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Pral File
I.C.

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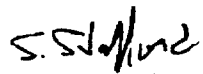
DR. W. J. REINHARD
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ANALYSIS OF BLOOD SAMPLES FOR PERFLUOROOCTANOATE
(Job No. 811-595; PRAL Nos. 81-1758-1762; Notebooks Nos. E22514, E26238)

As requested in your letter of 4/23/81 to L. J. Papa, the five blood samples submitted then have been analyzed for perfluorooctanoate (C₈). Results and sample identification are given in the attached table.

As noted there, the analyses were done using a gas chromatographic method specific for C₈ (Lab Method Number ES-567) but results have been reported as ppm F for comparison with total organic fluorine analyses. Precision is $\pm 10\%$ relative standard deviation over most of the concentration range, somewhat less at the lowest values. The lower limit for quantitation is 0.007 ppm F (0.01 ppm perfluorooctanoic acid), with a detection limit of ~ 0.004 ppm which can be distinguished from the reagent background but not well quantitated.

Please contact me (772-4440) or L. J. Papa (772-2745) if you have any questions regarding the analyses. General questions on blood sampling can be directed to J. W. Raines or L. F. Percival.


S. S. Stafford

Attachment
jah

Key Words:

Perfluorooctanoic Acid
Perfluorooctanoate
Blood Analysis
GC

There's a world of things we're doing something about

EXP000016
EID713830

000085

TABLE I
CONCENTRATION OF PERFLUOROOCTANOATE IN BLOOD (a)

				(b)	
Sample				GC Analysis	
PRAL No.	Date Sampled	S.S.No.	Name	Date Analyzed	[C8], ug F/g blood
81-1758	4/23/81	049-16-3890		5/5/81	n.d.
81-1759	4/23/81	244-92-6368		5/5/81	n.d.
81-1760	4/23/81	049-40-0400		5/5/81	0.011
81-1761	4/23/81	042-26-5501		5/5/81	0.048
81-1762	4/23/81	045-40-8095		5/5/81	0.012

- (a) Analysis as described in Lab Method ES-567 ("Determination of Perfluorooctanoic Acid in Blood, Gas Chromatographic Method", S. Stafford, 4/3/81), using the packed column GC analysis with perfluoro-n-octanoic acid as calibration standard.
- (b) Although the analysis is specifically for perfluorooctanoate (acid or salts), concentrations are given in ppm fluorine for comparison with the results of total organic fluorine analyses. (ppm F = 0.688 x ppm perfluorooctanoic acid) Estimated uncertainty is $\pm 10\%$ relative standard deviation. The lower limit for quantitation is 0.007 $\mu\text{gF/g}$. The detection limit is $\sim 0.004 \mu\text{gF/g}$, but concentrations in that range cannot be well quantitated and are reported as < 0.007. None detected (n.d.) is reported for samples with [C8] $\lesssim 0.004$ ppm, which cannot be distinguished from reagent background.