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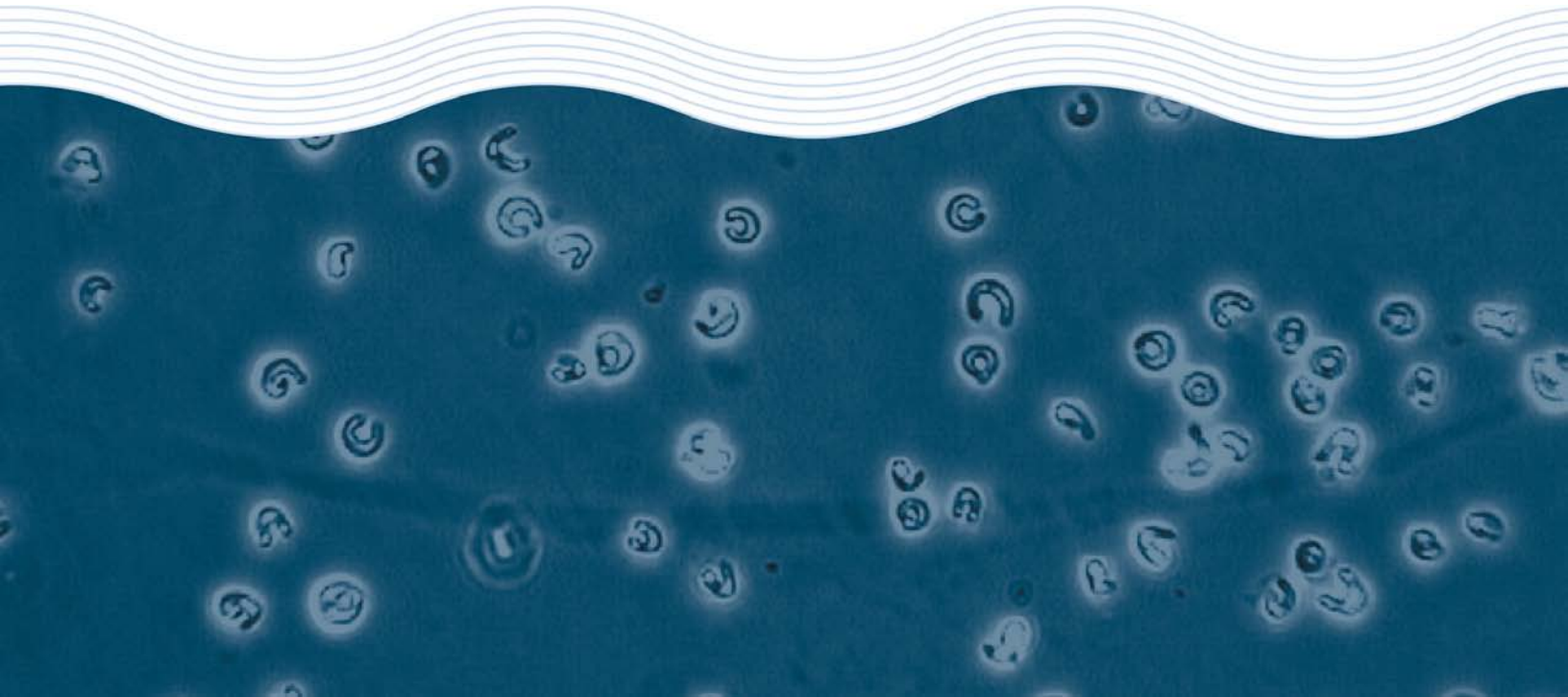
Toxicity Assessment of Triple Strike

VGT Pty Ltd

Test Report

January 2011



Toxicity Assessment of Triple Strike

VGT Pty Ltd

Test Report

January 2011

ECOTOX Services Australasia Pty Ltd ABN>45 094 714 904
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Toxicity Test Report: TR0706/1

This document is issued in accordance with NATA's accreditation requirements

Client:	VGT Pty Ltd	**ESA Job #:**	PR0706
	PO Box 2335	**Date Sampled:**	24 January 2011
	Greenhills NSW 2323	**Date Received:**	27 January 2011
Attention:	Lisa Thomson	**Sampled By:**	Client
Client Ref:	None Supplied	**ESA Quote #:**	PL0706_q01

Lab ID No.:	**Sample Name:**	**Sample Description:**
4543	Triple Strike	Chemical received at room temperature in apparent good condition

Test Performed:	48-hr acute (survival) toxicity test using the freshwater cladoceran *Ceriodaphnia cf dubia*
Test Protocol:	ESA SOP 101 (ESA 2009), based on USEPA (2002) and Bailey *et al*. (2000)
Test Temperature:	The test was performed at 25±1°C.
Deviations from Protocol:	Nil
Comments on Solution Preparation:	The highest test concentration was prepared by adding sample 4543 'Triple Strike' into dilute mineral water (DMW). The remaining test concentrations were achieved by serially diluting the highest test concentration with DMW. A DMW control was tested concurrently with the sample.
Source of Test Organisms:	ESA Laboratory culture
Test Initiated:	28 January 2011 at 1500h

Sample 4543: *Triple Strike* **Concentration (mg/L)**	**% Survival at 48 h (Mean ± SD)**	*Vacant*	*Vacant*
DMW Control	100 ± 0.0		
4.1	100 ± 0.0		
12.3	100 ± 0.0		
37.0	100 ± 0.0		
111.1	60.0 ± 28.3 *		
333.3	60.0 ± 43.2		
1000	60.0 ± 16.3 *		

48-hr EC10 = 30.7mg/L**
48-hr EC50 = >1000mg/L
NOEC = 37.0mg/L
LOEC = 111.1mg/L

*Significantly lower percent survival compared with the DMW Control (Steel's Many-One Rank Test, 1-tailed, P=0.05)
**95% confidence limits are not available

QA/QC Parameter	**Criterion**	**This Test**	**Criterion met?**
Control mean % survival	>90.0%	100%	Yes
Reference Toxicant within cusum chart limits	151.4-393.4mg KCl/L	279.9mg KCl/L	Yes

Toxicity Test Report: TR0706/1

Test Report Authorised by:  Dr Rick Krassoi, Director on 10 March 2011

Results are based on the samples in the condition as received by ESA.

NATA Accredited Laboratory Number: 14709

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Citations:

Bailey, H.C., Krassoi, R., Elphick, J.R., Mulhall, A., Hunt, P., Tedmanson, L. and Lovell, A. (2000) Application of *Ceriodaphnia cf. dubia* for whole effluent toxicity tests in the Hawkesbury-Nepean watershed, New South Wales, Australia: method development and validation. *Environmental Toxicology and Chemistry* 19:88-93.

ESA (2008) *SOP 101 – Acute toxicity test using Ceriodaphnia dubia*. Issue No. 8. Ecotox Services Australasia, Sydney, New South Wales.

USEPA (2002) *Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms.4th Ed.* United States Environmental Protection Agency, Office of Water, Washington DC.

Toxicity Test Report: TR0706/2

This document is issued in accordance with NATA's accreditation requirements

Client:	VGT Pty Ltd	**ESA Job #:**	PR0706
	PO Box 2335	**Date Sampled:**	24 January 2011
	Greenhills NSW 2323	**Date Received:**	27 January 2011
Attention:	Lisa Thomson	**Sampled By:**	Client
Client Ref:	None Supplied	**ESA Quote #:**	PL0706_q01

Lab ID No.:	**Sample Name:**	**Sample Description:**
4543	Triple Strike	Chemical received at room temperature in apparent good condition

Test Performed:	7-day partial life-cycle (chronic) toxicity test using the freshwater cladoceran *Ceriodaphnia cf dubia*
Test Protocol:	ESA SOP 102 (ESA 2011), based on USEPA (2002) and Bailey *et al*. (2000)
Test Temperature:	The test was performed at 25±1°C.
Deviations from Protocol:	Nil
Comments on Solution Preparation:	The highest test concentration was prepared by adding sample 4543 'Triple Strike' into dilute mineral water (DMW). The remaining test concentrations were achieved by serially diluting the highest test concentration with DMW. A DMW control was tested concurrently with the sample.
Source of Test Organisms:	ESA Laboratory culture
Test Initiated:	15 February 2011 at 1530h

Sample 4543: *Triple Strike*

Concentration (mg/L)	**% Survival at 7 days (Mean ± SD)**
DMW Control	90.0 ± 31.6
4.1	100 ± 0.0
12.3	100 ± 0.0
37.0	100 ± 0.0
111.1	100 ± 0.0
333.3	0.0 ± 0.0
1000	0.0 ± 0.0

7 day IC10 (survival) = 113.6 (83.7-168.9)mg/L
7 day EC50 (survival) = 176.8 (146.9-212.8)mg/L
NOEC = 111.1mg/L
LOEC = 333.3mg/L

Sample 4543: *Triple Strike*

Concentration (mg/L)	**Number of Young (Mean ± SD)**	
DMW Control	20.8 ± 5.6	
4.1	21.0 ± 2.4	
12.3	17.9 ± 3.4	
37.0	19.3 ± 2.5	
111.1	11.0 ± 4.3	*
333.3	0.0 ± 0.0	
1000	0.0 ± 0.0	

7 day IC10 (reproduction) = 11.5 (3.2-53.9)mg/L
7 day IC50 (reproduction) = 122.2 (91.4-156.4)mg/L
NOEC = 37mg/L
LOEC = 111.1mg/L

*Significantly lower percent survival compared with the DMW Control (Wilcoxon Rank Sum Test, 1-tailed, P=0.05)

QA/QC Parameter	**Criterion**	**This Test**	**Criterion met?**
Control mean % survival	>80.0%	90.0%	Yes
Control mean number of young	>15.0	20.8	Yes
Reference Toxicant within cusum chart limits	150.2-297.6mg KCl/L	235.8mg KCl/L	Yes

Toxicity Test Report: TR0706/2

Test Report Authorised by:  Dr Rick Krassoi, Director on 10 March 2011

Results are based on the samples in the condition as received by ESA.

