

Toxicity Assessment of K2BIO Using Three Rocky Shore Bivalve Species

Key2 Group

Test Report

November 2021

Toxicity Test Report: TR2056/1

(Page 1 of 2)

Accredited for compliance with ISO/IEC 17025 - Testing

Client:	Key2Group Suite 405, 152 Bunnerong Rd Eastgardens NSW 2036	ESA Job #:	PR2056
Attention:	Mark Pilgrim	Date Sampled:	20 October 2021
Client Ref:	Not Supplied	Date Received:	03 November 2021
		Sampled By:	Client
		ESA Quote #:	PL2056_q01

Lab ID No.:	Sample Name:	Sample Description:
10281	K2Bio	Dry black powder received at room temperature in apparent good condition.

Test Performed:	48-hr larval development test using the Sydney rock oyster <i>Saccostrea glomerata</i>
Test Protocol:	ESA SOP 106 (ESA 2016), based on APHA (1998) and Krassoi (1995)
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 10g of K2Bio (Lab ID'10281') to 1L of 0.45µm filtered seawater (FSW). The solution was allowed to mix for 24 hours using a magnetic stirrer after which the solution was allowed to settle for 1 hour, and the underlying water siphoned off. The remaining test concentrations were achieved by serially diluting the Suspended Particulate Phase sample of the highest concentration with FSW. A FSW control was tested concurrently with the prepared sample. The results are presented as loading rates.
Source of Test Organisms:	Farm-reared, Wallis Lakes, NSW.
Test Initiated:	10 November 2021 at 1830h

Sample 10281: K2Bio	Vacant	Vacant
Loading Rate (g/L)	% Normal larvae (Mean ± SD)	
FSW Control	72.0 ± 3.4	
0.3	72.0 ± 2.6	
0.6	74.5 ± 3.7	
1.3	71.5 ± 2.7	
2.5	77.0 ± 1.8	
5	71.3 ± 3.6	
10	45.0 ± 12.0 *	
48-hr EC10 = 6.5 (3.17-7.77)		
48-hr EC50 = >10g/L		
NOEC = 5g/L		
LOEC = 10g/L		

*Significantly lower percentage of normally developed larvae when compared with the FSW Control (Dunnett's Test, 1-tailed, P=0.05)

QA/QC Parameter	Criterion	This Test	Criterion met?
FSW Control mean % normal	≥70%	72.0%	Yes
Reference Toxicant within cusum chart limits	15.9-35.5µg Cu/L	26.1µg Cu/L	Yes

Toxicity Test Report: TR2056/1

(Page 2 of 2)

Test Report Authorised by:



Dr Rick Krassoi, Director on 22 November 2021

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

NATA Accredited Laboratory Number: 14709

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Citations:

APHA (1998) Standard Methods for the Examination of Water and Wastewater. 20th Ed. American Public Health Association, American Water Works Association and the Water Environment Federation, Washington, DC.

ESA (2016) SOP 106 – *Bivalve Larval Development Test*. Issue No. 15. Ecotox Services Australasia, Sydney, NSW.

Krassoi, R (1995) Salinity adjustment of effluents for use with marine bioassays: effects on the larvae of the doughboy scallop *Chlamys asperrimus* and the Sydney rock oyster *Saccostrea commercialis*. *Australasian Journal of Ecotoxicology*, 1: 143-148.

Toxicity Test Report: TR2056/2

(Page 1 of 2)

Accredited for compliance with ISO/IEC 17025 - Testing

Client:	Key2Group Suite 405, 152 Bunnerong Rd Eastgardens NSW 2036	ESA Job #:	PR2056
Attention:	Mark Pilgrim	Date Sampled:	20 October 2021
Client Ref:	Not Supplied	Date Received:	03 November 2021
		Sampled By:	Client
		ESA Quote #:	PL2056_q01

Lab ID No.:	Sample Name:	Sample Description:
10281	K2Bio	Dry black powder sample received at room temperature in apparent good condition.

Test Performed:	48-hr larval development test using the mussel <i>Mytilus galloprovincialis</i>
Test Protocol:	ESA SOP 106 (ESA 2016), based on APHA (1998) and USEPA (1996)
Test Temperature:	The test was performed at 20±1°C.
Deviations from Protocol:	Test duration extended to 72hr
Comments on Solution Preparation:	The highest test concentration was prepared by adding sample 10g of K2Bio (Lab ID'10281') to 1L of 0.45µm filtered seawater (FSW). The solution was allowed to mix for 24 hours using a magnetic stirrer after which the solution was allowed to settle for 1 hour, and the underlying water siphoned off. The remaining test concentrations were achieved by serially diluting the Suspended Particulate Phase sample of the highest concentration with FSW. A FSW control was tested concurrently with the prepared sample. The results are presented as loading rates.
Source of Test Organisms:	Farm-reared, Spencer Gulf, SA
Test Initiated:	10 November 2021 at 1900h

