	5.0	1.26	1/10	

Clinical Signs: Stained face, stained and wet perineal area, nasal discharge, diarrhea and weight loss. Deaths occurred up to 4 days after dosing.

Male - Older Rats

720	563	10	4.06	10/10	336 mg/kg
500	558	10	2.79	10/10	
400	543	10	2.18	10/10	
350	564	10	1.98	9/10	
300	501	3	4.95	0/10	
240	495	3	3.96	0/10	
200	648	3	4.32	0/10	

Clinical Signs: Stained face, stained and wet perineal area, weakness, tremors, lethargy, chromodacryorrhea, diarrhea and weight loss. Deaths occurred up to 9 days after dosing.

Female - Older Rats

670	350	10	2.34	10/10	343 mg/kg
450	355	10	1.60	9/10	
400	365	10	1.46	6/10	
350	358	10	1.26	5/10	
225	346	3	2.55	1/10	

Clinical Signs: Stained face, stained and wet perineal area, weakness, tremors, lethargy and weight loss. Deaths occurred up to 5 days after dosing.

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* Purity: [redacted]

Contaminants: [redacted]

Synonyms: o Ammonium perfluorooctanoate

[redacted]

o C-8

[redacted]

** Range-finding Study Results, Newborn Rats:

Dose mg/kg	Mortality Male	Female
130	0/4	1/11
210	0/7	0/3
300	2/5	5/6
375	4/5	7/7
425	3/3	7/7
500	1/1	8/8
575	7/7	4/4

*** Finney, D. J., Probit Analysis, 3rd Ed., 1971, Cambridge University Press.

**** 95% Confidence Limits:

	Lower (mg/kg)	Upper (mg/kg)	Slope
Male - Newborn (< 2 days old)	Undefined		55.7
Female - Newborn (< 2 days old)	244	276	19.9
Male - Weanlings (21 days old)	514	664	8.0
Female - Weanlings (21 days old)	470	2,258	4.7
Male - Young Adults (approx. 8-10 weeks old)	403	536	8.6
Female - Young Adults (approx. 8-10 weeks old)	413	503	15.0
Male - Older Rats	Undefined		
Female - Older Rats	285	390	8.0

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