NATA Accredited Laboratory Number: 14709

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Citations:

Bailey, H.C., Krassoi, R., Elphick, J.R., Mulhall, A., Hunt, P., Tedmanson, L. and Lovell, A. (2000) Application of *Ceriodaphnia cf. dubia* for whole effluent toxicity tests in the Hawkesbury-Nepean watershed, New South Wales, Australia: method development and validation. *Environmental Toxicology and Chemistry* 19:88-93.

ESA (2011) ESA SOP 102 – *Acute Toxicity Test Using Ceriodaphnia dubia.* Issue No 8. Ecotox Services Australasia, Sydney, NSW.

USEPA (2002) *Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms.4th Ed.* United States Environmental Protection Agency, Office of Water, Washington DC.

Toxicity Test Report: TR0706/3

This document is issued in accordance with NATA's accreditation requirements

Client:	VGT Pty Ltd	**ESA Job #:**	PR0706
	PO Box 2335	**Date Sampled:**	24 January 2011
	Greenhills NSW 2323	**Date Received:**	27 January 2011
Attention:	Lisa Thomson	**Sampled By:**	Client
Client Ref:	None Supplied	**ESA Quote #:**	PL0706_q01

Lab ID No.:	**Sample Name:**	**Sample Description:**
4543	Triple Strike	Chemical received at room temperature in apparent good condition

Test Performed:	72-hr microalgal growth inhibition test using the green alga *Selenastrum capricornutum*
Test Protocol:	ESA SOP 103 (ESA 2010), based on USEPA (2002)
Test Temperature:	The test was performed at 25±1°C.
Deviations from Protocol:	Nil
Comments on Solution Preparation:	Each of the test concentrations were prepared by adding sample 4543 'Triple Strike' into USEPA media. The highest two concentrations were then centrifuged. A USEPA control and colour control were tested concurrently with the sample.
Source of Test Organisms:	ESA Laboratory culture, originally sourced from CSIRO Microalgal Supply Service, TAS
Test Initiated:	8 February 2011 at 1200h

Sample 4543: *Triple Strike* **Concentration (mg/L)**	**Cell Yield x10^4 cells/mL (Mean ± SD)**	*Vacant*	*Vacant*
USEPA Control	63.0 ± 7.3		
Colour Control	38.3 ± 5.0 *		
4.1	62.2 ± 4.3		
12.3	64.9 ± 4.1		
37.0	55.0 ± 7.2		
111.1	2.8 ± 0.5**		
333.3	0.2 ± 0.4**		
1000	0.0 ± 0.0		
72-hr IC10 = 31.1 (3.8-48.3)mg/L			
72-hr IC50 = 70.1 (58.5-76.7)mg/L			
NOEC = 37mg/L			
LOEC = 111.1mg/L			

*Significantly lower cell yield compared with the USEPA Control (Homoscedastic *t* Test, 1-tailed, P=0.05)
**Significantly lower cell yield compared with the USEPA Control (Steel's Many-One Rank Test, 1-tailed, P=0.05)

Toxicity Test Report: TR0706/3

QA/QC Parameter	Criterion	This Test	Criterion met?
Control mean cell density	>16.0x10^4 cells/mL	63.9x10^4 cells/mL	Yes
Control coefficient of variation	<20%	11.6%	Yes
Reference Toxicant within cusum chart limits	1.4-3.9g KCl/L	3.2g KCl/L	Yes

Test Report Authorised by:  Dr Rick Krassoi, Director on 10 March 2011

Results are based on the samples in the condition as received by ESA.

NATA Accredited Laboratory Number: 14709

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Citations:

ESA (2010) *ESA SOP 103 – Green Alga, Selenastrum capricornutum, Growth Test*. Issue No 8. Ecotox Services Australasia, Sydney, NSW.

USEPA (2002) *Short-term methods for estimating the chronic toxicity of effluents and receiving waters to freshwater organisms*. Fourth Edition. EPA-821-R-02-013. United States Environmental Protection Agency, Office of Research and Development, Washington DC, USA,

Toxicity Test Report: TR0706/4 (page 1 of 2)

This document is issued in accordance with NATA's accreditation requirements

Client:	VGT Pty Ltd	**ESA Job #:**	PR0706
	PO Box 2335	**Date Sampled:**	24 January 2011
	Greenhills NSW 2323	**Date Received:**	27 January 2011
Attention:	Lisa Thomson	**Sampled By:**	Client
Client Ref:	None Supplied	**ESA Quote #:**	PL0706_q01

Lab ID No.:	**Sample Name:**	**Sample Description:**
4543	Triple Strike	Chemical received at room temperature in apparent good condition

Test Performed:	96-hr fish imbalance toxicity test using the rainbowfish *Melanotaenia splendida*
Test Protocol:	ESA SOP 117 (ESA 2009), based on USEPA (2002)
Test Temperature:	The test was performed at 25±1°C.
Deviations from Protocol:	Nil
Comments on Solution Preparation:	The highest test concentration was prepared by adding sample 4543 'Triple Strike' into dilute mineral water (DMW). The remaining test concentrations were achieved by serially diluting the highest test concentration with DMW. A DMW control was tested concurrently with the sample.
Source of Test Organisms:	In-house cultures
Test Initiated:	3 March 2011 at 1400h

Sample 4543: *Triple Strike* **Concentration (mg/L)**	**% Un-affected (Mean ± SD)**	*Vacant*	*Vacant*
DMW Control	90.0 ± 11.6		
4.1	95.0 ± 10.0		
12.3	95.0 ± 10.0		
37.0	85.0 ± 10.0		
111.1	75.0 ± 19.2		
333.3	40.0 ± 16.3 *		
1000	45.0 ± 19.2 *		
96-hr EC10 = 39.2 (4.1-114.7)mg/L			
96-hr EC50 = 521.5 (228.2-1000)mg/L			
NOEC = 111.1mg/L			
LOEC = 333.3mg/L			

*Significantly lower percentage of un-affected larval fish compared with the DMW Control (Dunnett's Test, 1-tailed, P=0.05)

QA/QC Parameter	**Criterion**	**This Test**	**Criterion met?**
Control mean % un-affected	≥80.0%	90.0%	Yes
Reference Toxicant within cusum chart limits	1.9-162.2µg Cu/L	12.5µg Cu/L	Yes

Toxicity Test Report: TR0706/4

Test Report Authorised by: Dr Rick Krassoi, Director on 10 March 2011

Results are based on the samples in the condition as received by ESA.

NATA Accredited Laboratory Number: 14709

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Citations:

ESA (2009) SOP 117 –*Freshwater and Marine Fish Imbalance Test*. Issue No 6. Ecotox Services Australasia, Sydney, NSW

USEPA (2002) Methods for measuring the acute toxicity of effluents and receiving waters to freshwater and marine organisms. Fifth edition EPA-821-R-02-012. United States Environmental Protection Agency, Office of Research and Development, Washington FC, USA

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Chain-of-Custody Documentation

Datasheet ID: 601.2
Last Revised: 30 April 2009

Sample Receipt Notification

Attention : Lisa Thomson

Client : VGT
PO Box 2335
Greenhills NSW 2323

Email : lisa@vgt.com.au
Telephone : (02) 4028 6412
Facsimile :

Date : 27/01/2011

Re : Receipt of Chemical **Pages : 2**

ESA Project : PR0706 ☑ For Review ☐ Additional Documentation Required - Please Respond

Sample Delivery Details

Completed Chain of Custody accompanied samples: YES
Samples received in apparent good condition and correctly bottled: YES
Security seals on sample bottles and esky intact: YES

Date samples received : 27/01/2011
Time samples received : 11:00
No. of samples received : 1
Sample matrix : chemical
Sample temperature :

Comments : Includes 1L of Triple Strike (ESA ID# 4543) received at room temperature.

Contact Details

Customer Services Officer : Tina Micevska
Telephone : 61 2 9420 9481
Facsimile : 61 2 9420 9484
Email : tmicevska@ecotox.com.au

Please contact customer services officer for all queries or issues regarding samples

Note that the chain-of-custody provides definitive information on the tests to be performed

Ecotox Services Australia
ABN 45 094 714 904
Unit 27, 2 Chaplin Drive
Lane Cove NSW 2066 Australia

Phone : 61 2 9420 9481
Fax : 61 2 9420 9484
Email : info@ecotox.com.au

Datasheet ID: 601.1
21 March 2007

Chain-of-Custody / Service Request Form

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Client: VGT Pty Ltd
Contact: Lisa Thomson
Sampled By: client

Ship To: PO Box 2335
Greenhills NSW 2322
Attention: (e) lisa@vgt.com.au (m) 0427 334471
(w) 40286412

Sample Date (day / month / year)	Sample Time	Sample Name (exactly as written on the sample vessel)	Sample Method (eg Grab, composite etc.)	Number and Volume of Container (eg 2 x 1L)	Tests Requested: 72 hr growth inhibition selenastrum	Tests Requested: 48hr + 7 day ceriodaphnia	Tests Requested: 96 hr juvenile rainbow fish	Tests Requested	Tests Requested	Comments / Instructions
29/1/11	unknown	Triple Strike	Grab	1 x 1L	✓	✓	✓			as per quote PL0706 17/1/11 dilutions from 1000ppm as per Hydra-Cyp.

