

TECHNICAL REPORT SUMMARY

Date
8/4/78

TO: TECHNICAL COMMUNICATIONS CENTER - 201-2CN

(Important - If report is printed on both sides of paper, send two copies to TCC.)

Division CRL - Analytical and Properties Research Laboratory		Dept. Number 0502
Project Trace Fluorochemicals in the Environment		Project Number A000006
Report Title IRDC 137-092: FC-95/Monkey		Report Number 967
To J.E. Long		
Author(s) Jon Belisle		Employee Number(s) 88240
Notebook Reference		No. of Pages Including Coversheet

SECURITY ☐ Open ☒ Closed	3M CHEMICAL REGISTRY ☐	New Chemicals Reported ☐ Yes ☒ No
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KEYWORDS:
(Select terms from 3M
Thesaurus. Suggest other
applicable terms.)

CURRENT OBJECTIVE:

Requestor: J.E. Long; Request #A69507; Project #9172110004

Central Research
Analytical Report
Chemical/Analysis

REPORT ABSTRACT: (200-250 words) This abstract information is distributed by the Technical Communications Center to alert 3M'ers to Company R&D. It is Company confidential material.

The level of FC-95 was determined in the serum and livers of monkeys from the IRDC subacute toxicity study 137-092.

CENTRAL ANALYTICAL LABORATORY

Report No. 6967

Date August 4, 1978

Subject: IRDC 137-092: FC-95/Monkey

Requestor: J.E. Long

Dept. Name Toxicology

Proj. No. 9172110004

Request No. A69507

Dated 8/3/78

Report:

Reference 137-087 by IRDC was a 90 day subacute Rhesus monkey toxicity study of FC-95. Incorrect (too high) feeding levels were used and all animals died within the first few days. The feeding levels were lowered and the study started again as 137-092. The serum and livers were each individually submitted for analysis. Each group contained 4 monkeys, 2 male and 2 female as follows:

Group	Dosage Level	Survival
I	0	4/4
II	0.5 mg/kg/day	4/4
III	1.5 mg/kg/day	4/4
IV	4.5 mg/kg/day	0/4

SERUM ANALYSIS

Monkey	Dosage Level	FC-95 in Serum (ppm) ^①
Blank on Method	-	2
7355M	0	40
7358M	0	20
7368F	0	15
7463M	0.5 mg/kg/day	150
7466F	"	150
7462M	1.5 mg/kg/day	250
7500F	"	275

^① Our newly developed pyrolysis method was used. Precision is estimated to be $\pm 10 - 25\%$.

The high levels of FC-95 in the control serum cannot be explained. For example, 7355M was run on 2 different days with the same experimental results. Perhaps a total fluorine should be run on this sample to determine if this level of F is present. See Table below containing liver results for further discussion (Footnote 2).

LIVER ANALYSIS

Monkey	Dosage Level	FC-95 in Liver (mg) ^①	FC-95 in Liver (ppm)
7355M	0	3000	50
7368F	0	1500 ^②	20 ^②
7463M	0.5 mg/kg/day	7000	100
7466F	"	8000	100
7462M	1.5 mg/kg/day	45000	650
7500F	"	40000	600
7484M	4.5 mg/kg/day	40000	650
7502F	"	80000	1000

① The livers were stored in the refrigerator several months prior to analysis resulting in the separation of some liquid. The high values and physical size necessitates taking only partial livers in which case the same ratio (estimated visually) of solid to separated liquid was taken for analysis. In addition, recovery of FC-95 was estimated from experiments where FC-95 was added to a control liver.

② Because of a higher than expected value for the control, a 0.133 g liver sample was analyzed for total fluorine. The fluorine value calculated as FC-95 is equivalent to 11 ppm FC-95 in the liver. As time permits, more work should be done to verify these "high" control levels.


Jon Belisle

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