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cc: A. J. Dahl - 353
B. W. Karrh - N11400
L. J. Papa - 269
Pral File
I.C.

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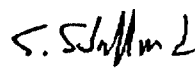
DR. K. C. HOBBS
F&F
AJAX, ONTARIO

ANALYSIS OF BLOOD SAMPLES FOR PERFLUOROOCTANOATE
(Job No. 811-662; PRAL Nos. 81-1966-1970; Notebook Nos. E22514, E26238)

As requested in your letter of 5/5/81 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

EXP000024
EID713838

000087

TABLE I

CONCENTRATION OF PERFLUOROOCTANOATE IN BLOOD (a)

Sample				GC Analysis	
PRAL No.	Date Sampled	P.R.No.	Name	Date Analyzed	[C ₈], µg F/g bl
81-1966	5/5/81	-		5/13/81	n.d.
81-1967	-	-		5/13/81	0.048
81-1968	5/5/81	-		5/14/81	n.d.
81-1969	5/5/81	-		5/14/81	n.d.
81-1970	5/6/81	-		5/14/81	n.d.

- (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 [C₈] ≤ 0.004 ppm. which cannot be distinguished from reagent background.