Determination of Benzidines and Nitrogen-Containing Pesticides in Water Liquid-Solid Extraction And Reverse Phase High Performance Liquid Chromatography/Particle Beam/Mass Spectrometry*

UCT Product Number:
ECDVB156P- Enviro-Clean® DVB 500 mg, 6 mL cartridge, PE Frit
ECHLD156-P - Enviro-Clean® HL DVB 500 mg, 6 mL cartridge, PE Frit
ECUNIDVB500 (500 mg, DVB, 83 mL cartridge)

EPA Method 553 Revision 1.1

Procedure

1. Cartridge Preparation

a) Rinse the cartridge(s) with a 10 mL aliquot of methanol
b) Slowly draw methanol to the top of the frit
c) Add a second 10 mL aliquot of methanol and draw through to top of frit
d) Add 10 mL of reagent water to the cartridge and draw through to top of frit

Note: Do not let the cartridge go dry after addition of methanol otherwise repeat at 1) c.

2. Sample Extraction

a) Adjust sample pH to 7 using either 1N NaOH or HCl
b) Add water sample to the cartridge and draw through at 20 mL/minute
c) Rinse the sample container with 10 mL of reagent water and add to the cartridge
d) Dry sorbent by drawing full vacuum for 10 minutes
e) Place a clean collection vial in the vacuum manifold

3. Cartridge Elution

a) Add 15 mL of methanol to the sample container, swirl then add to the cartridge
b) Elute the cartridge with 2 x 7.5 mL aliquots of methanol dropwise

4. Extract Concentration

a) Concentrate the extract under a gentle stream of N_2
b) Bring to a known volume after concentration step
c) Sample is now ready for analysis

*The analyst should refer to EPA Method 553 "Determination Of Benzidines and Nitrogen-Containing Pesticides in Water By Liquid-Liquid Extraction or Liquid-Solid Extraction and Reverse Phase High Performance Liquid Chromatography/Particle Beam/Mass Spectrometry", Revision 1.1 Issued August 1992, by Thomas D. Behymer, Thomas A. Bellar, James S. Ho, William L. Budde, US EPA, Office of Ground Water and Drinking Water, EPA, National Exposure Research Laboratory, Office of Research and Development, US Environmental Protection Agency, Cincinnati, Ohio 45268

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