

COMMONWEALTH LABORATORY

INCORPORATED

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Bobbie Pettit  
Hi-Lite Solutions Inc  
1285 Brucetown Road  
Clear Brook VA. 22624

Reference: Biodegradability Test

Dear Mrs. Pettit:

Enclosed are certificates of analysis, in the format of USEPA 796.3100, for samples submitted by you. These tests were begun and completed in November 2012.

As submitted they pass the test for biodegradability - the test results show it to be "readily biodegradable." The standard is that within 10 days of biodegradation exceeding 10 per cent (of the COD) the test chemical shall exhibit a BOD of 60 per cent of the COD.

The problem with testing concentrated materials is the high variability of COD tests and BOD. A plot of BOD values for Sample 2059-1, for example, shows that the 286,000 mg/l fits the curve - the average and other values are too low. Duplicate values are difficult to obtain at the dilutions required.

Thank you for this opportunity to serve

With kind regards,

Sincerely

Enclosure

Edwin Cox III  
President

ECrrrrjagc

CERTIFICATE OF ANALYSIS

CLOSED BOTTLE TEST RESULTS

Exp. No.	94-2059-1A
Date of Start of Test	November 10, 2012
End of Test	November 28, 2012 (Day 15)
Test Material	Aero-Green 4025 Airport High Pressure Cleaner
Theoretical Test Concentration	100% as received
Test Method:	USEPA, 796.3200
Inoculum	Per paragraph (b) (2) (i) (A) (2) (i)
Analysis (YSI 02 Meter) COD	8.8 mg/l
of Test Material Temperature	415,556 mg/l
of Dilution Water	
after Aeration	20°C

PART I: O<sub>2</sub> Determinations

Culture Medium	Analyses	mg O <sub>2</sub> / l after x days		
		4.	<u>10</u>	<u>15</u>
Mineral nutrient w/o	C1	8.8	8.7	8.6
test material or inoculum	C2	8.8	8.7	8.6
. .		8.8'	8.7	8.6

$$M_o = \text{Mean} = (C1 + C2)/2$$

Calculated inoculum or seed corrections (mg/l BOD) by test day:

Mineral nutrient w/o	C3	.45	.59	.80	.92
Test material but w/ inoculum	C4	.42	.55	1.0	1.2
	C5		.44	.78	.99
		.44	.53	.86	1.04

$$M_b = \text{Mean} = (C3 \div C4 \div C5)/3$$

Mineral nutrient w/  
test material w/ inoculum

<u>Concentration</u> (ml/300 ml bottle)		mg	O <sub>2</sub> /l	
.003		7.0	5.5	4.9
.003		7.0	5.5	5.0
.005		6.3	3.7	3.3
.005		6.4	3.9	3.6
0		3.8	1.7	
0		3.3	1.1	
0		1.4		
0.020	5.9	1.1		
0.020	5.9			
0.050	4.9			
0.050	3.2			

94-2059-1 A (Aero-Green 4025 Airport High Pressure Cleaner)

PART II: Mineral nutrient w/ test material and w/ inoculum,  
Dilution specified, BOD = (mo-mti.) - (mo-mta:) [mg/l)

.003		244000	286000
.003		244000	276000
.005	118200	254400	267600
.005	112200	242400	249600
.010	134100		over depleted
.010	149100		over depleted
.020	36900		over depleted
.020	36900		over depleted
.050	20760		over depleted
.050	30960		over depleted

Average BOD 31380 128400 246200 269800

PART III: Evaluation

\_Per Cent Biodegradability = 100 x (BOD/COD)

after x days			
4	8	10	15
7.6	30.9	59.2	64.9

Or,

Test Solution demonstrated >60% biodegradability within 10 days of reaching 10% BOD/COD. 10% BOD was reached on Day 5.

  
Respectfully,

11/29/2012

Edwin Cox III

President