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POLYMER PRODUCTS DEPARTMENT
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Pral File
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AR226-1606

PERSONAL AND CONFIDENTIAL

November 3, 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. 81-4871-4912; Notebook Nos. E22514,E26238,E27432)

As requested in your letter of 10/20/81 to L. J. Papa, the 42 blood samples submitted then have been analyzed for perfluorooctanoate (C_8) by the usual gas chromatographic method ES-567. Results and sample identification are given in the attached table.

Attachment
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Key Words:
Perfluorooctanoate
GC
Blood Analysis

TABLE I

CONCENTRATION OF PERFLUOROOCTANOATE IN BLOOD (a)

Sample PRAL No.	Date Sampled	P.R.No.	Name	GC Analysis Date Analyzed	(b) [C_8], µg F/g blood
81-4871	10/6/81	1952	[redacted]	10/23 & 10/28/81	0.45
81-4872	10/7/81	4720		10/26/81	0.039
81-4873	10/7/81	4754		10/26/81	0.021
81-4874	10/7/81	4733		10/23/81	0.061
81-4875	10/7/81	4755		10/23/81	0.0073
81-4876	10/7/81	4756		10/23/81	<0.007
81-4877	10/7/81	3578		10/28/81	0.78
81-4878	10/7/81	W.S.		10/23/81	0.30
81-4879	10/8/81	953		10/23/81	11.
81-4880	10/8/81	3519		10/23/81	0.19
81-4881	10/9/81	4538		10/28/81	1.2
81-4882	10/9/81	4146		10/28/81	1.3
81-4883	10/9/81	4360		10/28/81	0.32
81-4884	10/9/81	4354		10/28/81	0.41
81-4885	10/12/81	3753		10/26/81	0.18
81-4886	10/12/81	W.S.		10/27/81	1.5
81-4887	10/12/81	4058		10/28/81	0.27
81-4888	10/12/81	W.S.		10/26/81	0.11
81-4889	10/13/81	W.S.		10/27/81	2.8
81-4890	10/13/81	4614		10/26/81	0.013
81-4891	10/13/81	4730		10/26 & 10/28/81	0.010
81-4892	10/13/81	4663		10/27/81	0.039
81-4893	10/13/81	4109		10/27 & 10/29/81	0.17
81-4894	10/13/81	W.S.		10/27/81	0.44
81-4895	10/13/81	W.S.		10/27 & 10/29/81	0.26
81-4896	10/13/81	4825		10/27/81	n.d.
81-4897	10/13/81	4760		10/27/81	0.015
81-4898	10/14/81	1643		10/27/81	0.87
81-4899	10/14/81	1978		10/27/81	4.5
81-4900	10/14/81	4530		10/27/81	0.74
81-4901	10/14/81	4675		10/27/81	1.4
81-4902	10/15/81	4231		10/27/81	0.75
81-4903	10/15/81	4290		10/27/81	0.080

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TABLE I

CONCENTRATION OF PERFLUOROOCTANOATE IN BLOOD (a)

Sample PRAL No.	Date Sampled	P.R.No.	Name	GC Analysis Date Analyzed	(b [C_8], µg F/g blood
81-4904	10/15/81	3520	[redacted]	10/29/81	3.6
81-4905	10/15/81	4226		10/28/81	0.010
81-4906	10/15/81	4568		10/29/81	0.71
81-4907	10/15/81	1697		10/28/81	0.15
81-4908	10/16/81	1447		10/29/81	0.43
81-4909	10/16/81	W.S.		10/28/81	0.16
81-4910	10/19/81	W.S.		10/28/81	0.15
81-4911	10/19/81	596		10/29/81	0.069
81-4912	10/19/81	W.S.		10/29/81	0.65

(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 ± 10% relative standard deviation. The lower limit for quantitation is 0.007 µgF/g. The detection limit is ∿ 0.004 µgF/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 [C_8] $\lesssim$ 0.004 ppm. which cannot be distinguished from reagent background.