Page 1 of 1

Note: An MSDS must be attached if Available

ESA Project Number: PR_____

1) Released By:	Date:	2) Received By:	Date:	3) Released By:	Date:	4) Recieved By:	Date:
Of: VGT	Time: 3 pm via Fastway	Of: ESA	Time: 11:00	Of:	Time:	Of:	Time:
	25/1	Tina Miceska	27/1/11				

Ecotox Services Australasia Pty Ltd. Unit 27, 2 Chaplin Drive, Lane Cove NSW 2066 AUSTRALIA

Phone: 61 2 9420-9481 Fax 61 2 9420-9484 info@ecotox.com.au

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Statistical Printouts for the Acute Test with *Ceriodaphnia dubia*

Ceriodaphnia Acute Toxicity Test-48 Hr Immobilisation

Start Date:	28/01/2011 15:00	Test ID:	PR0706	Sample ID:	TRIPLE STRIKE
End Date:	30/01/2011 15:00	Lab ID:	4543	Sample Type:	CP-Chemical product
Sample Date:		Protocol:	ESA 101	Test Species:	CD-Ceriodaphnia dubia
Comments:					

Conc-mg/L	1	2	3	4
DMW Control	1.0000	1.0000	1.0000	1.0000
4.1	1.0000	1.0000	1.0000	0.8000
12.3	1.0000	1.0000	1.0000	1.0000
37	1.0000	1.0000	1.0000	1.0000
111.1	0.8000	0.8000	0.2000	0.6000
333.3	1.0000	0.8000	0.6000	0.0000
1000	0.8000	0.6000	0.4000	0.6000

			Transform: Arcsin Square Root					Rank	1-Tailed	Number	Total
Conc-mg/L	Mean	N-Mean	Mean	Min	Max	CV%	N	Sum	Critical	Resp	Number
DMW Control	1.0000	1.0000	1.3453	1.3453	1.3453	0.000	4			0	20
4.1	0.9500	0.9500	1.2857	1.1071	1.3453	9.261	4	16.00	10.00	1	20
12.3	1.0000	1.0000	1.3453	1.3453	1.3453	0.000	4	18.00	10.00	0	20
37	1.0000	1.0000	1.3453	1.3453	1.3453	0.000	4	18.00	10.00	0	20
*111.1	0.6000	0.6000	0.8910	0.4636	1.1071	34.048	4	10.00	10.00	8	20
333.3	0.6000	0.6000	0.8910	0.2255	1.3453	54.058	4	12.00	10.00	8	20
*1000	0.6000	0.6000	0.8910	0.6847	1.1071	19.366	4	10.00	10.00	8	20

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates non-normal distribution (p <= 0.05)	0.793304	0.924	-1.21812	4.486842
Equality of variance cannot be confirmed				

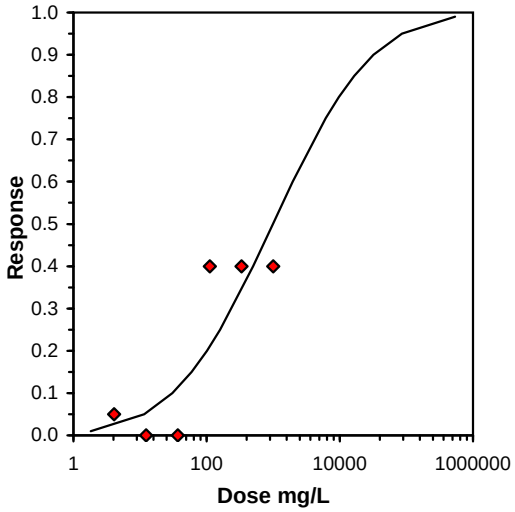
Hypothesis Test (1-tail, 0.05)	NOEC	LOEC	ChV	TU
Steel's Many-One Rank Test	37	111.1	64.11474	
Treatments vs DMW Control				

Maximum Likelihood-Probit

Parameter	Value	SE	95% Fiducial Limits		Control	Chi-Sq	Critical	P-value	Mu	Sigma	Iter
Slope	0.849855	0.317124	-0.03062	1.730333	0	9.888331	9.487729	4.0E-02	2.995055	1.176671	4
Intercept	2.454637	0.72513	0.441353	4.467921							
TSCR											

Point	Probits	mg/L	95% Fiducial Limits
EC01	2.674	1.810125	
EC05	3.355	11.47105	
EC10	3.718	30.69659	
EC15	3.964	59.6367	
EC20	4.158	101.0982	
EC25	4.326	159.0018	
EC40	4.747	497.6781	
EC50	5.000	988.6777	
EC60	5.253	1964.088	
EC75	5.674	6147.624	
EC80	5.842	9668.656	
EC85	6.036	16390.64	
EC90	6.282	31843.38	
EC95	6.645	85213.08	
EC99	7.326	540009.5	

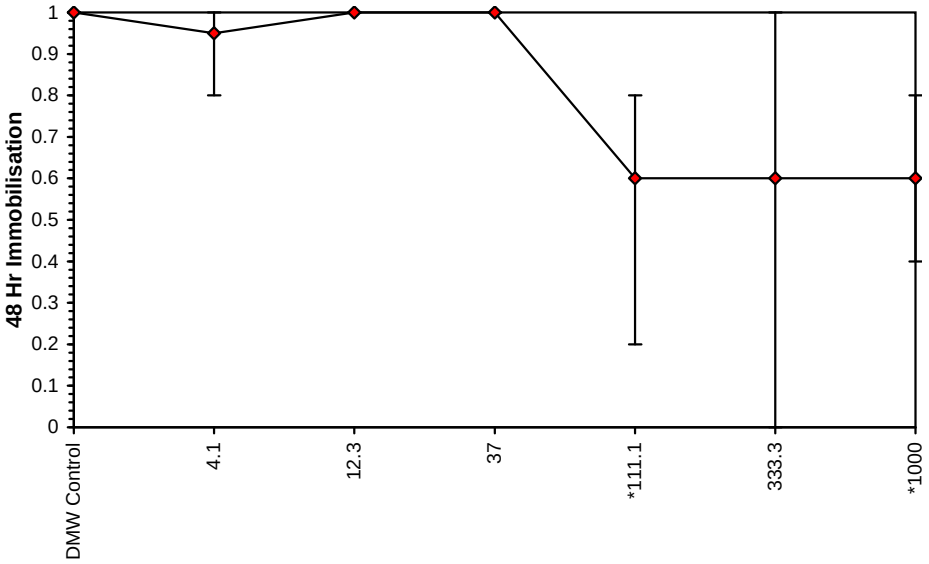
Significant heterogeneity detected (p = 4.00E-02)



Ceriodaphnia Acute Toxicity Test-48 Hr Immobilisation

Start Date:	28/01/2011 15:00	Test ID:	PR0706	Sample ID:	TRIPLE STRIKE
End Date:	30/01/2011 15:00	Lab ID:	4543	Sample Type:	CP-Chemical product
Sample Date:		Protocol:	ESA 101	Test Species:	CD-Ceriodaphnia dubia
Comments:					

Dose-Response Plot



Ceriodaphnia Acute Toxicity Test-48 Hr Immobilisation

Start Date:	28/01/2011 15:00	Test ID:	PR0706	Sample ID:	TRIPLE STRIKE
End Date:	30/01/2011 15:00	Lab ID:	4543	Sample Type:	CP-Chemical product
Sample Date:		Protocol:	ESA 101	Test Species:	CD-Ceriodaphnia dubia
Comments:					

Auxiliary Data Summary

Conc-mg/L	Parameter	Mean	Min	Max	SD	CV%	N
DMW Control	% Survival	100.00	100.00	100.00	0.00	0.00	4
4.1		95.00	80.00	100.00	10.00	3.33	4
12.3		100.00	100.00	100.00	0.00	0.00	4
37		100.00	100.00	100.00	0.00	0.00	4
111.1		60.00	20.00	80.00	28.28	8.86	4
333.3		60.00	0.00	100.00	43.20	10.96	4
1000		60.00	40.00	80.00	16.33	6.74	4
DMW Control	pH	8.20	8.20	8.20	0.00	0.00	1
4.1		8.10	8.10	8.10	0.00	0.00	1
12.3		8.00	8.00	8.00	0.00	0.00	1
37		7.90	7.90	7.90	0.00	0.00	1
111.1		7.80	7.80	7.80	0.00	0.00	1
333.3		7.70	7.70	7.70	0.00	0.00	1
1000		7.10	7.10	7.10	0.00	0.00	1
DMW Control	DO %	95.30	95.30	95.30	0.00	0.00	1
4.1		95.40	95.40	95.40	0.00	0.00	1
12.3		94.90	94.90	94.90	0.00	0.00	1
37		95.00	95.00	95.00	0.00	0.00	1
111.1		95.10	95.10	95.10	0.00	0.00	1
333.3		95.00	95.00	95.00	0.00	0.00	1
1000		95.90	95.90	95.90	0.00	0.00	1
DMW Control	Cond uS/cm	178.00	178.00	178.00	0.00	0.00	1
4.1		172.00	172.00	172.00	0.00	0.00	1
12.3		176.00	176.00	176.00	0.00	0.00	1
37		191.00	191.00	191.00	0.00	0.00	1
111.1		239.00	239.00	239.00	0.00	0.00	1
333.3		353.00	353.00	353.00	0.00	0.00	1
1000		631.00	631.00	631.00	0.00	0.00	1