Sample 10281: K2Bio		Vacant	Vacant
Loading Rate (g/L)	% Normal larvae (Mean ± SD)		
FSW Control	83.0 ± 2.2		
0.3	82.0 ± 4.7		
0.6	80.3 ± 3.3		
1.3	82.5 ± 1.9		
2.5	83.0 ± 2.2		
5	82.5 ± 3.0		
10	62.5 ± 6.4 *		
48-hr EC10 = 6.8 (5.57-7.98)g/L			
48-hr EC50 = >10g/L			
NOEC = 5g/L			
LOEC = 10g/L			

*Significantly lower percentage of normally developed larvae compared with the FSW Control (Dunnett's Test, 1-tailed, P=0.05)

QA/QC Parameter	Criterion	This Test	Criterion met?
FSW Control mean % normal	≥70%	83.0%	Yes
Reference Toxicant within cusum chart limits	8.6-12.9µg Cu/L	10.7µg Cu/L	Yes

Toxicity Test Report: TR2056/2

(Page 2 of 2)

Test Report Authorised by:



Dr Rick Krassoi, Director on 22 November 2021

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Citations:

APHA (1998) *Standard Methods for the Examination of Water and Wastewater*. 20th Ed. American Public Health Association, American Water Works Association and the Water Environment Federation, Washington, DC, USA.

ESA (2016) *Bivalve Larval Development Test*. Issue No. 15. Ecotox Services Australasia, Sydney, NSW

USEPA (1996) *Bivalve acute toxicity test (embryo larval) OPPTS 850.1055. Ecological Effects Test Guidelines*. United States Environmental Protection Agency. Prevention, Pesticides and Toxic Substances. EPA/712/C-96/137.

Toxicity Test Report: TR2056/3

(Page 1 of 2)

Accredited for compliance with ISO/IEC 17025 - Testing

Client:	Key2Group Suite 405, 152 Bunnerong Rd Eastgardens NSW 2036	ESA Job #:	PR2056
Attention:	Mark Pilgrim	Date Sampled:	20 October 2021
Client Ref:	Not Supplied	Date Received:	03 November 2021
		Sampled By:	Client
		ESA Quote #:	PL2056_q01

Lab ID No.:	Sample Name:	Sample Description:
10281	K2Bio	Dry black powder sample received at room temperature in apparent good condition.

Test Performed:	48-hr larval development test using the milky oyster <i>Saccostrea echinata</i>
Test Protocol:	ESA SOP 106 (ESA 2016), based on APHA (1998) and Krassoi (1995)
Test Temperature:	The test was performed at 29±1°C.
Deviations from Protocol:	Nil
Comments on Solution Preparation:	The highest test concentration was prepared by adding sample 10g of K2Bio (Lab ID'10281') to 1L of 0.45µm filtered seawater (FSW). The solution was allowed to mix for 24 hours using a magnetic stirrer after which the solution was allowed to settle for 1 hour, and the underlying water siphoned off. The remaining test concentrations were achieved by serially diluting the Suspended Particulate Phase sample of the highest concentration with FSW. A FSW control was tested concurrently with the prepared sample. The results are presented as loading rates.
Source of Test Organisms:	Field collected from Mackay, QLD.
Test Initiated:	11 November 2021 at 1530h


Sample 10281: K2Bio	Vacant	Vacant
Loading Rate (g/L)	% Normal larvae (Mean ± SD)	
FSW Control	76.0 ± 2.2	
0.3	73.5 ± 2.1	
0.6	77.3 ± 4.3	
1.3	73.5 ± 2.1	
2.5	75.3 ± 2.5	
5	77.3 ± 3.9	
10	69.8 ± 9.2	
48-hr IC10 = >10g/L		
48-hr EC50 = >10g/L		
NOEC = 10g/L		
LOEC = >10g/L		

*Significantly lower percentage of normal larvae compared with the FSW Control (Dunnnett's Test, 1-tailed, P=0.05)

QA/QC Parameter	Criterion	This Test	Criterion met?
FSW Control mean % normal	≥70%	76.0%	Yes
Reference Toxicant within cusum chart limits	14.2-16.5µg Cu/L	14.6µg Cu/L	Yes

Toxicity Test Report: TR2056/3

(Page 2 of 2)

Test Report Authorised by:  Dr Rick Krassoi, Director on 22 November 2021

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APHA (1998) Standard Methods for the Examination of Water and Wastewater. 20th Ed. American Public Health Association, American Water Works Association and the Water Environment Federation, Washington, DC.

ESA (2016) SOP 106 – *Bivalve Larval Development Test*. Issue No. 15. Ecotox Services Australasia, Sydney, NSW.

