



Method Summary

Determination of Polynuclear Aromatic Hydrocarbons (PAHs) in water by GC-MS

Scope and Range

Polynuclear aromatic hydrocarbons (PAHs) are prevalent in the environment. They can either occur naturally in fossil fuel products e.g. coal and oil, or as a result of incomplete combustion of organic material. PAHs are classified as carcinogenic compounds and are monitored in a wide range of environmental matrices. This method is used to analyse 16 USEPA PAHs in water using GC-MS.

Calibration Range: LOR to 12,5µg/l. For limits of Report (LOR's) see table.

| Compound | LOR (µg/l) |
|-----------------------|-------------------|
| Naphthalene | 0.010 |
| Acenaphthylene | 0.005 |
| Acenaphthene | 0.005 |
| Fluorene | 0.005 |
| Phenanthrene | 0.005 |
| Anthracene | 0.005 |
| Fluoranthene | 0.005 |
| Pyrene | 0.005 |
| Benz(a)anthracene | 0.005 |
| Chrysene | 0.005 |
| Benzo(b)fluoranthene | 0.005 |
| Benzo(k)fluoranthene | 0.005 |
| Benzo(a)pyrene | 0.002 |
| Indeno(123cd)pyrene | 0.005 |
| Dibenzo(ah)anthracene | 0.005 |
| Benzo(ghi)perylene | 0.005 |
| PAH16 Total * | 0.082 |

References

Standard Methods for the Examination of Waters and Waste Waters 16th Edition, AHPA, Washington DC, USA. ISBN 0-87553-131-8

Principle

Samples should be collected in glass containers and kept cooled during transportation. Samples are extracted using liquid/liquid extraction.

Analysis is undertaken by GC-MS using Selective Ion Monitoring (SIM).

Interferences

By using GC-MS in SIM, there are few significant interferences.

Components co-eluting and sharing m/z ions with the target compounds will cause interferences.