SOIL ADSORPTION (METHOD DEVELOPMENT / PILOT STUDIES)

TEST SUBSTANCE

Identity: Perfluorooctanesulfonate; may also be referred to as PFOS or FC-95. (1-Octanesulfonic acid, 1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8,8-heptadecafluoro-, potassium salt, CAS # 2795-39-3)

Remarks: Sample was radiolabeled (isotope and labeling position not specified). The 3M production lot number was not noted. The test substance is a white powder of uncharacterized purity.

METHOD

Method: The attached study explores the use of autoradiography of Thin Layer Chromatography Plates for determining the soil mobility of PFOS. This method was developed by 3M while looking for alternatives for studying the adsorption/desorption properties of the test substance.
GLP (Y/N): No
Year (study performed): 1978
Statistical methods: None.
Temperature: Not noted in the reports.
Remarks field: Very little detail is available on this study method.

RESULTS

The study used TLC greenhouse soil plates. The radiolabeled spot due to PFOS was too faint to be visualized.

CONCLUSIONS

No conclusion could be reached in this study.

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

DATA QUALITY

Reliability: Klimisch ranking 3. These studies lack sufficient explanation of the methodologies. Isotope specific activity and chemical and radiochemical purity of the test substance are not provided. The method for radiosynthesis is also not provided. The analytical methodology lacks validation and a means of identifying and quantifying potential degradation products.

REFERENCES

Excerpt from 3M Technical Notebook No. 48277 30, “Soil Thin-Layer Chromatography – FC 95, FC 143, FM 3422”, Page 30, A. Mendel, Project Number 997061200, October 13, 1978

Review of Technical Notebook No. 48277-30. Soil Thin Layer Chromatography. Professor Stephen A. Boyd, Michigan State University, May 19, 1993.

OTHER

Last changed: 4/01/01