Krassoi, R (1995) Salinity adjustment of effluents for use with marine bioassays: effects on the larvae of the doughboy scallop *Chlamys asperrimus* and the Sydney rock oyster *Saccostrea commercialis*. *Australasian Journal of Ecotoxicology*, 1: 143-148.

Chain-of-Custody Documentation



Chain-of-Custody / Service Request Form

Datasheet ID: 601.1
Last Revised: 01 June 2021

Customer: Key2 Group Ship To: Ecotox Services Ash.
 Contact Name: Mark Pilgrim Attention: R. KASSON

Phone: 0407559300 Email: _____ (please provide an email address for sample receipt notification)

Sampled by: Client

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 Containers (eg 2 x 1L)	Tests Requested (See reverse for guidance)			Comments / Instructions Note that testing will be delayed if an incomplete chain of custody is received
					Rock cyste 20	Milly cyste LD	Mussel LD	
20/10/21		KR BIO	Grab	2 x 1kg	1	1	1	Additional treatment of samples (i.e. spiking) Sub-contracted services (i.e. chemical analyses) Dilutions required (if different than 100% down to 6.25%) Sample holding time restriction (if applicable) Sample used for litigation (if applicable) Note: An MSDS must be attached if Available ESA Project Number: PR 2056

1) Released By: <u>[Signature]</u>	Date: <u>3/11/21</u>	2) Received By: <u>[Signature]</u>	Date: <u>3/11/21</u>	3) Released By:	Date:	4) Received By:	Date:
Of: <u>KEY2 GROUP LTD</u>	Time: <u>1115</u>	Of: <u>ESA</u>	Time: <u>1115</u>	Of:	Time:	Of:	Time:

Note that the chain-of-custody documentation will provide definitive information on the tests to be performed.

Statistical Printouts for the Milky Oyster Larval Development Tests

Bivalve Acute Toxicity Tests-Proportion Normal

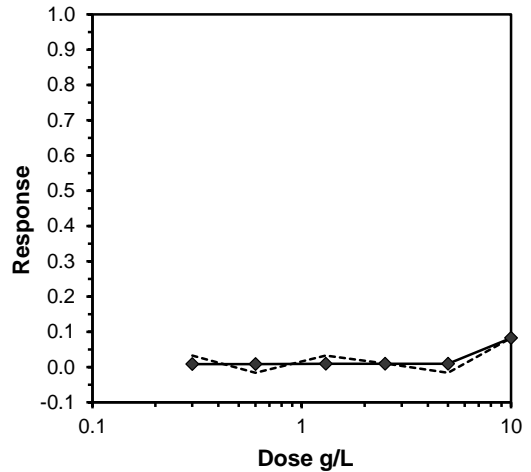
Start Date:	11/11/2021 15:30	Test ID:	PR2056/06	Sample ID:	K2Bio
End Date:	13/11/2021 15:30	Lab ID:	10281	Sample Type:	SPP-Suspended Particulate Phase
Sample Date:		Protocol:	ESA 106	Test Species:	SE-Saccostrea echinata
Comments:					

Conc-g/L	1	2	3	4
FSW Control	0.7400	0.7500	0.7900	0.7600
0.3	0.7400	0.7100	0.7300	0.7600
0.6	0.7200	0.7900	0.8200	0.7600
1.3	0.7100	0.7400	0.7300	0.7600
2.5	0.7200	0.7500	0.7800	0.7600
5	0.8100	0.7300	0.7500	0.8000
10	0.7600	0.6400	0.7900	0.6000

Conc-g/L	Mean	N-Mean	Transform: Arcsin Square Root					t-Stat	1-Tailed Critical	MSD	Isotonic	
			Mean	Min	Max	CV%	N				Mean	N-Mean
FSW Control	0.7600	1.0000	1.0591	1.0357	1.0948	2.413	4				0.7600	1.0000
0.3	0.7350	0.9671	1.0303	1.0021	1.0588	2.291	4	0.817	2.451	0.0866	0.7538	0.9918
0.6	0.7725	1.0164	1.0749	1.0132	1.1326	4.742	4	-0.445	2.451	0.0866	0.7538	0.9918
1.3	0.7350	0.9671	1.0303	1.0021	1.0588	2.291	4	0.817	2.451	0.0866	0.7533	0.9912
2.5	0.7525	0.9901	1.0505	1.0132	1.0826	2.749	4	0.246	2.451	0.0866	0.7533	0.9912
5	0.7725	1.0164	1.0746	1.0244	1.1198	4.288	4	-0.439	2.451	0.0866	0.7533	0.9912
10	0.6975	0.9178	0.9917	0.8861	1.0948	10.156	4	1.908	2.451	0.0866	0.6975	0.9178

