9442.1988(08)

MULTIPLE EXTRACTION PROCEDURE, MTHOD 1320

OCT 19 1988

Mr. Dave Collins
Jones and Henry Labs
2567 Tracey Rd.
Northwood, OH 43619

Dear Mr. Collins:

I am writing in response to our telephone conversation concerning Method 1320, the Multiple Extraction Procedure. Method 1320 states that after the EP (Method 1310) is run on the initial waste sample of 100 grams, the solid phase remaining after filtration is reweighed and a synthetic acid rain solution is added to the solid phase in a 20:1 ratio. The sample is then extracted and filtered. After filtration, the remaining solid is again reweighed and the extraction fluid is again added in a ratio of 20:1, and so on through the remaining multiple extractions.

I had originally said that the synthetic acid rain extraction fluid should be added in a 20:1 ratio based on the sample's initial dry weight. However, this approach does not take into account what would really happen to the waste in a landfill environment. Method 1320 is trying to predict what would happen to the waste when it is placed in a landfill and subjected to rainfall over a long period of time. The waste may absorb water after contact with the acid rain or may lose weight due to the percolation of the acid rain through the waste. In either case, the waste has been modified by the acid rain. Therefore, in order to mimic this behavior in the laboratory, the wet material that remains after each extraction with the synthetic acid rain solution is the material that should be weighed and used to calculate the 20:1 liquid to solid ratio. The dry weight of the original waste sample of 100 grams should not be used.

If you have any questions with this, please give me a call at (202) 475-6722.

Sincerely yours,

Gail Ann Hansen
Environmental Health Scientist
Methods Section (OS-331)

Table 43. Concentrations of copper measured in four waste leach tests

Waste leach test	Blank	Resource recovery ash			
		Chicago	Sumner	Hampton	Auburn
(ag/L)					
WET	0.022	1.90	0.041	0.047	211
EP	0.006	1.67	6.04	0.64	24.3
Carbonic acid	0.006	0.52	0.18	0.12	1.32
Acetate	0.003	1.06	0.15	0.21	24.2

Table 44. Concentrations of chromium in four waste leach tests

Waste leach test	Blank	Resource recovery ash			
		Chicago	Sumner	Hampton	Auburn
(ag/L)					
WET	0.024	1.00	1.02	1.18	1.72
EP	<0.000	0.030	0.042	0.035	0.011
Carbonic acid	<0.003	0.012	0.006	0.005	0.016
Acetate	<0.003	0.012	0.006	0.005	0.016

Table 45. Concentrations of lead in four waste leach tests

Waste leach test	Blank	Resource recovery ash			
		Chicago	Sumner	Hampton	Auburn
(ag/L)					
WET	0.07	29	35	46	29
EP	0.007	5.80	6.40	10.3	3.15
Carbonic acid	<0.003	0.025	0.004	0.095	0.012
Acetat	<0.003	0.50	0.28	1.62	4.20

Table 46. Concentrations of selenium in four waste leach tests

Waste leach test	Blank	Resource recovery ash			
		Chicago	Sumner	Hampton	Auburn
(10-3 ag/L)					
WET	<2	6	<2	<2	<2
EP	<2	3	<2	2	<2
Carbonic acid	<2	3	4	4	<2
Acetate	<2	4	5	7	4

Table 47. Concentrations of zinc in four waste leach tests

Waste leach test	Blank	Resource recovery ash			
		Chicago	Sumner	Hampton	Auburn
(ag/L)					
WET	<0.3	206	107	403	92
EP	<0.3	56	27	91	27
Carbonic acid	<0.3	4.1	1.6	19	5.7
Acetate	<0.3	11	1.1	56	25

Table 48. pH of final extract four waste leach tests

Waste leach test	Blank	Resource recovery ash			
		Chicago	Sumner	Hampton	Auburn
WET	4.98	7.09	7.52	6.51	5.60
EP	2.95	5.27	5.08	5.06	5.02
Carbonic Acid	4.36	6.84	6.94	6.83	6.48
Acetate	4.95	6.82	7.39	6.46	5.54