AR226-1813

3M MEDICAL DEPARTMENT, CORPORATE TOXICOLOGY

Title: Comparative Molecular Biology of Perfluorooctanesulfonate (PFOS, T-6295), N-ethyl perfluorooctanesulfonamido ethanol (N-EtFOSE, T-6316), N-Ethyl perfluorooctanesulfonamide (N-EtFOSA, T-6868), Perfluorooctanesulfonamido acetate (FOSAA, T-7071), and/or Perfluorooctanesulfonamide (FOSA, T-7132) of in Rats and Guinea Pigs following Oral dosing.

AMENDED Final Report
Date: July, 16 2004

Study Numbers. T-6295.8, T-6316.4, T-6868.2, T-7071.1, T-7132.1
Strategic Toxicology Study Number: DT-15-B

Sponsor: 3M Specialty Chemicals Division
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Study Location(s): 1. 3M Strategic Alternative Toxicology Laboratory
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In-Life Start Date	**Protocol:**	**11/16/1998**
In-Life End Date	**Protocol:**	**11/20/1998**
In-Life Start Date	**Amendment #1:**	**03/01/1999**
In-Life End Date	**Amendment #1:**	**03/05/1999**
In-Life Start Date	**Amendment #2:**	**02/19/2001**
In-Life End Date	**Amendment #2:**	**02/23/2001**

The purpose for this amendment was to change the conclusion drawn in the summary that Lin Xu and Drag Anders wrote in Appendix 6E (page 59) which read:

The original statement:

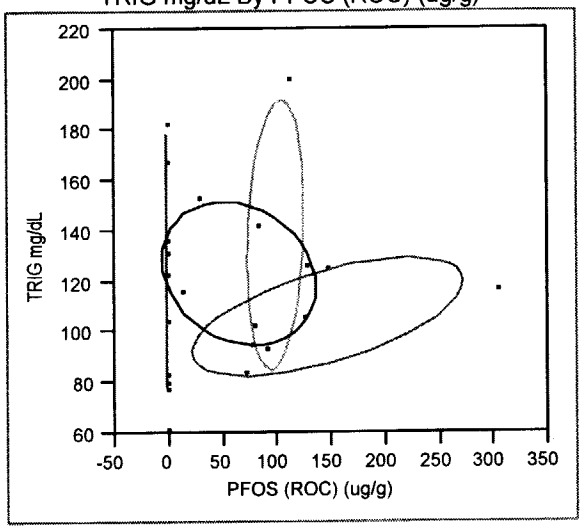
"These data showed that FOSA was consistently identified as a metabolite of PFOS, whether PFOS was administered directly or formed as a metabolite, but the source of the amino group is not readily apparent."

Was changed to read:

"These data showed that FOSA was consistently identified as a metabolite of PFOS, but that the source of the amino group is not readily apparent."

The rational for these changes were that the original conclusion was not directly supported by the data presented in this study. That conclusion was not entirely correct because all of the administered compounds, besides PFOS, have a sulfonamido group within the parent compound. Therefore, the likely source of the amino group for sulfonamide moiety containing compounds would be the parent compound itself. There is quantitative evidence in these studies suggesting that the perfluorooctanesulfonamides were metabolized first to PFOS followed by metabolism of that PFOS back to a sulfonamide. The only evidence for a possible metabolism of PFOS to FOSA came from the PFOS dose groups, not the perfluorooctanesulfonamido derivative parent compound dose groups. Furthermore, in two out of three independent studies analyzed at Rochester, the control group liver samples had a high background of FOSA, suggesting possible contamination of the liver samples. Therefore, as stated, the conversion of PFOS to PFOSA would have to be verified by further studies.

Dr Anders is in agreement with the amended conclusion stated above.



— Bivariate Normal Ellipse P=0.500 Dose Group (mg/Kg/da=CONT
— Bivariate Normal Ellipse P=0.500 Dose Group (mg/Kg/da=N-EtFOSA40mkd
— Bivariate Normal Ellipse P=0.500 Dose Group (mg/Kg/da=N-EtFOSE40mkd
— Bivariate Normal Ellipse P=0.500 Dose Group (mg/Kg/da=PFOS40mkd

Bivariate Dose Group (mg/Kg/da=CONT

Variable	Mean	Std Dev	Correlation	Signif. Prob	Number
PFOS (ROC) (ug/g)	0.016667	0.040825	-0.50738	0.3042	6
TRIG mg/dL	128.1667	42.64466			

Bivariate Dose Group (mg/Kg/da=N-EtFOSA40mkd

Variable	Mean	Std Dev	Correlation	Signif. Prob	Number
PFOS (ROC) (ug/g)	100.4	22.36172	0.198189	0.8018	4
TRIG mg/dL	138.5	45.38355			

Bivariate Dose Group (mg/Kg/da=N-EtFOSE40mkd

Variable	Mean	Std Dev	Correlation	Signif. Prob	Number
PFOS (ROC) (ug/g)	66.55	60.59266	-0.19932	0.8007	4
TRIG mg/dL	123.25	24.04683			

Bivariate Dose Group (mg/Kg/da=PFOS40mkd

Variable	Mean	Std Dev	Correlation	Signif. Prob	Number
PFOS (ROC) (ug/g)	148.2	106.5116	0.595121	0.4049	4
TRIG mg/dL	106	19.74842			

Signatures:

Final Report Amendment #1 prepared by,

Andrew M. Seacat 7/16/04

Andrew M. Seacat, PhD, DABT
Study Director

Date