Auxiliary Tests	Statistic	Critical	Skew	Kurt						
Shapiro-Wilk's Test indicates normal distribution (p > 0.05)	0.992094	0.924	-0.04476	0.570218						
Bartlett's Test indicates equal variances (p = 0.09)	11.05481	16.81189								
Hypothesis Test (1-tail, 0.05)	NOEC	LOEC	ChV	TU	MSDu	MSDp	MSB	MSE	F-Prob	df
Dunnett's Test	10	>10			0.07746	0.101886	0.003512	0.002495	0.258219	6, 21
Treatments vs FSW Control										

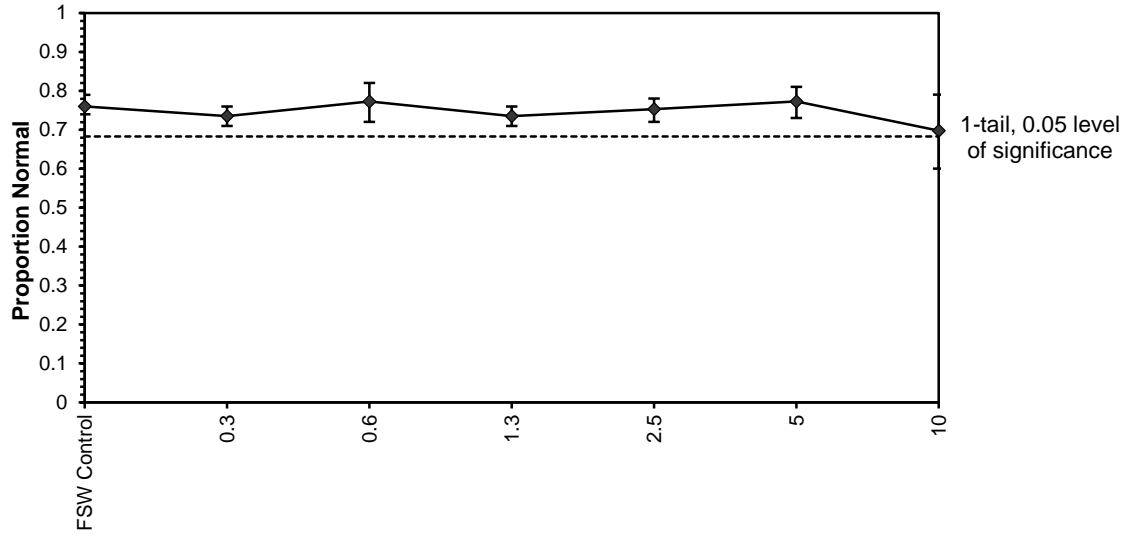
Log-Logit Interpolation (200 Resamples)				
Point	g/L	SD	95% CL(Exp)	Skew
IC05	7.5104			
IC10	>10			
IC15	>10			
IC20	>10			
IC25	>10			
IC40	>10			
IC50	>10			



Bivalve Acute Toxicity Tests-Proportion Normal

Start Date: 11/11/2021 15:30 Test ID: PR2056/06 Sample ID: K2Bio
End Date: 13/11/2021 15:30 Lab ID: 10281 Sample Type: SPP-Suspended Particulate Phase
Sample Date: Protocol: ESA 106 Test Species: SE-Saccostrea echinata
Comments:

Dose-Response Plot



Bivalve Acute Toxicity Tests-Proportion Normal

Start Date:	11/11/2021 15:30	Test ID:	PR2056/06	Sample ID:	K2Bio
End Date:	13/11/2021 15:30	Lab ID:	10281	Sample Type:	SPP-Suspended Particulate Phase
Sample Date:		Protocol:	ESA 106	Test Species:	SE-Saccostrea echinata
Comments:					

Auxiliary Data Summary

Conc-g/L	Parameter	Auxiliary Data Summary					
		Mean	Min	Max	SD	CV%	N
FSW Control	% Normal	76.00	74.00	79.00	2.16	1.93	4
0.3		73.50	71.00	76.00	2.08	1.96	4
0.6		77.25	72.00	82.00	4.27	2.68	4
1.3		73.50	71.00	76.00	2.08	1.96	4
2.5		75.25	72.00	78.00	2.50	2.10	4
5		77.25	73.00	81.00	3.86	2.54	4
10		69.75	60.00	79.00	9.18	4.34	4
FSW Control		pH	8.10	8.10	8.10	0.00	0.00
0.3	8.00		8.00	8.00	0.00	0.00	1
0.6	7.90		7.90	7.90	0.00	0.00	1
1.3	7.90		7.90	7.90	0.00	0.00	1
2.5	7.90		7.90	7.90	0.00	0.00	1
5	7.70		7.70	7.70	0.00	0.00	1
10	6.90		6.90	6.90	0.00	0.00	1
FSW Control	Salinity ppt		35.20	35.20	35.20	0.00	0.00
0.3		35.20	35.20	35.20	0.00	0.00	1
0.6		35.20	35.20	35.20	0.00	0.00	1
1.3		35.20	35.20	35.20	0.00	0.00	1
2.5		35.30	35.30	35.30	0.00	0.00	1
5		35.40	35.40	35.40	0.00	0.00	1
10		35.40	35.40	35.40	0.00	0.00	1
FSW Control		DO %	98.60	98.60	98.60	0.00	0.00
0.3	99.60		99.60	99.60	0.00	0.00	1
0.6	98.90		98.90	98.90	0.00	0.00	1
1.3	99.80		99.80	99.80	0.00	0.00	1
2.5	99.60		99.60	99.60	0.00	0.00	1
5	98.10		98.10	98.10	0.00	0.00	1
10	102.00		102.00	102.00	0.00	0.00	1

