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Pral File
I.C.

AR 226-1596

August 21, 1981

TO: DR. Y. L. POWER - PPD, Parkersburg

FROM: S. S. STAFFORD *S. S. Stafford*

ANALYSIS OF BLOOD SAMPLES FOR PERFLUOROOCTANOATE
(Job No. 810-578; PRAL Nos. 81-3291-3332; Notebook Nos. E22514, E26238)

As requested in your letter of 7/28/81 to L. J. Papa, 40 of the blood samples submitted then have been analyzed for perfluorooctanoate (C₈) by the usual gas chromatographic method ES-567. Results and sample identification are given in the attached table.

Results for the remaining two samples in that group (81-3293, L. Strahler, and 81-3309, W. Powell) will be reported along with those for the samples submitted 8/11/81.

Attachment
jah

Key Words:
Perfluorooctanoate
GC
Blood Analysis

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

EXP000049
EID713863

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TABLE I

CONCENTRATION OF PERFLUOROCTANOATE IN BLOOD (a)

				GC Analysis (b)	
Sample				Date Analyzed	[C ₈], µg F/g bloc
PRAL No.	Date Sampled	P.R.No.	Name		
81-3291	7/1/81	4678		8/11 & 8/13/81	0.20
81-3292	7/6/81	4661		3/11/81	0.024
81-3294	7/13/81	1702		8/11/81	0.15
81-3295	7/13/81	W.S.		8/12/81	0.077
81-3296	7/13/81	W.S.		8/12/81	0.068
81-3297	7/14/81	1913		8/12/81	0.35
81-3298	7/14/81	W.S.		8/12/81	0.40
81-3299	7/14/81	W.S.		8/12/81	2.1
81-3300	7/15/81	W.S.		8/12/81	0.19
81-3301	7/15/81	1759		8/12/81	0.17
81-3302	7/15/81	W.S.		8/13/81	0.49
81-3303	7/15/81	3726		8/13/81	0.71
81-3304	7/15/81	4329		8/13/81	0.98
81-3305	7/16/81	4651		8/13/81	0.34
81-3306	7/16/81	3522		8/13/81	2.5
81-3307	7/16/81	4652		8/13/81	0.096
81-3308	7/16/81	4202		8/14 & 8/17/81	2.5
81-3310	7/17/81	1991		8/14/81	0.20
81-3311	7/17/81	3245		8/14/81	0.088
81-3312	7/17/81	3663		8/18/81	0.049
81-3313	7/17/81	W.S.		8/18/81	0.14
81-3314	7/17/81	W.S.		8/18/81	0.19
81-3315	7/20/81	3787		8/18/81	0.24
81-3316	7/20/81	W.S.		8/18/81	0.046
81-3317	7/21/81	8862		8/18/81	0.13
81-3318	7/21/81	W.S.		8/18/81	0.18
81-3319	7/21/81	4664		8/19/81	0.065
81-3320	7/21/81	3688		8/19/81	1.2
81-3321	7/22/81	4105		8/19/81	0.42
81-3322	7/22/81	3190		8/19/81	0.50
81-3323	7/22/81	4451		8/19 & 8/20/81	1.2

TABLE I

CONCENTRATION OF PERFLUOROOCCTANOATE IN BLOOD (a)

Sample				GC Analysis		(b)
PRAL No.	Date Sampled	P.R.No.	Name	Date Analyzed	[C ₈], μ g F/g blood	
81-3324	7/22/81	4452		8/19/81	0.62	
81-3325	7/23/81	W.S.		8/19/81	0.076	
81-3326	7/24/81	3590		8/19/81	0.17	
81-3327	7/24/81	4673		8/19/81	0.76	
81-3328	7/24/81	W.S.		8/19/81	0.33	
81-3329	7/24/81	W.S.		8/20/81	0.062	
81-3330	7/24/81	4647		8/20/81	0.31	
81-3331	7/24/81	W.S.		8/20/81	0.045	
81-3332	7/24/81	W.S.		8/20/81	0.21	
81-1843	4/27/81	4678		8/13/81	0.032	(c)

(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. ($\text{ppm F} = 0.688 \times \text{ppm perfluorooctanoic acid}$) 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 $[\text{C}_8] \lesssim 0.004 \text{ ppm}$, which cannot be distinguished from reagent background.

(c) Previously analyzed sample, re-analyzed for comparison with repeat sample 81-3291; result of the initial analysis (5/6/81) on 81-1843 was 0.031.

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