

Commercial Chemicals
Analytical Report #245

To: M. T. Pike - 236-2A
From: L. D. Winter - 236-2B
Subject: CS-2070/CS-2151 Partition Coefficient
Date: August 3, 1981



Reference: Commercial Chemical Analytical Request #16565

- 1) The method reference is Chiba, Tsunoda, Haraguchi and Fuwa "Determination of Fluorine in Urine and Blood Serum by Aluminum Monofluoride Molecular Absorption Spectrometry and with a Fluoride Ion Selective Electrode" Analytical Chemistry, 1980, Volume 52, pages 1582-1585.
- 2) Environmental laboratory protocol for the determination of the distribution coefficient of solid and liquid substances in n-octanol/water.

Introduction:

A light yellow liquid labeled CS-2151 and a light yellow solid labeled CS-2070 were received from V. Pothapragada November 18, 1980. The CS-2070 was reported to be the dried solid from CS-2151 which is 25% solids in water. The samples were submitted for PMN characterization. The CS-2070/2151 was partitioned between water and n-octanol to determine the distribution.

Experimental:

CS-2151 was diluted with water to give a concentration of CS-2070 of 10 µg/ml of distilled water. Equal aliquots of this sample and pre-water saturated n-octanol (99+% Aldrich) were shaken slowly for 8 hours, then allowed to stand for 24 hours. The phases were separated and analyzed for total organic fluorine by atomic absorption (1). Standard was made using CS-2070 in water and in n-octanol to match matrix and recoveries. CS-2070 is soluble in n-octanol.

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Results

Distribution Coefficient (D) = $\frac{\text{Concentration in n-octanol}}{\text{Concentration in Water}}$

D = 0.65

LDW/mao

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