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Statistical Printouts for the 7-d Chronic Test with *Ceriodaphnia dubia*

Ceriodaphnia Partial Life-Cycle Test-7 Day Survival

Start Date:	15/02/2011 15:30	Test ID:	PR0706/11	Sample ID:	Triple Strike
End Date:	22/02/2011 15:30	Lab ID:	4543	Sample Type:	CP-Chemical product
Sample Date:		Protocol:	ESA 102	Test Species:	CD-Ceriodaphnia dubia
Comments:					

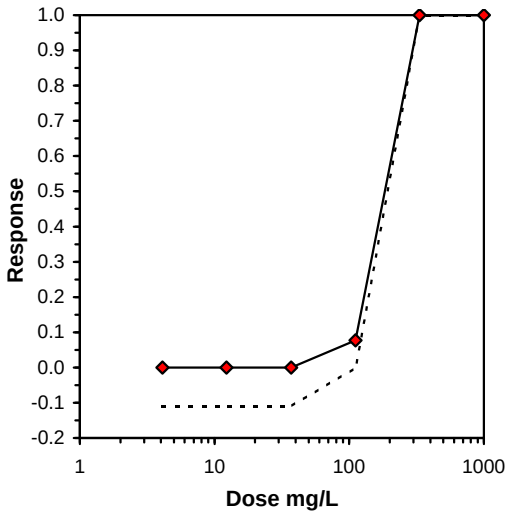
Conc-mg/L	1	2	3	4	5	6	7	8	9	10
DMW Control	0.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
4.1	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
12.3	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
37	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
111.1	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000
333.3	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
1000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Conc-mg/L	Mean	N-Mean	Resp	Not Resp	Total	N	Fisher's Exact P	1-Tailed Critical	Number Resp	Total Number
DMW Control	0.9000	1.0000	1	9	10	10			1	10
4.1	1.0000	1.1111	0	10	10	10	0.5000	0.0500	0	10
12.3	1.0000	1.1111	0	10	10	10	0.5000	0.0500	0	10
37	1.0000	1.1111	0	10	10	10	0.5000	0.0500	0	10
111.1	0.9000	1.0000	1	9	10	10	0.7632	0.0500	1	10
333.3	0.0000	0.0000	10	0	10	10			10	10
1000	0.0000	0.0000	10	0	10	10			10	10

Hypothesis Test (1-tail, 0.05)	NOEC	LOEC	ChV	TU
Fisher's Exact Test	111.1	333.3	192.4308	
Treatments vs DMW Control				

Trimmed Spearman-Karber

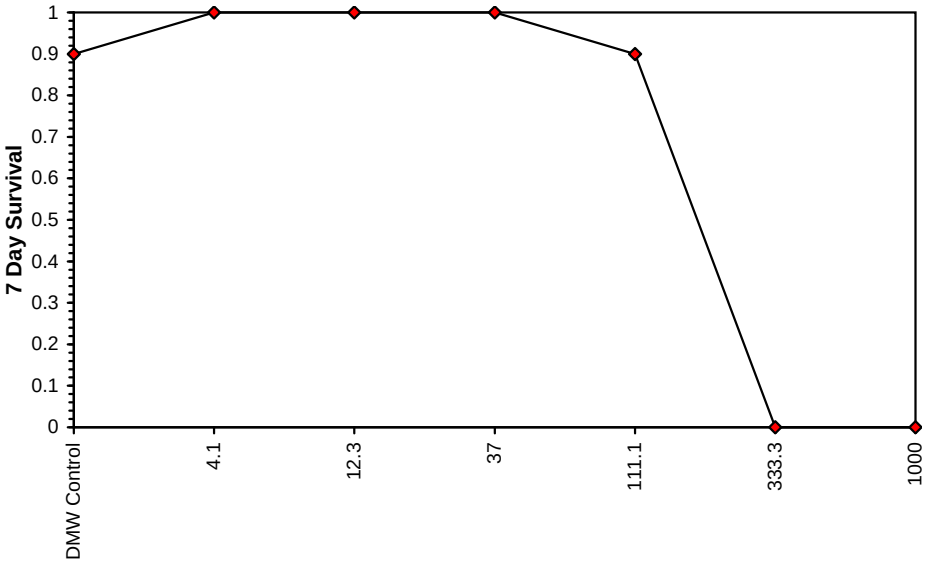
Trim Level	EC50	95% CL	
0.0%	176.83	146.93	212.81
5.0%	182.85	142.55	234.55
10.0%	183.82	164.90	204.92
20.0%	183.82	164.90	204.92
Auto-0.0%	176.83	146.93	212.81



Ceriodaphnia Partial Life-Cycle Test-7 Day Survival

Start Date:	15/02/2011 15:30	Test ID:	PR0706/11	Sample ID:	Triple Strike
End Date:	22/02/2011 15:30	Lab ID:	4543	Sample Type:	CP-Chemical product
Sample Date:		Protocol:	ESA 102	Test Species:	CD-Ceriodaphnia dubia
Comments:					

Dose-Response Plot



Ceriodaphnia Partial Life-Cycle Test-7 Day Survival

Start Date:	15/02/2011 15:30	Test ID:	PR0706/11	Sample ID:	Triple Strike
End Date:	22/02/2011 15:30	Lab ID:	4543	Sample Type:	CP-Chemical product
Sample Date:		Protocol:	ESA 102	Test Species:	CD-Ceriodaphnia dubia
Comments:					

Auxiliary Data Summary

Conc-mg/L	Parameter	Mean	Min	Max	SD	CV%	N
DMW Control	No of Young	20.80	7.00	26.00	5.63	11.41	10
4.1		21.00	17.00	24.00	2.36	7.31	10
12.3		16.10	0.00	22.00	6.52	15.86	10
37		19.30	13.00	22.00	2.45	8.11	10
111.1		12.22	9.00	15.00	1.99	11.53	9
333.3		0.00	0.00	0.00	0.00		10
1000		0.00	0.00	0.00	0.00		10
DMW Control	% survival	90.00	0.00	100.00	31.62	6.25	10
4.1		100.00	100.00	100.00	0.00	0.00	10
12.3		100.00	100.00	100.00	0.00	0.00	10
37		100.00	100.00	100.00	0.00	0.00	10
111.1		100.00	100.00	100.00	0.00	0.00	9
333.3		0.00	0.00	0.00	0.00		10
1000		0.00	0.00	0.00	0.00		10
DMW Control	pH	8.20	8.20	8.20	0.00	0.00	1
4.1		8.20	8.20	8.20	0.00	0.00	1
12.3		8.10	8.10	8.10	0.00	0.00	1
37		8.00	8.00	8.00	0.00	0.00	1
111.1		7.80	7.80	7.80	0.00	0.00	1
333.3		7.60	7.60	7.60	0.00	0.00	1
1000		7.30	7.30	7.30	0.00	0.00	1
DMW Control	DO %	100.20	100.20	100.20	0.00	0.00	1
4.1		99.40	99.40	99.40	0.00	0.00	1
12.3		99.20	99.20	99.20	0.00	0.00	1
37		98.80	98.80	98.80	0.00	0.00	1
111.1		98.90	98.90	98.90	0.00	0.00	1
333.3		98.80	98.80	98.80	0.00	0.00	1
1000		99.20	99.20	99.20	0.00	0.00	1
DMW Control	Cond uS/cm	188.00	188.00	188.00	0.00	0.00	1
4.1		181.00	181.00	181.00	0.00	0.00	1
12.3		184.00	184.00	184.00	0.00	0.00	1
37		198.00	198.00	198.00	0.00	0.00	1
111.1		238.00	238.00	238.00	0.00	0.00	1
333.3		343.00	343.00	343.00	0.00	0.00	1
1000		643.00	643.00	643.00	0.00	0.00	1

Ceriodaphnia Partial Life-Cycle Test-7 Day Survival

Start Date:	15/02/2011 15:30	Test ID:	PR0706/11	Sample ID:	Triple Strike
End Date:	22/02/2011 15:30	Lab ID:	4543	Sample Type:	CP-Chemical product
Sample Date:		Protocol:	ESA 102	Test Species:	CD-Ceriodaphnia dubia
Comments:					

