810-633

Z-45 REV 12-75

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POLYMER PRODUCTS DEPARTMENT
EXPERIMENTAL STATION

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Pral File
I.C.

AR226-1609

PERSONAL AND CONFIDENTIAL

December 2, 1981

TO: DR. J. M. HEDGES - PPD, Circleville

FROM: S. S. STAFFORD S. Stafford

ANALYSIS OF BLOOD SAMPLES FOR PERFLUOROOCTANOATE
(Job No. 810-633; PRAL Nos. 81-5258-5262,81-5440 and -5441
Notebook Nos. E22514,E26238,E27432)

As requested in your letters of 11/2/81 and 11/16/81 to L. J. Papa, the 7 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
jah

Key Words:
Perfluorooctanoate
GC
Blood Analysis

EXP000072
EID713886

TABLE I

CONCENTRATION OF PERFLUOROOCTANOATE IN BLOOD (a)

Sample PRAL No.	Date Sampled	P.R.No.	Name	GC Analysis Date Analyzed	$[C_8]$, µg F/g blo
81-5258	11/2/81	1834	[redacted]	11/12 & 11/24/81	< .007 (c)
81-5259	11/3/81	2353		11/12/81	n.d.
81-5260	11/2/81	4162		11/12/81	n.d.
81-5261	11/2/81	6722		11/12/81	n.d.
81-5262	11/2/81	7023		11/12/81	n.d.
81-5441	11/13/81	540		11/24/81	n.d.
81-5442	11/13/81	4320		11/24/81	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 $\pm$ 10% relative standard deviation. The lower limit for quantitation is 0.007 µgF/g. The detection limit is $\sim$ 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.

(c) marginally detectable.