Statistical Printouts for the Mussel Toxicity Tests

Bivalve Acute Toxicity Tests-Proportion Normal

Start Date: 10/11/2021 19:00	Test ID: PR2056/03	Sample ID: K2BIO
End Date: 13/11/2021 19:00	Lab ID: 10281	Sample Type: SPP-Suspended Particulate Phase
Sample Date:	Protocol: ESA 106	Test Species: MG-Mytilus galloprovincialis

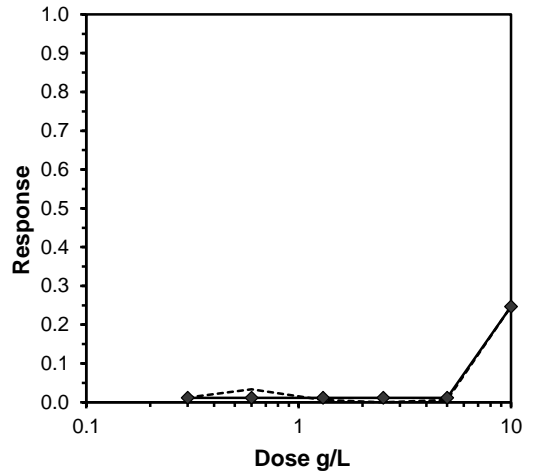
Comments:

Conc-g/L	1	2	3	4
FSW Control	0.8100	0.8600	0.8300	0.8200
0.3	0.8100	0.7600	0.8400	0.8700
0.6	0.8100	0.8000	0.7600	0.8400
1.3	0.8100	0.8300	0.8500	0.8100
2.5	0.8200	0.8600	0.8100	0.8300
5	0.8400	0.8000	0.8600	0.8000
10	0.5600	0.7100	0.6300	0.6000

Conc-g/L	Transform: Arcsin Square Root							t-Stat	1-Tailed Critical	MSD	Isotonic	
	Mean	N-Mean	Mean	Min	Max	CV%	N				Mean	N-Mean
FSW Control	0.8300	1.0000	1.1464	1.1198	1.1873	2.554	4				0.8300	1.0000
0.3	0.8200	0.9880	1.1350	1.0588	1.2019	5.361	4	0.364	2.451	0.0769	0.8205	0.9886
0.6	0.8025	0.9669	1.1113	1.0588	1.1593	3.727	4	1.120	2.451	0.0769	0.8205	0.9886
1.3	0.8250	0.9940	1.1396	1.1198	1.1731	2.235	4	0.216	2.451	0.0769	0.8205	0.9886
2.5	0.8300	1.0000	1.1464	1.1198	1.1873	2.554	4	0.000	2.451	0.0769	0.8205	0.9886
5	0.8250	0.9940	1.1402	1.1071	1.1873	3.496	4	0.196	2.451	0.0769	0.8205	0.9886
*10	0.6250	0.7530	0.9127	0.8455	1.0021	7.277	4	7.450	2.451	0.0769	0.6250	0.7530

Auxiliary Tests	Statistic	Critical	Skew	Kurt						
Shapiro-Wilk's Test indicates normal distribution (p > 0.05)	0.980427	0.924	0.257973	-0.05803						
Bartlett's Test indicates equal variances (p = 0.61)	4.488738	16.81189								
Hypothesis Test (1-tail, 0.05)	NOEC	LOEC	ChV	TU	MSDu	MSDp	MSB	MSE	F-Prob	df
Dunnnett's Test	5	10	7.071068		0.061394	0.073931	0.029194	0.001969	1.4E-06	6, 21
Treatments vs FSW Control										