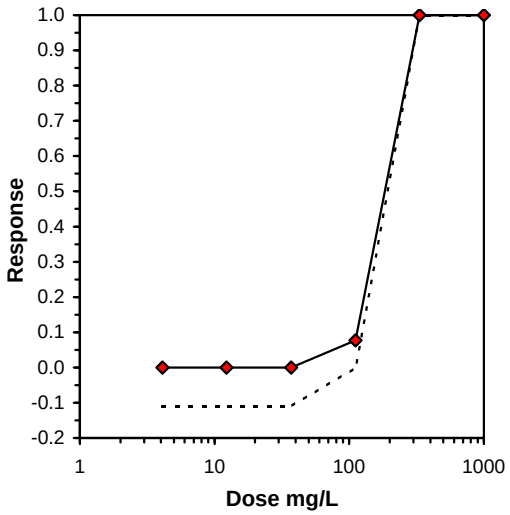
Conc-mg/L	1	2	3	4	5	6	7	8	9	10
DMW Control	0.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
4.1	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
12.3	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
37	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
111.1	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000
333.3	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
1000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Conc-mg/L	Mean	N-Mean	Resp	Not Resp	Total	N	Fisher's Exact P	1-Tailed Critical	Isotonic Mean	Isotonic N-Mean
DMW Control	0.9000	1.0000	1	9	10	10			0.9750	1.0000
4.1	1.0000	1.1111	0	10	10	10	0.5000	0.0500	0.9750	1.0000
12.3	1.0000	1.1111	0	10	10	10	0.5000	0.0500	0.9750	1.0000
37	1.0000	1.1111	0	10	10	10	0.5000	0.0500	0.9750	1.0000
111.1	0.9000	1.0000	1	9	10	10	0.7632	0.0500	0.9000	0.9231
333.3	0.0000	0.0000	10	0	10	10			0.0000	0.0000
1000	0.0000	0.0000	10	0	10	10			0.0000	0.0000

Hypothesis Test (1-tail, 0.05)	NOEC	LOEC	ChV	TU
Fisher's Exact Test	111.1	333.3	192.4308	
Treatments vs DMW Control				

Log-Logit Interpolation (200 Resamples)

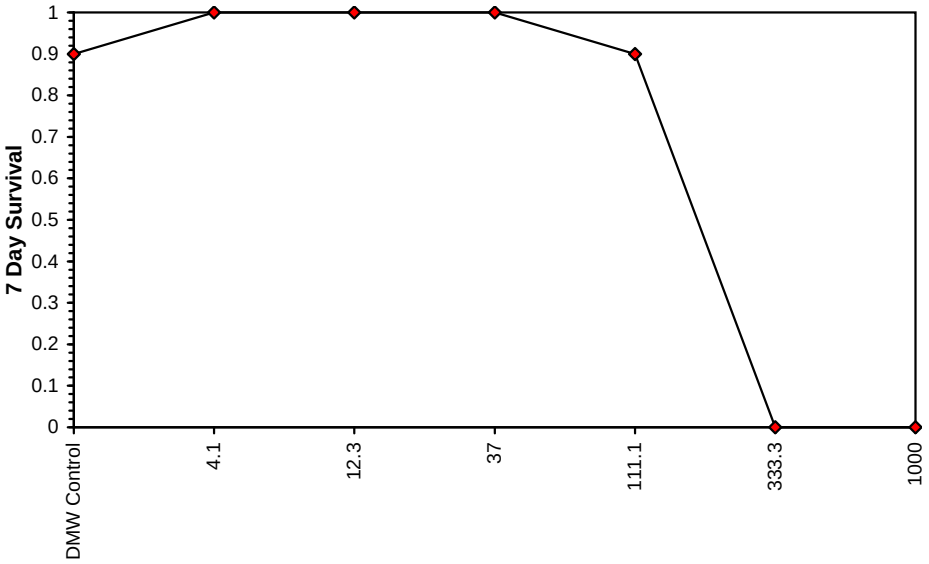
Point	mg/L	SD	95% CL		Skew
IC05	86.67	28.78	61.51	161.56	0.4175
IC10	113.58	24.32	83.69	168.93	0.6078
IC15	117.96	21.72	93.95	173.66	1.0681
IC20	121.56	20.63	98.28	177.30	1.3125
IC25	124.71	20.23	107.51	180.37	1.4298
IC40	132.88	19.92	116.61	187.98	1.4641
IC50	138.02	19.75	121.91	192.58	1.4593



Ceriodaphnia Partial Life-Cycle Test-7 Day Survival

Start Date:	15/02/2011 15:30	Test ID:	PR0706/11	Sample ID:	Triple Strike
End Date:	22/02/2011 15:30	Lab ID:	4543	Sample Type:	CP-Chemical product
Sample Date:		Protocol:	ESA 102	Test Species:	CD-Ceriodaphnia dubia
Comments:					

Dose-Response Plot



Ceriodaphnia Partial Life-Cycle Test-7 Day Survival

Start Date:	15/02/2011 15:30	Test ID:	PR0706/11	Sample ID:	Triple Strike
End Date:	22/02/2011 15:30	Lab ID:	4543	Sample Type:	CP-Chemical product
Sample Date:		Protocol:	ESA 102	Test Species:	CD-Ceriodaphnia dubia
Comments:					

Auxiliary Data Summary

Conc-mg/L	Parameter	Mean	Min	Max	SD	CV%	N
DMW Control	No of Young	20.80	7.00	26.00	5.63	11.41	10
4.1		21.00	17.00	24.00	2.36	7.31	10
12.3		16.10	0.00	22.00	6.52	15.86	10
37		19.30	13.00	22.00	2.45	8.11	10
111.1		12.22	9.00	15.00	1.99	11.53	9
333.3		0.00	0.00	0.00	0.00		10
1000		0.00	0.00	0.00	0.00		10
DMW Control	% survival	90.00	0.00	100.00	31.62	6.25	10
4.1		100.00	100.00	100.00	0.00	0.00	10
12.3		100.00	100.00	100.00	0.00	0.00	10
37		100.00	100.00	100.00	0.00	0.00	10
111.1		100.00	100.00	100.00	0.00	0.00	9
333.3		0.00	0.00	0.00	0.00		10
1000		0.00	0.00	0.00	0.00		10
DMW Control	pH	8.20	8.20	8.20	0.00	0.00	1
4.1		8.20	8.20	8.20	0.00	0.00	1
12.3		8.10	8.10	8.10	0.00	0.00	1
37		8.00	8.00	8.00	0.00	0.00	1
111.1		7.80	7.80	7.80	0.00	0.00	1
333.3		7.60	7.60	7.60	0.00	0.00	1
1000		7.30	7.30	7.30	0.00	0.00	1
DMW Control	DO %	100.20	100.20	100.20	0.00	0.00	1
4.1		99.40	99.40	99.40	0.00	0.00	1
12.3		99.20	99.20	99.20	0.00	0.00	1
37		98.80	98.80	98.80	0.00	0.00	1
111.1		98.90	98.90	98.90	0.00	0.00	1
333.3		98.80	98.80	98.80	0.00	0.00	1
1000		99.20	99.20	99.20	0.00	0.00	1
DMW Control	Cond uS/cm	188.00	188.00	188.00	0.00	0.00	1
4.1		181.00	181.00	181.00	0.00	0.00	1
12.3		184.00	184.00	184.00	0.00	0.00	1
37		198.00	198.00	198.00	0.00	0.00	1
111.1		238.00	238.00	238.00	0.00	0.00	1
333.3		343.00	343.00	343.00	0.00	0.00	1
1000		643.00	643.00	643.00	0.00	0.00	1

Ceriodaphnia Partial Life-Cycle Test-Reproduction

Start Date:	15/02/2011 15:30	Test ID:	PR0706/11	Sample ID:	TRIPLE STRIKE
End Date:	22/02/2011 15:30	Lab ID:	4543	Sample Type:	CP-Chemical product
Sample Date:		Protocol:	ESA 102	Test Species:	CD-Ceriodaphnia dubia
Comments:					

Conc-mg/L	1	2	3	4	5	6	7	8	9	10
DMW Control	7.000	26.000	24.000	26.000	24.000	20.000	23.000	20.000	21.000	17.000
4.1	22.000	23.000	20.000	23.000	20.000	17.000	20.000	18.000	24.000	23.000
12.3	18.000	13.000	22.000	13.000	17.000	20.000	22.000	16.000	20.000	
37	19.000	21.000	20.000	20.000	22.000	20.000	13.000	20.000	20.000	18.000
111.1	15.000	12.000	9.000	13.000	12.000	14.000	10.000	11.000	14.000	0.000
333.3	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
1000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

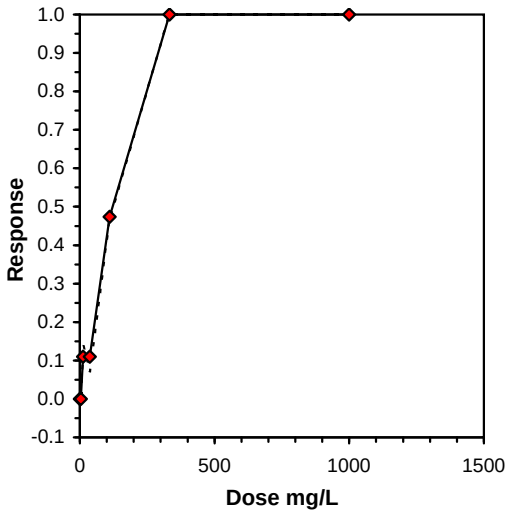
			Transform: Untransformed					Rank	1-Tailed	Isotonic	
Conc-mg/L	Mean	N-Mean	Mean	Min	Max	CV%	N	Sum	Critical	Mean	N-Mean
DMW Control	20.800	1.0000	20.800	7.000	26.000	27.083	10			20.900	1.0000
4.1	21.000	1.0096	21.000	17.000	24.000	11.224	10	96.00	75.00	20.900	1.0000
12.3	17.889	0.8600	17.889	13.000	22.000	19.252	9	67.50	62.00	18.594	0.8897
37	19.300	0.9279	19.300	13.000	22.000	12.703	10	84.50	75.00	18.594	0.8897
*111.1	11.000	0.5288	11.000	0.000	15.000	39.043	10	64.00	75.00	11.000	0.5263
333.3	0.000	0.0000	0.000	0.000	0.000	0.000	10			0.000	0.0000
1000	0.000	0.0000	0.000	0.000	0.000	0.000	10			0.000	0.0000

