

PAHs in sediment with E-800 HE

UniversalExtractor E-800 HE: Polycyclic aromatic hydrocarbons in sediment samples

1. Introduction

The Polycyclic aromatic hydrocarbon (PAH) content of a reference sediment sample was determined using the UniversalExtractor E-800 HE according to method EPA 3541 [1]. The sample was extracted with a hot extraction method and the extract was analyzed by GC-MS/MS.

2. Experimental

Equipment: UniversalExtractor E-800 HE, GC-MS/MS.

Sample: Dry sediment sample, SETOC 692 [2]. 10 g sample and 10 g sodium sulfate were weighed into an extraction thimble, mixed and 1 mL Internal Standard was added. The thimble was placed into the hot extraction beaker of the E-800 HE. The sample was extracted using the parameters shown in Table 1.

Table 1: Hot Extraction with UniversalExtractor E-800 HE

Step	Value
Extraction method	Hot extraction
Solvent	n-Hexane / Acetone (1:1)
Extraction step	10 min (heating level 7)
Rinse step	110 min (heating level 7)
Number of drains	7
Dry step	1 min (heating level 5)
Solvent volume	90-100 mL

3. Results

Figure 1 shows the results with relatively standard deviations (rsds) for the PAH determination of a sediment sample using the UniversalExtractor



E-800 HE in comparison to the reference values.

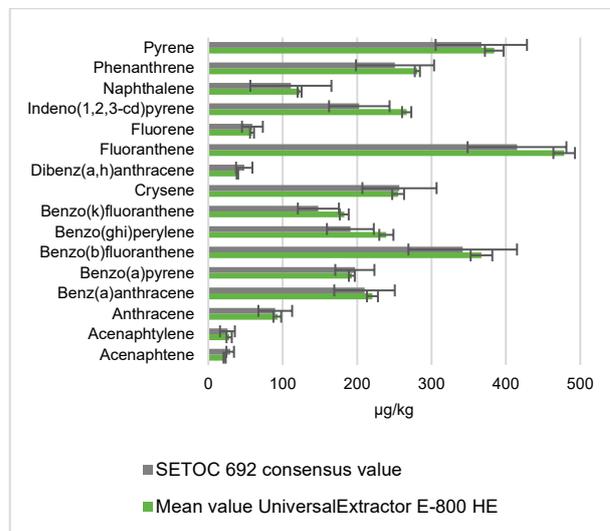


Figure 1: PAH determination (n=3) of SETOC 692 sediment sample

4. Conclusion

The method presented demonstrates that using UniversalExtractor E-800 HE is a fast and reliable way to extract PAHs from sediment samples. The hot extraction follows the EPA method 3541, which requires a three step extraction method with a sample immersed in hot solvent.

5. Acknowledgement

We greatly acknowledge Labor Veritas Zürich, Mr. P. Leupin for the support for this Short Note.

6. References

- [1] U.S. Environmental Protection Agency, Method 3541
- [2] SETOC Round Robin [WEPAL-QUASIMEME - WEPAL \(wepalquasimeme.nl\)](https://wepalquasimeme.nl)

For more information, please refer to Application Note 846/2024.

