



96hr Rainbow Trout Bioassay Report

(Acute Aquatic Toxicity Test)

Project: B0C0794-Z00921

Client Name:	ClearFlow Consulting Inc
Location:	Sherwood Park, AB

Sample Data :

Sample Description : Water Lynx CFPL 360 (New Brand name-Water Lynx 360)
Sampling Location : ClearFlow
Sampling Method : Chemical Product
Volume obtained : 200g
Sampled By : JM

YY MM DD

Sample Date : 10 12 10 **Time :** n/g
Date Received : 10 12 10 **Time :** 1530
Bioassay Date : 10 12 18 **Time :** 1200
Report Date : 11 03 31

Deviations from method : none-chemical test per EPS 1/RM/9
Comments: Report re-issued March 2011 at client request to update product name from sample ID originally provided.

Bioassay Results :

CETIS Statistical Program

LC50 @ 96 Hours : 147.5 mg/L
Method : Probit
95 % Confidence Interval : 70.4<147.5<203.7 mg/L

EC50 @ 96 Hours : 140.3 mg/L
Method : Spearman-Karber
95 % Confidence Interval : 104.1<140.3<189.1 mg/L

Legend: LC50/EC50 indicates concentration of sample, in percent, which kills or affects 50% of test organisms.
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Note: The results relate only to the item tested.

Results of Phenol Reference Bioassay :

LC50 @ 96 Hours : 11.64 mg/L
95 % Confidence Interval : 10.98<11.64<12.35 mg/L
Method : Spearman-Karber
95 % Confidence Interval : 8.48<10.64<13.35
Method : Schewhart Warning Limit
Historical Mean ± 2SD : 10.64+/-2.52
Date of Reference Bioassay : 10 12 10

The reference toxicant is conducted under the same conditions as the definitive testing.

Data & QA/QC

Reviewed By :  Jay Abbott, Bioassay Supervisor



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Sample Description : Water Lynx CFPL 360 (New Brand name-Water Lynx 360)

Test Information :

Type of Bioassay :	96 Hour Multiple Dilution Static Bioassay		
Test Species :	<i>Oncorhynchus mykiss</i> (Rainbow Trout)		
Test Protocol :	Environment Canada EPS 1/RM/9 and 1/RM/13 (Dec.2000 ed. with May 2007 amendments).		
Source of Test Species :	Lyndon Trout Hatcheries, New Dundee, ON		
Culture Lot # :	LF1125-1		
Mean (± 1 SD) & Range Fork Length of Fish :	3.7 \pm 0.1 cm	Pop.Range 3.5 - 3.9 cm	n=10
Mean (± 1 SD) & Range Weight of Fish :	0.63 \pm 0.08 g	Pop.Range 0.5 - 0.8 g	
Cumulative Mortality of Fish Lot in the 7 Days Prior to Test :	0.8%		
Source of Holding Water :	Ammonia Free, Dechlorinated City of Edmonton Tap Water		
Size of Test Container :	38 L		
Material of Test Container :	Disposable Plastic Liner in Glass Tank		
Volume of Test Solution in Each Test Vessel :	20 L		
Depth of Test Material in Each Test Vessel :	≥ 15 cm		
Concentrations of Test Material :	0, 125, 250, 500, 1000, 1500mg/L		
Number of Fish per Test Vessel :	10		
Loading Density :	0.32 g/L		
Method of Aeration :	Carbon Filtered, Compressed Air Through Air-stone		
Aeration Rate during test :	6.5 \pm 1.0 mL/min./L		
pH adjustment:	No pH adjustment of sample was made during testing.		



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Sample Description : Water Lynx CFPL 360 (New Brand name-Water Lynx 360)

Setup	Sample Properties Prior To Initial Setup:	Temperature °C	pH @ 20°C	EC µS cm-1	Dissolved Oxygen mg/L
Analyst: JA	Preaeration Time (at rate of 6.5 ± 1.0 mL / min / L) :	n/a	n/a	n/a	n/a
		30 min			

Time	Description	Concentration (mg/L)					
		0	125	250	500	1000	1500

Start	Temperature (°C)	14.8	14.7	14.6	14.8	15.2	15.5
	pH	8.1	7.9	7.8	7.7	7.5	7.5
	EC (µS cm-1)	311	325	336	358	424	490
	Dissolved Oxygen (mg/L)	9.9	9.4	9.4	9.2	7.9	5.6
Analyst: JA							
1/4 Hour	Number Dead:						
	Atypical/Stressed Behaviour						
1/2 Hour	Number Dead:						
	Atypical/Stressed Behaviour						
1 Hour	Number Dead:						
	Atypical/Stressed Behaviour						
2 Hours	Number Dead:						
	Atypical/Stressed Behaviour						
4 Hours	Number Dead:						
	Atypical/Stressed Behaviour						
Analyst:							
24 Hours	Temperature (°C)	14.9	15.0	15.1	15.3	15.6	15.7
	pH	8.3	8.2	8.1	7.9	7.9	7.8
	EC (µS cm-1)	322	332	343	369	422	469
	Dissolved Oxygen (mg/L)	9.3	8.8	7.4	4.8	5.5	2.6
	Number Dead:	0	1	6	10	10	10
	Atypical/Stressed Behaviour	0	9LS	4LS	n/a	n/a	n/a
Analyst: HW							
48 Hours	Temperature (°C)	14.9	14.9	15.1	15.4	15.5	15.6
	pH	8.3	8.2	8.2	7.9	7.8	7.8
	EC (µS cm-1)	324	336	345	377	422	468
	Dissolved Oxygen (mg/L)	9.3	8.9	8.9	6.1	0.4	0.4
	Number Dead:	0	4	7	10	10	10
	Atypical/Stressed Behaviour	0	6L/S	3L/S	n/a	n/a	n/a
Analyst: JA							
72 Hours	Temperature (°C)	15.2	15.1	15.1	15.2	15.4	15.5
	pH	8.3	8.1	8.2	8.0	7.8	7.8
	EC (µS cm-1)	329	343	348	385	426	473
	Dissolved Oxygen (mg/L)	9.0	8.6	8.7	6.7	3.0	2.5
	Number Dead:	0	4	8	10	10	10
	Atypical/Stressed Behaviour	0	0	2L	n/a	n/a	n/a
Analyst: JA							
96 Hours	Temperature (°C)	14.6	14.3	14.5	14.9	15.1	15.1
	pH	8.2	8.1	8.1	7.8	7.8	7.9
	EC (µS cm-1)	327	340	348	392	430	476
	Dissolved Oxygen (mg/L)	9.1	9.1	8.7	5.8	5.0	4.8
	Number Dead:	0	4	8	10	10	10
	Atypical/Stressed Behaviour	0	0	2L	n/a	n/a	n/a
Analyst: JA							

Stress Codes: P:dark pigmentation U:light pigmentation L:lethargic H:hyperactive M:inhibited movement G:pronounced opercular movement S:extreme toxic shock D:disorientated

General Comments:

chemical product cut into small pieces and dissolved in dilution water at loading rate of 1500 mg/L for 36 hours prior to test set-up.