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates non-normal distribution (p <= 0.05)	0.871286	0.947	-1.69315	4.146556
Bartlett's Test indicates equal variances (p = 0.05)	9.383791	13.2767		

Hypothesis Test (1-tail, 0.05)	NOEC	LOEC	ChV	TU
Wilcoxon Rank Sum Test	37	111.1	64.11474	
Treatments vs DMW Control				

Linear Interpolation (200 Resamples)

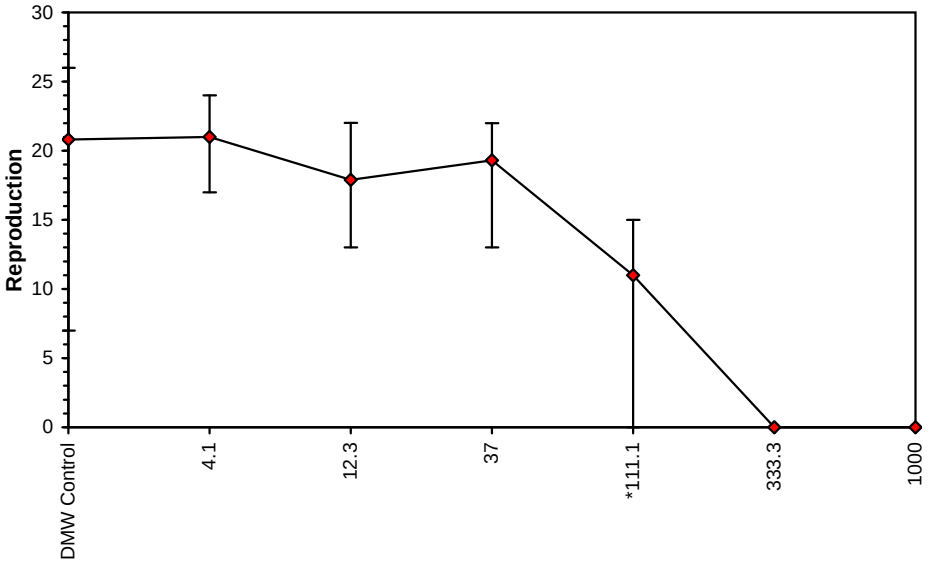
Point	mg/L	SD	95% CL		Skew
IC05	7.82	10.89	1.59	44.56	2.4719
IC10	11.53	17.00	3.17	53.92	0.7518
IC15	45.09	18.78	5.67	63.00	-0.3894
IC20	55.29	14.33	9.86	72.48	-1.2686
IC25	65.49	11.92	39.09	82.87	-0.9918
IC40	96.07	12.96	73.02	121.05	0.3175
IC50	122.21	19.90	91.35	156.43	0.2357



Ceriodaphnia Partial Life-Cycle Test-Reproduction

Start Date:	15/02/2011 15:30	Test ID:	PR0706/11	Sample ID:	TRIPLE STRIKE
End Date:	22/02/2011 15:30	Lab ID:	4543	Sample Type:	CP-Chemical product
Sample Date:		Protocol:	ESA 102	Test Species:	CD-Ceriodaphnia dubia
Comments:					

Dose-Response Plot



Ceriodaphnia Partial Life-Cycle Test-Reproduction

Start Date:	15/02/2011 15:30	Test ID:	PR0706/11	Sample ID:	TRIPLE STRIKE
End Date:	22/02/2011 15:30	Lab ID:	4543	Sample Type:	CP-Chemical product
Sample Date:		Protocol:	ESA 102	Test Species:	CD-Ceriodaphnia dubia
Comments:					

Auxiliary Data Summary

Conc-mg/L	Parameter	Mean	Min	Max	SD	CV%	N
DMW Control	No of Young	20.80	7.00	26.00	5.63	11.41	10
4.1		21.00	17.00	24.00	2.36	7.31	10
12.3		17.89	13.00	22.00	3.44	10.37	9
37		19.30	13.00	22.00	2.45	8.11	10
111.1		11.00	0.00	15.00	4.29	18.84	10
333.3		0.00	0.00	0.00	0.00		10
1000		0.00	0.00	0.00	0.00		10
DMW Control	% survival	90.00	0.00	100.00	31.62	6.25	10
4.1		100.00	100.00	100.00	0.00	0.00	10
12.3		100.00	100.00	100.00	0.00	0.00	10
37		100.00	100.00	100.00	0.00	0.00	10
111.1		90.00	0.00	100.00	31.62	6.25	10
333.3		0.00	0.00	0.00	0.00		10
1000		0.00	0.00	0.00	0.00		10
DMW Control	pH	8.20	8.20	8.20	0.00	0.00	1
4.1		8.20	8.20	8.20	0.00	0.00	1
12.3		8.10	8.10	8.10	0.00	0.00	1
37		8.00	8.00	8.00	0.00	0.00	1
111.1		7.80	7.80	7.80	0.00	0.00	1
333.3		7.60	7.60	7.60	0.00	0.00	1
1000		7.30	7.30	7.30	0.00	0.00	1
DMW Control	DO %	100.20	100.20	100.20	0.00	0.00	1
4.1		99.40	99.40	99.40	0.00	0.00	1
12.3		99.20	99.20	99.20	0.00	0.00	1
37		98.80	98.80	98.80	0.00	0.00	1
111.1		98.90	98.90	98.90	0.00	0.00	1
333.3		98.80	98.80	98.80	0.00	0.00	1
1000		99.20	99.20	99.20	0.00	0.00	1
DMW Control	Cond uS/cm	188.00	188.00	188.00	0.00	0.00	1
4.1		181.00	181.00	181.00	0.00	0.00	1
12.3		184.00	184.00	184.00	0.00	0.00	1
37		198.00	198.00	198.00	0.00	0.00	1
111.1		238.00	238.00	238.00	0.00	0.00	1
333.3		343.00	343.00	343.00	0.00	0.00	1
1000		643.00	643.00	643.00	0.00	0.00	1

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Statistical Printouts for the *Selenastrum* Growth Inhibition Tests

Microalgal Growth inhibition Test-Growth-Cell Yield

Start Date:	8/02/2011 12:00	Test ID:	PR0706/11	Sample ID:	Controls
End Date:	11/02/2011 12:00	Lab ID:	NA	Sample Type:	AQ-Aqueous
Sample Date:		Protocol:	ESA 103	Test Species:	SC-Selenastrum capricornutum
Comments:					

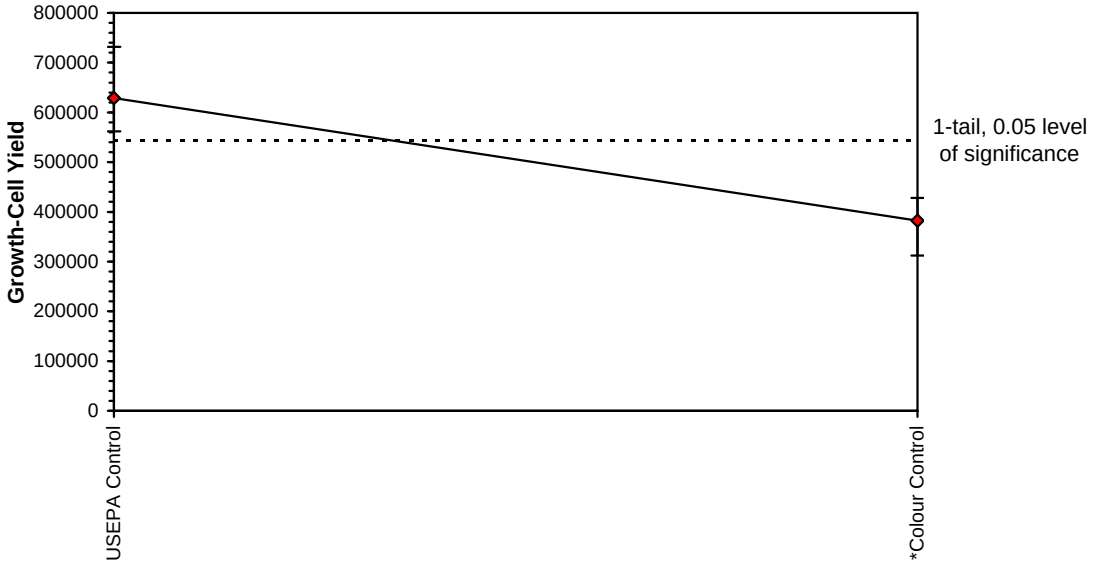
Conc-%	1	2	3	4
USEPA Control	562481	622481	732481	600481
Colour Control	382481	312481	428481	406481