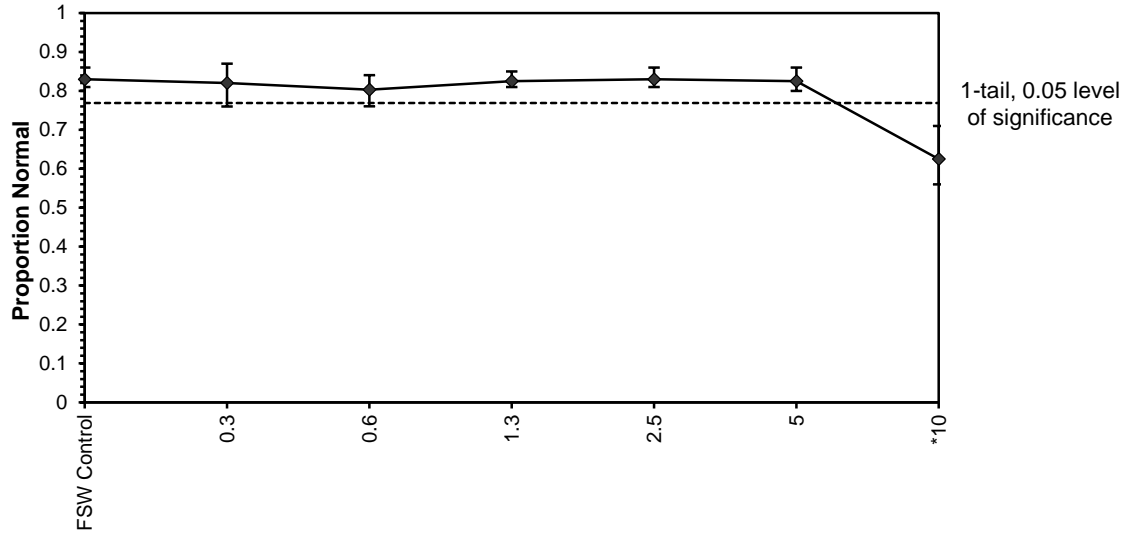
Log-Logit Interpolation (200 Resamples)					
Point	g/L	SD	95% CL(Exp)	Skew	
IC05	5.7816	0.2814	4.6699	6.3560	-0.5776
IC10	6.8017	0.3600	5.5659	7.9773	0.5584
IC15	7.8457				
IC20	8.9299				
IC25	>10				
IC40	>10				
IC50	>10				



Bivalve Acute Toxicity Tests-Proportion Normal

Start Date: 10/11/2021 19:00 Test ID: PR2056/03 Sample ID: K2BIO
End Date: 13/11/2021 19:00 Lab ID: 10281 Sample Type: SPP-Suspended Particulate Phase
Sample Date: Protocol: ESA 106 Test Species: MG-Mytilus galloprovincialis
Comments:

Dose-Response Plot



Bivalve Acute Toxicity Tests-Proportion Normal

Start Date:	10/11/2021 19:00	Test ID:	PR2056/03	Sample ID:	K2BIO
End Date:	13/11/2021 19:00	Lab ID:	10281	Sample Type:	SPP-Suspended Particulate Phase
Sample Date:		Protocol:	ESA 106	Test Species:	MG-Mytilus galloprovincialis
Comments:					

Auxiliary Data Summary

Conc-g/L	Parameter	Auxiliary Data Summary					
		Mean	Min	Max	SD	CV%	N
FSW Control	% Normal	83.00	81.00	86.00	2.16	1.77	4
0.3		82.00	76.00	87.00	4.69	2.64	4
0.6		80.25	76.00	84.00	3.30	2.27	4
1.3		82.50	81.00	85.00	1.91	1.68	4
2.5		83.00	81.00	86.00	2.16	1.77	4
5		82.50	80.00	86.00	3.00	2.10	4
10		62.50	56.00	71.00	6.35	4.03	4
FSW Control		pH	8.10	8.10	8.10	0.00	0.00
0.3	8.10		8.10	8.10	0.00	0.00	1
0.6	8.10		8.10	8.10	0.00	0.00	1
1.3	8.00		8.00	8.00	0.00	0.00	1
2.5	7.90		7.90	7.90	0.00	0.00	1
5	7.80		7.80	7.80	0.00	0.00	1
10	7.00		7.00	7.00	0.00	0.00	1
FSW Control	Salinity ppt		35.30	35.30	35.30	0.00	0.00
0.3		35.30	35.30	35.30	0.00	0.00	1
0.6		35.30	35.30	35.30	0.00	0.00	1
1.3		35.30	35.30	35.30	0.00	0.00	1
2.5		35.30	35.30	35.30	0.00	0.00	1
5		35.30	35.30	35.30	0.00	0.00	1
10		35.40	35.40	35.40	0.00	0.00	1
FSW Control		DO %	98.90	98.90	98.90	0.00	0.00
0.3	99.60		99.60	99.60	0.00	0.00	1
0.6	99.70		99.70	99.70	0.00	0.00	1
1.3	99.20		99.20	99.20	0.00	0.00	1
2.5	99.40		99.40	99.40	0.00	0.00	1
5	99.50		99.50	99.50	0.00	0.00	1
10	98.60		98.60	98.60	0.00	0.00	1

