

METHOD STATEMENT



Determinand:

Determination of water-insoluble fat, oil and grease. This can also be known as Non Volatile Matter (NVM)

Matrix:

Sample Type: final effluents, trade discharge and crude sewage.

Principle of Method:

The aqueous sample is shaken with petroleum ether in a separating funnel and the resulting supernatant layer is removed and then filtered. The entire petroleum ether extract is transferred to a weighed dish and the petroleum ether is removed by evaporation. The dish is reweighed to obtain the weight of petroleum ether-extractable matter.

Sampling and Sample Preparation:

Samples should be provided within a separate glass bottle (ideally 250 ml). There is no sample preservative used for this test.

All samples should be stored at $3\pm 2^{\circ}\text{C}$

Samples are stable for 17 days (Coventry In House Data)

Interferences

False low results may be obtained if the oil adheres to the walls of the sample bottle and is therefore not detected.

Performance of Method:

Range of Application:

30mg/l upwards

Reporting limit: <30mg/l

Limit of Detection:

29.9mg/l

Recoveries of Compounds and Uncertainty of measurement:

| | | Extractable mg/l | RSD | % Recovery | % Uncertainty |
|---------------------|------------|------------------|-------|------------|---------------|
| Low Standard | | 1010 | 5.95% | 104.1 | 16.1 |
| High Standard | | 2020 | 3.31% | 102.7 | 9.4 |
| Cooper Bridge Final | Sample | 5.72 | *** | *** | **** |
| | Low Spike | 1039 | 4.34 | 102.4 | 11.1 |
| | High Spike | 2044 | 2.81 | 101.1 | 6.7 |
| Cooper Bridge Crude | Sample | 217 | 7.2 | **** | **** |
| | Low Spike | 1226 | 3.22 | 100.1 | 6.5 |
| | High Spike | 2242 | 3.27 | 100.4 | 6.9 |
| Kerfoot Trade | Sample | 2639 | 6.6 | **** | **** |
| | Low Spike | 3622 | 5.36 | 97.4 | 13.3 |
| | High Spike | 4702 | 4.69 | 102.2 | 11.6 |

References:

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The determination of oils and fats in waste water by filtration, extraction and gravimetry 1987.
Methods for the examination of waters and associated materials. HMSO ISBN 0117520764.