

WATER SOLUBILITY IN PURE WATER– SHAKE FLASK METHOD

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: The test substance is a white powder. Sample was re-crystallized from a production lot of FC-95, and assigned a test, control, and reference number TCR 00017-046. Purity determined to be 97.9% by LC/MS, ¹H-NMR, ¹⁹F-NMR and elemental analyses techniques.

METHOD

Method: Based on OECD 105, OPPTS 830.7840.

GLP (Y/N): Yes

Year completed: 2001

Water Source: ASTM Type I water, Millipore

Remarks: The definitive test consisted of placing an excess amount of test substance with the appropriate water in centrifuge tubes. The tubes were vortexed and shaken at 225 rpm at 30°C for 24, 48 and 72-hours followed by 24-hours of equilibration at 24 - 25°C. Following equilibration, samples were centrifuged and the supernatant was analyzed by high performance liquid chromatography with mass spectrometric detection (LCMS).

RESULTS

ASTM Type I Water: 680 mg/L at 24 - 25°C

Description of solubility: Slightly soluble.

The 24, 48, and 72-hour solubility concentrations were averaged to obtain the overall mean solubility concentrations.

CONCLUSIONS

The overall mean solubility concentration of the test substance in pure water was 680 mg/L.

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DATA QUALITY

Reliability: Klimisch ranking 1.

REFERENCES

Studies conducted at the 3M Company, St Paul, MN, 2001, Environmental Laboratory Project Number EOO-1716.

OTHER

Last changed: 6/26/01