

RapidVap N2 System for Evaporation per EPA Method 8082

Principle

US EPA Method 8082 ipolychlorinated biphenyls (PCBs) as Aroclors or as indi-vidual PCB congeners in extracts from solid, tissue and aqueous matrices. *This application note uses Labconco's RapidVap N2 Evaporation System for the evaporation step of this method.

* <https://www.epa.gov/sites/default/files/2015-12/documents/8082a.pdf>

Equipment

- RapidVap N2 Evaporation System with 600 ml block (7910000)
- 600 ml glassware with 1.5 ml end point (7913900)
- Glassware caps (7925500)
- Methylene Chloride
- PCBs listed in table below
- Agilent 6890 GC with ECD detector



Procedure

Evaporation tubes were filled with 200 ml of methylene chloride spiked with 0.10 µg/l of target compounds semivolatile organic pesticides.

RapidVap N2 Conditions:

Block Preheat and Temperature: 40° C

Nitrogen: 80 psi

Pressure Vortex Speed: 70%

Time required: 90 minutes

The samples were evaporated to an end point of approximately 5 ml on the RapidVap N2.

After reaching an end point below 5 ml, the sample extract was transferred to a 5 ml volumetric flask. The concentrator glassware was rinsed down several times with methylene chloride during the sample transfer. The sample extract was then brought to a final 5 ml volume.

The final 5 ml were read using an Agilent 6890 GC with ECD detector. The column used was a Restek DB-5.

Percent Recoveries**Trials**

	1	2	3	4	Standard Deviation
AR1016	98.0%	59.0%	30.0%	52.0%	28.3%
AR1260	91.0%	52.0%	29.0%	50.0%	25.9%
DCB	100.0%	58.0%	32.0%	50.0%	

Following is a table with the concentrations and recoveries for the data.

	Spike Conc. (µg/L)	Recovered Concentration (µg/L)	%Recovery	Std. Dev. of % Rec.
AR1016	0.1	0.098 0.059 0.030 0.052 98.0%	59.0% 30.0% 52.0%	28.3
AR1260	0.1	0.091 0.052 0.029 0.050 91.0%	52.0% 29.0% 50.0%	25.9
DCB (Surrogate)	0.1	0.100 0.058 0.032 0.050 100.0%	58.0% 32.0% 50.0%	28.8

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