Statistical Printouts for the Milky Oyster Larval Development Tests

Bivalve Acute Toxicity Tests-Proportion Normal

Start Date:	10/11/2021 18:30	Test ID:	PR2056/02	Sample ID:	K2BIO
End Date:	12/11/2021 18:30	Lab ID:	10281	Sample Type:	SPP-Suspended Particulate Phase
Sample Date:		Protocol:	ESA 106	Test Species:	SG-Saccostrea glomerata

Conc-g/L	1	2	3	4
FSW Control	0.7100	0.7600	0.6800	0.7300
0.3	0.7100	0.6900	0.7300	0.7500
0.6	0.7200	0.7100	0.7900	0.7600
1.3	0.6800	0.7400	0.7100	0.7300
2.5	0.7500	0.7600	0.7800	0.7900
5	0.7600	0.6800	0.6900	0.7200
10	0.3600	0.5900	0.3400	0.5100

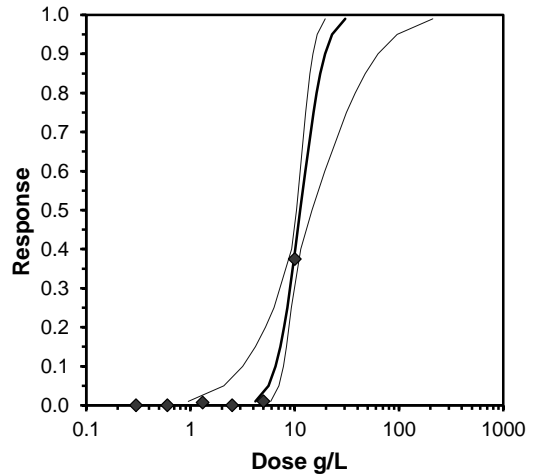
Conc-g/L	Transform: Arcsin Square Root							t-Stat	1-Tailed Critical	MSD	Number Resp	Total Number
	Mean	N-Mean	Mean	Min	Max	CV%	N					
FSW Control	0.7200	1.0000	1.0137	0.9695	1.0588	3.707	4				112	400
0.3	0.7200	1.0000	1.0135	0.9803	1.0472	2.840	4	0.005	2.451	0.0968	112	400
0.6	0.7450	1.0347	1.0422	1.0021	1.0948	4.103	4	-0.722	2.451	0.0968	102	400
1.3	0.7150	0.9931	1.0079	0.9695	1.0357	2.894	4	0.146	2.451	0.0968	114	400
2.5	0.7700	1.0694	1.0708	1.0472	1.0948	2.027	4	-1.446	2.451	0.0968	92	400
5	0.7125	0.9896	1.0055	0.9695	1.0588	3.991	4	0.209	2.451	0.0968	115	400
*10	0.4500	0.6250	0.7343	0.6225	0.8759	16.589	4	7.074	2.451	0.0968	220	400

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates normal distribution (p > 0.05)	0.960636	0.924	0.348484	1.938254
Bartlett's Test indicates equal variances (p = 0.04)	13.16279	16.81189		

Hypothesis Test (1-tail, 0.05)	NOEC	LOEC	ChV	TU	MSDu	MSDp	MSB	MSE	F-Prob	df
Dunnett's Test	5	10	7.071068		0.090484	0.12559	0.050703	0.00312	6.5E-07	6, 21
Treatments vs FSW Control										

Parameter	Value	SE	95% Fiducial Limits		Maximum Likelihood-Probit						
					Control	Chi-Sq	Critical	P-value	Mu	Sigma	Iter
Slope	5.399855	1.741776	1.985974	8.813736	0.28	4.073219	9.487729	0.4	1.053209	0.18519	6
Intercept	-0.68717	1.727018	-4.07213	2.697782							
TSCR	0.266133	0.009927	0.246677	0.285589							

