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POLYMER PRODUCTS DEPARTMENT
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AR226-1599

PERSONAL AND CONFIDENTIAL

September 8, 1981

TO: DR. Y. L. POWER - PPD, Parkersburg
FROM: S. S. STAFFORD *S. Stafford*

ANALYSIS OF BLOOD SAMPLES FOR PERFLUOROOCTANOATE
(Job No. 810-578; PRAL Nos. 81-3293, 81-3309, 81-3562-3602;
Notebook Nos. E22514, E26238)

As requested in your letter of 8/11/81 to L. J. Papa, the 41 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 are also included there for two samples submitted 7/28/81 (81-3293 and 81-3309), which were analyzed along with this group.

Attachment
jah

Key Words:
Perfluorooctanoate
GC
Blood Analysis

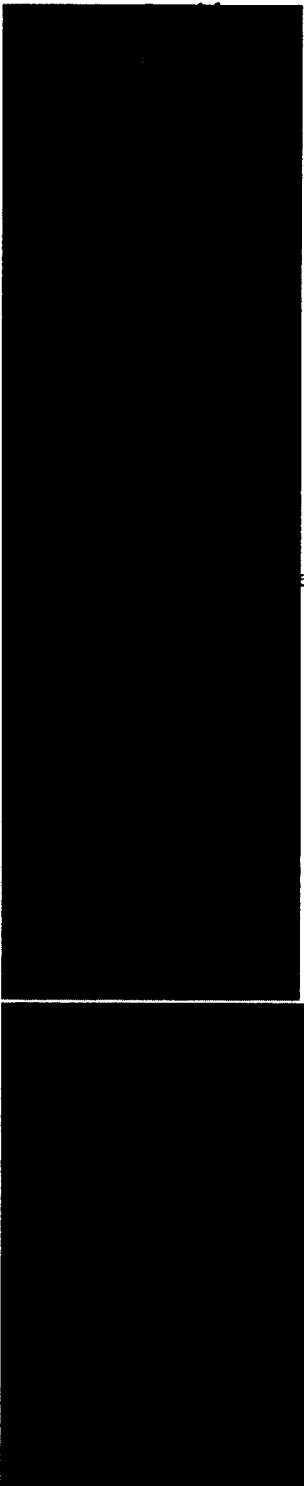
There's a world of things we're doing something about

EXP000052
EID713866

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TABLE I

CONCENTRATION OF PERFLUOROOCCTANOATE IN BLOOD (a)

				GC Analysis		(1)
Sample				Date Analyzed	[C ₈], µg F/g blo	
PRAL No.	Date Sampled	P.R.No.	Name			
81-3293	7/6/81	3854		8/26/81	32.	
81-3309	7/17/81	1508		8/26/81	9.6	
81-3562	7/28/81	W.S.		8/20/81	n.d.	
81-3563	7/28/81	W.S.		8/20/81	0.094	
81-3564	7/29/81	W.S.		8/20/81	0.27	
81-3565	7/29/81	W.S.		8/20/81	0.099	
81-3566	7/29/81	4668		8/21/81	0.61	
81-3567	7/29/81	3417		8/26/81	9.1	
81-3568	7/30/81	948		8/21/81	0.87	
81-3569	7/30/81	625		8/21/81	0.25	
81-3570	7/30/81	4406		8/21/81	0.54	
81-3571	7/30/81	4566		8/21/81	0.17	
81-3572	7/30/81	370		8/21/81	0.64	
81-3573	7/31/81	8864		8/21/81	0.12	
81-3574	7/31/81	W.S.		8/21/81	0.21	
81-3575	7/31/81	W.S.		8/21/81	0.33	
81-3576	8/3/81	4654		8/21 & 8/24/81	0.038	
81-3577	8/3/81	W.S.		8/24/81	0.18	
81-3578	8/4/81	4639		8/24/81	0.12	
81-3579	8/5/81	W.S.		8/24/81	0.080	
81-3580	8/5/81	4634		8/24/81	0.052	
81-3581	8/5/81	4398		8/26/81	4.1	
81-3582	8/5/81	4666		8/24/81	0.053	
81-3583	8/5/81	889		8/26/81	4.2	
81-3584	8/5/81	4266		8/26/81	3.3	
81-3585	8/6/81	1955		8/24/81	0.24	
81-3586	8/6/81	W.S.		8/24/81	0.20	
81-3587	8/6/81	W.S.		8/24/81	0.22	
81-3588	8/6/81	380		8/26/81	3.0	
81-3589	8/6/81	4658		8/25/81	0.24	
81-3590	8/7/81	4542		8/27/81	4.3	
81-3591	8/7/81	W.S.		8/25 & 8/28/81	0.047	
81-3592	8/7/81	3485		8/27/81	9.4	
81-3593	8/7/81	1744		8/26/81	5.3	

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TABLE I

CONCENTRATION OF PERFLUOROOCTANOATE IN BLOOD (a)

				GC Analysis	
Sample				Date Analyzed	[C ₈], µg F/g blood
PRAL No.	Date Sampled	P.R.No.	Name		
81-3594	8/10/81	4283		8/25 & 9/2/81	0.059
81-3595	8/10/81	W.S.		8/25 & 8/28/81	0.48
81-3596	8/10/81	883		8/25/81	0.083
81-3597	8/10/81	W.S.		8/25/81	0.23
81-3598	8/10/81	4182		8/25/81	0.083
81-3599	8/10/81	4282		8/26/81	4.4
81-3600	8/10/81	4181		8/25/81	0.59
81-3601	8/10/81	4111		8/26/81	3.2
81-3602	8/10/81	4225		8/25 & 9/2/81	0.066
81-1427	4/6/81	4283		9/2/81	0.052 (c)
81-1439	4/6/81	4225		9/2/81	0.059 (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. (ppm F = 0.688 x ppm perfluorooctanoic acid) Estimated uncertainty is $\pm 10\%$ 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 [C₈] $\lesssim 0.004$ ppm, which cannot be distinguished from reagent background.
- (c) Previously analyzed samples, reanalyzed for comparison with repeat samples 81-3594 and 81-3602; results of the initial analyses were 0.051 (81-1427, 4/13/81) and 0.054 (81-1439, 4/14/81).