

EXHIBIT S31 TO DECLARATION OF  
STEPHEN G. SCHWARZ IN SUPPORT OF  
PLAINTIFFS' MOTION FOR CLASS  
CERTIFICATION

General Offices/3M

Certified Mail - Return Receipt Requested

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November 19, 1980

Document Control Officer  
Chemical Information Division  
Office of Toxic Substances (WH-557)  
Environmental Protection Agency  
401 M Street, S. W.  
Washington, D. C. 20460

Gentlemen:

Subject: Section 8(c) Toxic Substances Control Act  
Potassium Salt of Perfluoroalkyl Sulfonates

Please find attached the following information relating to the subject chemicals:

- (1) Protocol for Oral Teratology Study in Rats.
- (2) Preliminary report, 3M Riker memo, dated November 12, 1980.
- (3) 3M Technical Report entitled "Analysis of Selected Decatur Employee Serum for Sulfonic and Carboxylic Fluorochemicals".

Preliminary information from the ongoing teratology study cited in (2) above indicates that the subject chemicals are teratogenic in rats. This information and the findings described in (3) above, indicating the presence of fluorochemicals in the blood of some of our plant employees, leads us to submit this information pursuant to Section 8(e) of the Toxic Substances Control Act and EPA's statement of interpretation published in the FEDERAL REGISTER, March 16, 1978.

As noted on page 584 of an article published in the October 1980 American Industrial Hygiene Journal, entitled -- "Health Status of Plant Workers Exposed to Fluorochemicals-- A Preliminary Report", this publication and the attached information reflect, in part, 3M's testing and monitoring program designed to "...evaluate the overall impact of exposure of fluorochemicals on the health of workers". Although this preliminary information cited in (2) indicates that the subject chemicals are most probably animal teratogens, our employee records and the epidemiology data described in the aforementioned publication indicate that to date no human health problems have been observed nor disease patterns detected which are attributable or

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related to fluorochemical exposure. This publication also described the industrial hygiene measures undertaken in further reducing employee exposure.

"Potassium salts of perfluoroalkyl sulfonates" is a generic chemical name for a mixture of five homologs which can be expressed by the general formula  $C_n F_{2n+1} SO_3 K$ . These homologs were reported on the TSCA inventory with the assigned CAS numbers: (a) 2795-39-3; (b) 6270-55-5; (c) 3871-99-6; (d) 3872-25-1; and (e) 29420-49-3. This homologous mixture, or the corresponding ammonium salts, is currently sold as various products containing from 100 percent "solids" to 0.58 percent of the mixture. These products and their customer uses are described as follows:

FLUORAD <sup>R</sup> Brand Etching Bath Additive FC-93 (corresponding ammonium salt of the subject chemical)	Electronic Manufacturing
FLUORAD <sup>R</sup> Brand Fluorochemical Surfactant, FC-95	Chrome Plating
FLUORAD <sup>R</sup> Brand Fluorochemical Surfactant, FC-99 (corresponding amine salt of subject chemical)	Chrome Plating
LIGHT WATER <sup>R</sup> Brand Aqueous Film Forming Foam FC-203	Fire Suppression
LIGHT WATER <sup>R</sup> Brand Aqueous Film Forming Foam FC-203A	Fire Suppression
LIGHT WATER <sup>R</sup> Brand Aqueous Film Forming Foam, FC-206A	Fire Suppression
LIGHT WATER <sup>R</sup> Brand Aqueous Film Forming Foam Alcohol Type Concentrate, FC-600	Fire Suppression
AFFF 6% Concentrate, FC-780B	Fire Suppression

Approximately 8 tons of perfluoroalkyl sulfonates are produced per year domestically at our Decatur production facility located at P.O. Box 2206, Decatur, Alabama 35602, with 48 employees potentially exposed on an intermittent basis. Chemical reaction occurs in a closed system. Approximately 5 tons of the 8 are processed at our Chemolite production site located at Highway 61 & Washington County Rd. 19, St. Paul, Minnesota 55133, with 37 employees potentially exposed on an intermittent basis.

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We plan to inform, by mid-December, all those customers and 3M employees who have a potential, through certain uses and/or processing, of significant exposure to the subject chemicals. At that time we will summarize these findings and outline our recommendations for handling and using these products. We are by copy of this letter advising NIOSH of these new but preliminary teratogenic findings. When significant new information becomes available to us, we plan to advise these customers and employees accordingly.

In line with our ongoing testing and monitoring program in fluorochemicals, this is to advise the Agency of the following work planned for initiation in the near future:

- (1) A second teratogenic study designed to further evaluate these findings in both rats and rabbits.
- (2) Developing industrial hygiene procedures designed to further reduce the exposure to plant employees.

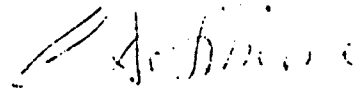
Since certain of the information provided herein is considered confidential business information, we are providing a sanitized version of this report for the public file. In addition, we have deleted from the confidential submission inconsequential information such as the names of 3M employees for the purpose of protecting their privacy.

The teratology study referred to herein is based on feeding FC-95, the mixture of potassium salts of perfluoroalkyl sulfonates described as (a) through (e) above. When the study is complete, a final written report will be provided to EPA. In the interim, should additional correspondence be necessary on this matter, please contact:

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Yours truly,

  
L. D. DeSimone  
Group Vice President

dea  
Attachments

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