SOLUBILITY

TEST SUBSTANCE

Identity: Decafluoro(pentafluoroethyl)cyclohexanesulfonate, DEA salt; may be referred to as CS-2070. When dissolved in water may also be referred to or as CS-2151 or FC-90. (DEA salt of perfluoro(ethylcyclohexyl) sulfonate, [C2F5-CF(CF2CF2)2CF-SO3-][H2N(CH2CH2OH)2+])

Remarks: The 3M production lot number was not noted. The test sample is CS-2070. It is described as the "dried solid from CS-2151, which is 25% solids in water." The sample purity was not characterized.

METHOD

Method: Not noted.
GLP (Y/N): No
Year (study performed): 1981
Analytical method: Not noted.
Test temperature: Not noted.
Diluents: Water (at 3 pH values), methanol, ethanol, n-octanol, acetone
Remarks field: Amounts of CS-2070 were placed in vials and various solvents were added to make 5% solutions, or buffered aqueous solutions were added to make 25% solutions.

RESULTS

Solvent	Initial Concentration	Description of Solubility
Water (pH 7)*	25%	>25%
Water (pH 4)*	25%	12%
Water (pH 9)*	25%	7%
Methanol	5%	>5%
Ethanol	5%	>5%
n-Octanol	5%	>5%
Acetone	5%	<9%

* Buffered solutions.

CONCLUSIONS

The CS-2070 solubility in neutral, buffered water is characterized as being >25%.

Submitter: 3M Company, Environmental Laboratory, P.O. Box 33331, St. Paul, Minnesota, 55133

DATA QUALITY

Reliability: Klimisch ranking = 3. There is no information that indicates what method of analysis was used to determine CS-2070 concentrations. Sample purity was not properly characterized. The solubility in acetone is listed as "<9%" when the concentration tested is indicated to be only 5%.

REFERENCES

This study was conducted by the 3M Company, Commercial Chemicals Analytical Report #247, 1981.

OTHER

Last changed: 4/01/01