



Form 6747-11-A

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# ORIGINAL

## 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.)

AR226-0982

|                                                                                   |  |                                                                                                                                                |
|-----------------------------------------------------------------------------------|--|------------------------------------------------------------------------------------------------------------------------------------------------|
| Division<br>CRL - Analytical and Properties Research Laboratory                   |  | Dept. Number<br>0502                                                                                                                           |
| Project<br>Trace Fluorochemicals in the Environment                               |  | Project Number<br>A000006                                                                                                                      |
| Report Title<br>IRDC 137-092: FC-95/Monkey                                        |  | Report Number<br>967                                                                                                                           |
| To<br>J.E. Long                                                                   |  |                                                                                                                                                |
| Author(s)<br>Jon Belisle                                                          |  | Employee Number(s)<br>88240                                                                                                                    |
| Notebook Reference                                                                |  | No. of Pages Including Coversheet                                                                                                              |
| SECURITY <input type="checkbox"/> Open <input checked="" type="checkbox"/> Closed |  | 3M CHEMICAL<br>REGISTRY <input type="checkbox"/> New Chemicals Reported<br><input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |

**KEYWORDS:**  
(Select terms from 3M  
Thesaurus. Suggest other  
applicable terms.)

Central Research  
Analytical Report  
Chemical/Analysis

**CURRENT OBJECTIVE:**

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

**REPORT ABSTRACT:** (200-250 words) This abstract information is distributed by the Technical Communications Center 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.

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## 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) <sup>①</sup> |
|-----------------|---------------|-----------------------------------|
| 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  $\pm 10 - 25\%$ .

August 8, 1978

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

| <u>Monkey</u> | <u>Dosage Level</u> | <u>FC-95 in Liver(mg)</u> <sup>①</sup> | <u>FC-95 in Liver(ppm)</u> |
|---------------|---------------------|----------------------------------------|----------------------------|
| 7355M         | 0                   | 3000                                   | 50                         |
| 7368F         | 0                   | 1500 <sup>②</sup>                      | 20 <sup>②</sup>            |
| 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

  
c:R.A. Prokop 236-3