			Transform: Untransformed					1-Tailed		
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	t-Stat	Critical	MSD
USEPA Control	629481	1.0000	629481	562481	732481	11.597	4			
*Colour Control	382481	0.6076	382481	312481	428481	13.152	4	5.572	1.943	86137.92

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates normal distribution (p > 0.05)	0.95526	0.818	0.521608	0.001797
F-Test indicates equal variances (p = 0.56)	2.105901	47.46723		

Hypothesis Test (1-tail, 0.05)	MSDu	MSDp	MSB	MSE	F-Prob	df
Homoscedastic t Test indicates significant differences Treatments vs USEPA Control	86137.92	0.13684	1.22E+11	3.93E+09	0.001417	1, 6

Dose-Response Plot



Microalgal Growth inhibition Test-Growth-Cell Yield

Start Date:	8/02/2011 12:00	Test ID:	PR0706/11	Sample ID:	Controls
End Date:	11/02/2011 12:00	Lab ID:	NA	Sample Type:	AQ-Aqueous
Sample Date:		Protocol:	ESA 103	Test Species:	SC-Selenastrum capricornutum
Comments:					

Auxiliary Data Summary

Conc-%	Parameter	Mean	Min	Max	SD	CV%	N
USEPA Control	Cell Yield	62.95	56.25	73.25	7.30	4.29	4
Colour Control		38.25	31.25	42.85	5.03	5.86	4
USEPA Control	pH	7.40	7.40	7.40	0.00	0.00	1
Colour Control		7.40	7.40	7.40	0.00	0.00	1
USEPA Control	Cond uS/cm	102.50	102.50	102.50	0.00	0.00	1
Colour Control		102.50	102.50	102.50	0.00	0.00	1

Microalgal Growth inhibition Test-Growth-Cell Yield

Start Date:	8/02/2011 12:00	Test ID:	PR0706/10	Sample ID:	Triple Strike
End Date:	11/02/2011 12:00	Lab ID:	4543	Sample Type:	CP-Chemical product
Sample Date:		Protocol:	ESA 103	Test Species:	SC-Selenastrum capricornutum
Comments:					

Conc-mg/L	1	2	3	4
USEPA Control	562500	622500	732500	600500
4.1	622481	636481	562481	664481
12.3	632481	696481	602481	664481
37	576481	460481	630481	532481
111.1	24481	30481	22481	32481
333.3	0	0	0	8481
1000	0	0	0	0

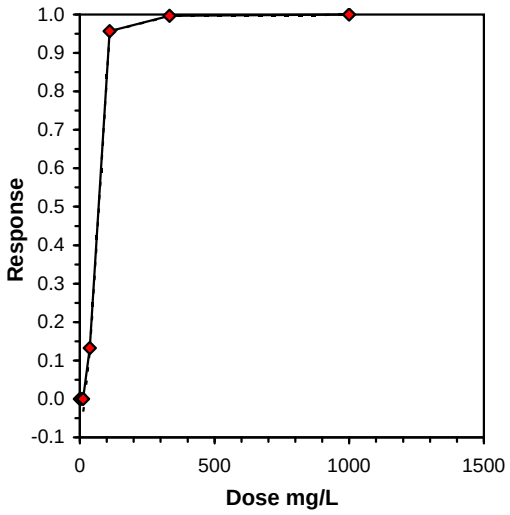
			Transform: Untransformed					Rank	1-Tailed	Isotonic	
Conc-mg/L	Mean	N-Mean	Mean	Min	Max	CV%	N	Sum	Critical	Mean	N-Mean
USEPA Control	629500	1.0000	629500	562500	732500	11.597	4			633320.7	1.0000
4.1	621481	0.9873	621481	562481	664481	6.925	4	18.00	10.00	633320.7	1.0000
12.3	648981	1.0309	648981	602481	696481	6.247	4	21.00	10.00	633320.7	1.0000
37	549981	0.8737	549981	460481	630481	13.069	4	14.00	10.00	549981	0.8684
*111.1	27481	0.0437	27481	22481	32481	17.325	4	10.00	10.00	27481	0.0434
*333.3	2120.25	0.0034	2120.25	0	8481	200.000	4	10.00	10.00	2120.25	0.0033
1000	0	0.0000	0	0	0	0.000	4			0	0.0000

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates normal distribution (p > 0.05)	0.950623	0.916	0.283985	1.042653
Bartlett's Test indicates unequal variances (p = 4.20E-04)	22.50511	15.08627		

Hypothesis Test (1-tail, 0.05)	NOEC	LOEC	ChV	TU
Steel's Many-One Rank Test	37	111.1	64.11474	
Treatments vs USEPA Control				

Linear Interpolation (200 Resamples)

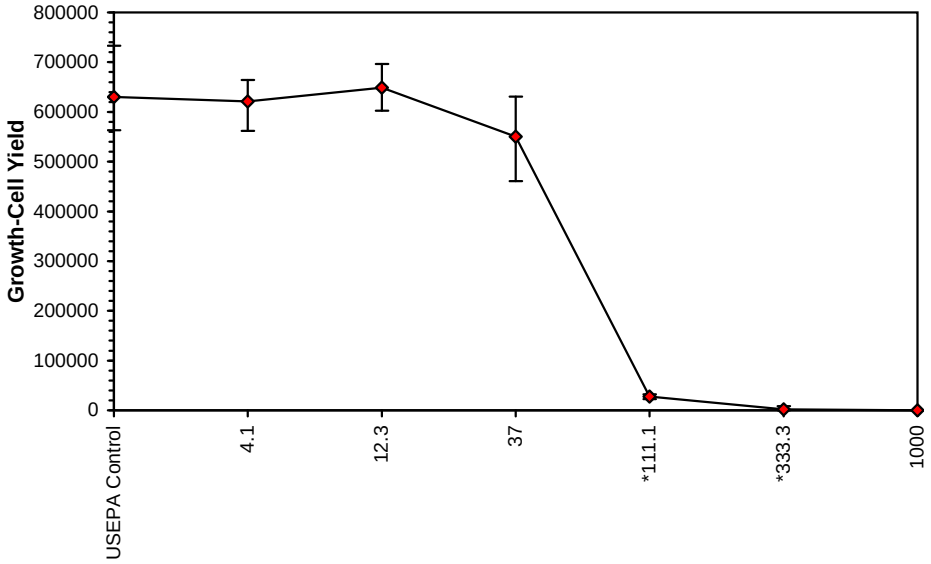
Point	mg/L	SD	95% CL(Exp)		Skew
IC05	21.685	8.571	0.000	47.471	-0.3271
IC10	31.070	7.954	3.807	48.316	-0.5196
IC15	38.653	6.257	12.718	50.241	-0.6618
IC20	43.144	5.001	21.903	54.022	-0.6187
IC25	47.635	4.465	29.427	57.803	-0.4909
IC40	61.107	3.530	47.040	69.146	-0.4953
IC50	70.089	2.910	58.528	76.708	-0.4996



Microalgal Growth inhibition Test-Growth-Cell Yield

Start Date:	8/02/2011 12:00	Test ID:	PR0706/10	Sample ID:	Triple Strike
End Date:	11/02/2011 12:00	Lab ID:	4543	Sample Type:	CP-Chemical product
Sample Date:		Protocol:	ESA 103	Test Species:	SC-Selenastrum capricornutum
Comments:					

Dose-Response Plot



Microalgal Growth inhibition Test-Growth-Cell Yield

Start Date:	8/02/2011 12:00	Test ID:	PR0706/10	Sample ID:	Triple Strike
End Date:	11/02/2011 12:00	Lab ID:	4543	Sample Type:	CP-Chemical product
Sample Date:		Protocol:	ESA 103	Test Species:	SC-Selenastrum capricornutum
Comments:					

Auxiliary Data Summary

Conc-mg/L	Parameter	Mean	Min	Max	SD	CV%	N
USEPA Control	Cell Yield	62.95	56.25	73.25	7.30	4.29	4
4.1		62.15	56.25	66.45	4.30	3.34	4
12.3		64.90	60.25	69.65	4.05	3.10	4
37		55.00	46.05	63.05	7.19	4.87	4
111.1		2.75	2.25	3.25	0.48	25.11	4
333.3		0.21	0.00	0.85	0.42	307.13	4
1000		0.00	0.00	0.00	0.00		4
USEPA Control	pH	7.40	7.40	7.40	0.00	0.00	1
4.1		7.50	7.50	7.50	0.00	0.00	1
12.3		7.50	7.50	7.50	0.00	0.00	1
37		7.40	7.40	7.40	0.00	0.00	1
111.1		7.10	7.10	7.10	0.00	0.00	1
333.3		5.40	5.40	5.40	0.00	0.00	1
1000		4.50	4.50	4.50	0.00	0.00	1
USEPA Control	Cond uS/cm	102.50	102.50	102.50	0.00	0.00	1
4.1		99.70	99.70	99.70	0.00	0.00	1
12.3		107.60	107.60	107.60	0.00	0.00	1
37		120.60	120.60	120.60	0.00	0.00	1
111.1		166.70	166.70	166.70	0.00	0.00	1
333.3		271.00	271.00	271.00	0.00	0.00	1
1000		554.00	554.00	554.00	0.00	0.00	1

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Statistical Printouts for the Larval Fish Imbalance Tests