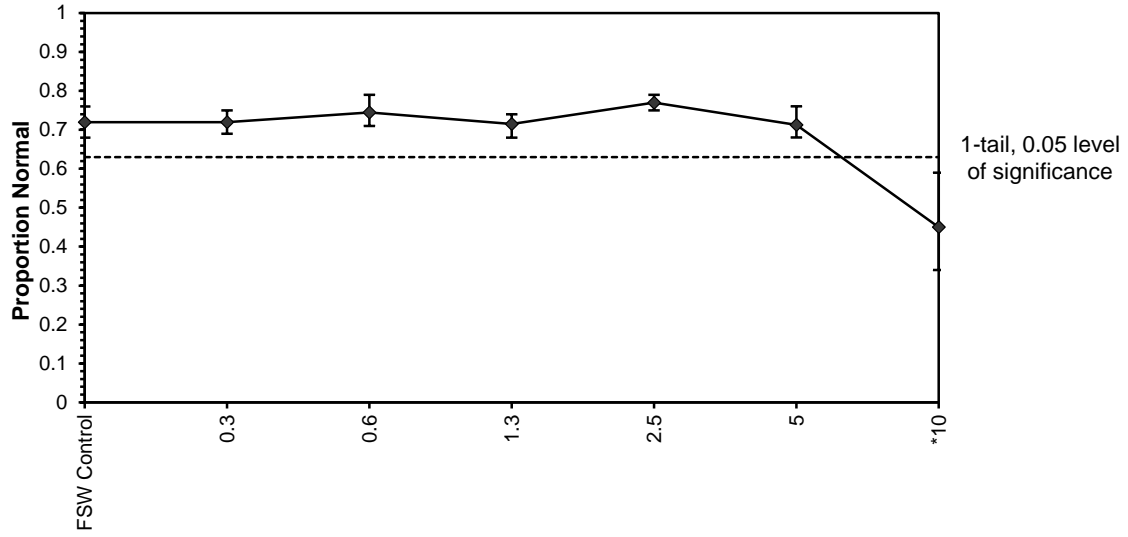
Point	Probits	g/L	95% Fiducial Limits	
EC01	2.674	4.191717	0.950753	5.879687
EC05	3.355	5.605288	2.089597	7.044253
EC10	3.718	6.544522	3.174918	7.768175
EC15	3.964	7.265598	4.203636	8.311166
EC20	4.158	7.894937	5.243016	8.788265
EC25	4.326	8.478124	6.314972	9.251911
EC40	4.747	10.14592	9.316907	11.40702
EC50	5.000	11.30339	10.41143	14.63007
EC60	5.253	12.59291	11.26646	19.37681
EC75	5.674	15.07015	12.67268	31.33589
EC80	5.842	16.18336	13.25853	37.97815
EC85	6.036	17.58514	13.96912	47.53979
EC90	6.282	19.52268	14.91086	63.08979
EC95	6.645	22.79394	16.41569	96.01891
EC99	7.326	30.48073	19.64224	211.3006



Bivalve Acute Toxicity Tests-Proportion Normal

Start Date: 10/11/2021 18:30 Test ID: PR2056/02 Sample ID: K2BIO
End Date: 12/11/2021 18:30 Lab ID: 10281 Sample Type: SPP-Suspended Particulate Phase
Sample Date: Protocol: ESA 106 Test Species: SG-Saccostrea glomerata
Comments:

Dose-Response Plot



Bivalve Acute Toxicity Tests-Proportion Normal

Start Date:	10/11/2021 18:30	Test ID:	PR2056/02	Sample ID:	K2BIO
End Date:	12/11/2021 18:30	Lab ID:	10281	Sample Type:	SPP-Suspended Particulate Phase
Sample Date:		Protocol:	ESA 106	Test Species:	SG-Saccostrea glomerata
Comments:					

Auxiliary Data Summary

Conc-g/L	Parameter	Auxiliary Data Summary					
		Mean	Min	Max	SD	CV%	N
FSW Control	% Normal	72.00	68.00	76.00	3.37	2.55	4
0.3		72.00	69.00	75.00	2.58	2.23	4
0.6		74.50	71.00	79.00	3.70	2.58	4
1.3		71.50	68.00	74.00	2.65	2.27	4
2.5		77.00	75.00	79.00	1.83	1.75	4
5		71.25	68.00	76.00	3.59	2.66	4
10		45.00	34.00	59.00	12.03	7.71	4
FSW Control		pH	8.10	8.10	8.10	0.00	0.00
0.3	8.10		8.10	8.10	0.00	0.00	1
0.6	8.10		8.10	8.10	0.00	0.00	1
1.3	8.00		8.00	8.00	0.00	0.00	1
2.5	7.90		7.90	7.90	0.00	0.00	1
5	7.80		7.80	7.80	0.00	0.00	1
10	7.00		7.00	7.00	0.00	0.00	1
FSW Control	Salinity ppt		35.30	35.30	35.30	0.00	0.00
0.3		35.30	35.30	35.30	0.00	0.00	1
0.6		35.30	35.30	35.30	0.00	0.00	1
1.3		35.30	35.30	35.30	0.00	0.00	1
2.5		35.30	35.30	35.30	0.00	0.00	1
5		35.30	35.30	35.30	0.00	0.00	1
10		35.40	35.40	35.40	0.00	0.00	1
FSW Control		DO %	98.90	98.90	98.90	0.00	0.00
0.3	99.60		99.60	99.60	0.00	0.00	1
0.6	99.70		99.70	99.70	0.00	0.00	1
1.3	99.20		99.20	99.20	0.00	0.00	1
2.5	99.40		99.40	99.40	0.00	0.00	1
5	99.50		99.50	99.50	0.00	0.00	1
10	98.60		98.60	98.60	0.00	0.00	1