Fish Imbalance Test-96 hr Imbalance

Start Date:	3/03/2011 14:00	Test ID:	PR0706/10	Sample ID:	Triple Strike
End Date:	7/03/2011 14:00	Lab ID:	4543	Sample Type:	CP-Chemical product
Sample Date:		Protocol:	ESA 117	Test Species:	MS-Melanotaenia splendida
Comments:					

Conc-mg/L	1	2	3	4
DMW Control	1.0000	0.8000	0.8000	1.0000
4.1	1.0000	1.0000	1.0000	0.8000
12.3	1.0000	1.0000	1.0000	0.8000
37	0.8000	1.0000	0.8000	0.8000
111.1	0.6000	1.0000	0.8000	0.6000
333.3	0.2000	0.4000	0.4000	0.6000
1000	0.6000	0.4000	0.2000	0.6000

			Transform: Arcsin Square Root						1-Tailed		Number	Total
Conc-mg/L	Mean	N-Mean	Mean	Min	Max	CV%	N	t-Stat	Critical	MSD	Resp	Number
DMW Control	0.9000	1.0000	1.2262	1.1071	1.3453	11.212	4				2	20
4.1	0.9500	1.0556	1.2857	1.1071	1.3453	9.261	4	-0.525	2.451	0.2778	1	20
12.3	0.9500	1.0556	1.2857	1.1071	1.3453	9.261	4	-0.525	2.451	0.2778	1	20
37	0.8500	0.9444	1.1667	1.1071	1.3453	10.206	4	0.525	2.451	0.2778	3	20
111.1	0.7500	0.8333	1.0561	0.8861	1.3453	20.748	4	1.501	2.451	0.2778	5	20
*333.3	0.4000	0.4444	0.6798	0.4636	0.8861	25.383	4	4.822	2.451	0.2778	12	20
*1000	0.4500	0.5000	0.7301	0.4636	0.8861	27.587	4	4.378	2.451	0.2778	11	20

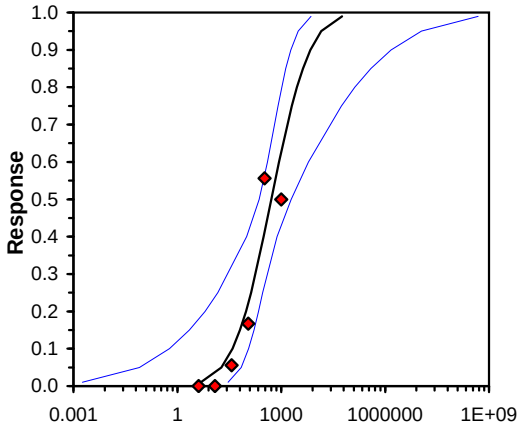
Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates normal distribution (p > 0.05)	0.968669	0.924	-0.04731	-0.71416
Bartlett's Test indicates equal variances (p = 0.89)	2.286513	16.81189		

Hypothesis Test (1-tail, 0.05)	NOEC	LOEC	ChV	TU	MSDu	MSDp	MSB	MSE	F-Prob	df
Dunnett's Test	111.1	333.3	192.4308		0.225752	0.254831	0.262871	0.025685	2.5E-05	6, 21
Treatments vs DMW Control										

Maximum Likelihood-Probit

Parameter	Value	SE	95% Fiducial Limits		Control	Chi-Sq	Critical	P-value	Mu	Sigma	Iter
Slope	1.140442	0.372642	0.410064	1.870821	0.1	3.293783	9.487729	0.51	2.717289	0.876853	28
Intercept	1.901088	0.919585	0.098702	3.703475							
TSCR	0.061576	0.04086	-0.01851	0.141662							

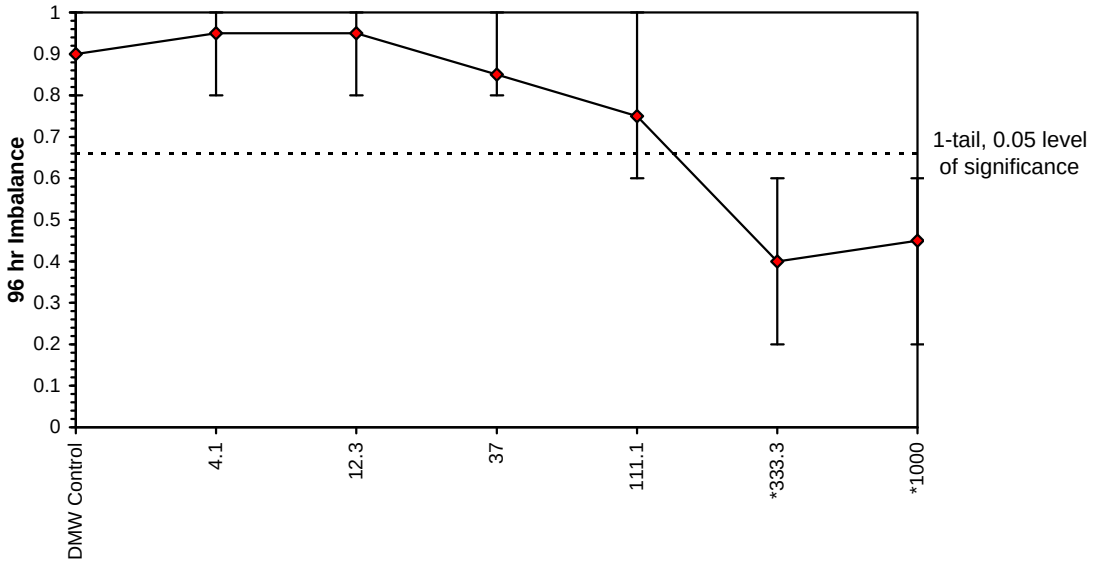
Point	Probits	mg/L	95% Fiducial Limits	
EC01	2.674	4.758002	0.001833	28.9107
EC05	3.355	18.83626	0.080357	70.04931
EC10	3.718	39.22447	0.59033	114.681
EC15	3.964	64.34126	2.22482	162.9556
EC20	4.158	95.3479	6.256538	219.9072
EC25	4.326	133.6167	14.80529	291.7875
EC40	4.747	312.7093	100.7778	766.0324
EC50	5.000	521.5415	228.2277	1916.405
EC60	5.253	869.8353	403.6249	6139.341
EC75	5.674	2035.715	813.942	54404.43
EC80	5.842	2852.77	1038.213	133921.9
EC85	6.036	4227.546	1362.679	387216.8
EC90	6.282	6934.588	1897.118	1489465
EC95	6.645	14440.53	3055.789	11121414
EC99	7.326	57168.06	7306.729	4.85E+08



Fish Imbalance Test-96 hr Imbalance

Start Date:	3/03/2011 14:00	Test ID:	PR0706/10	Sample ID:	Triple Strike
End Date:	7/03/2011 14:00	Lab ID:	4543	Sample Type:	CP-Chemical product
Sample Date:		Protocol:	ESA 117	Test Species:	MS-Melanotaenia splendida
Comments:					

Dose-Response Plot



Fish Imbalance Test-96 hr Imbalance

Start Date:	3/03/2011 14:00	Test ID:	PR0706/10	Sample ID:	Triple Strike
End Date:	7/03/2011 14:00	Lab ID:	4543	Sample Type:	CP-Chemical product
Sample Date:		Protocol:	ESA 117	Test Species:	MS-Melanotaenia splendida
Comments:					

Auxiliary Data Summary

Conc-mg/L	Parameter	Mean	Min	Max	SD	CV%	N
DMW Control	% Unaffected	90.00	80.00	100.00	11.55	3.78	4
4.1		95.00	80.00	100.00	10.00	3.33	4
12.3		95.00	80.00	100.00	10.00	3.33	4
37		85.00	80.00	100.00	10.00	3.72	4
111.1		75.00	60.00	100.00	19.15	5.83	4
333.3		40.00	20.00	60.00	16.33	10.10	4
1000		45.00	20.00	60.00	19.15	9.72	4
DMW Control	pH	8.00	8.00	8.00	0.00	0.00	1
4.1		8.00	8.00	8.00	0.00	0.00	1
12.3		8.00	8.00	8.00	0.00	0.00	1
37		7.90	7.90	7.90	0.00	0.00	1
111.1		7.70	7.70	7.70	0.00	0.00	1
333.3		7.30	7.30	7.30	0.00	0.00	1
1000		6.70	6.70	6.70	0.00	0.00	1
DMW Control	Cond uS/cm	173.00	173.00	173.00	0.00	0.00	1
4.1		176.00	176.00	176.00	0.00	0.00	1
12.3		178.00	178.00	178.00	0.00	0.00	1
37		191.00	191.00	191.00	0.00	0.00	1
111.1		227.00	227.00	227.00	0.00	0.00	1
333.3		329.00	329.00	329.00	0.00	0.00	1
1000		601.00	601.00	601.00	0.00	0.00	1
DMW Control	DO %	99.60	99.60	99.60	0.00	0.00	1
4.1		100.90	100.90	100.90	0.00	0.00	1
12.3		101.20	101.20	101.20	0.00	0.00	1
37		104.30	104.30	104.30	0.00	0.00	1
111.1		100.10	100.10	100.10	0.00	0.00	1
333.3		103.80	103.80	103.80	0.00	0.00	1
1000		99.10	99.10	99.10	0.00	0.00	1