

## CETIS Test Evaluation Report

**Report Date:** 05 Apr-16 16:41 ( 1 of 2)  
**Test Code:** RMAR3843 | 02-3901-8230

**Facility:** Kaiser Aluminum Trentwood  
**Sample Site:**  
**Sample Code:** RMAR3842-3843  
**Sample Date:** 08 Feb-16 09:00  
**Sample Age:** 29h (2.3 °C)  
**Project:**

**Test Name:** Larval Fish 7-day Survival and Growth Test  
**Organism:** Pimephales promelas (fathead minnow)  
**Protocol:** EPA/821/R-02-013 (2002)  
**Start Date:** 09 Feb-16 14:30  
**End Date:** 16 Feb-16 11:00  
**Duration:** 6d 21h **Organism Age:** <48h

**Permittee:** Kaiser Aluminum (Trentwood)  
**Address:** PO BOX 15108  
SPOKANE, WA 99215

**Laboratory:** CH2M Hill  
**Address:** 2300 NW Walnut Blvd.  
Corvallis, OR 97330

**Contact:** PATRICK J. BLAU  
**Phone:**  
**Email:**

**Contact:** Brett.Muckey, Bioassay Lab Manager  
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**Email:** Brett.Muckey@CH2M.com

### Comments:

#### Chronic Toxicity Evaluation

Endpoint	Criteria	Conc-%	IWC	Decision	Method
7-day Survival	NOEL/LOEL	100/>100	18.5	Passes IWC	Steel Many-One Rank Sum Test
Biomass	NOEL/LOEL	100/>100	18.5	Passes IWC	Dunnett Multiple Comparison Test
Weight	NOEL/LOEL	100/>100	18.5	Passes IWC	Dunnett Multiple Comparison Test

#### Test Review Comments

This toxicity test is acceptable according to test review criteria. There were no significant deficiencies in sample handling, test performance, test organism response, or statistical analysis.

The sample tested was nontoxic to this test organism.

Ecology Publication WQ-R-95-80 (<http://www.ecy.wa.gov/pubs/9580.pdf>) specifies changing alpha from 0.05 to 0.01 when differences from the control that are less than 20% are statistically significant, unless the significance occurs near the threshold of a typical concentration-response relationship. Alpha was changed to 0.01 in analyzing this test to discourage false positive test results or prevent the need to reject the test for being anomalous.

#### Test Reviewer

**Reviewer:** Randall Marshall, WET Coordinator  
**Phone:** 360-407-6445, 360-407-6426(fax)  
**Email:** rmar461@ecy.wa.gov

\_\_\_\_\_  
**Signature**

\_\_\_\_\_  
**Date**

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## 7-day Survival Data Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	D	4	0.9222	0.8867	0.9578	0.8000	1.0000	0.0484	0.0969	10.50%	0.0%
6.25		4	0.9750	0.9567	0.9933	0.9000	1.0000	0.0250	0.0500	5.13%	-5.72%
17.1		4	0.9750	0.9567	0.9933	0.9000	1.0000	0.0250	0.0500	5.13%	-5.72%
25		4	0.9750	0.9567	0.9933	0.9000	1.0000	0.0250	0.0500	5.13%	-5.72%
71.8		4	0.8750	0.8567	0.8933	0.8000	0.9000	0.0250	0.0500	5.71%	5.12%
100		4	0.9000	0.8701	0.9299	0.8000	1.0000	0.0408	0.0817	9.07%	2.41%

## Biomass Data Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	D	4	0.947	0.9255	0.9685	0.881	1.016	0.02933	0.05865	6.19%	0.0%
6.25		4	0.999	0.9831	1.015	0.935	1.027	0.02171	0.04342	4.35%	-5.49%
17.1		4	1.011	0.9853	1.036	0.916	1.079	0.03476	0.06952	6.88%	-6.73%
25		4	0.9035	0.891	0.916	0.86	0.937	0.01704	0.03408	3.77%	4.59%
71.8		4	0.8283	0.8176	0.8389	0.802	0.867	0.01447	0.02893	3.49%	12.54%
100		4	0.8475	0.8282	0.8668	0.775	0.898	0.02632	0.05264	6.21%	10.51%

## Weight Data Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	D	4	1.032	1.002	1.063	0.921	1.101	0.04172	0.08343	8.08%	0.0%
6.25		4	1.028	0.9963	1.059	0.935	1.141	0.04263	0.08527	8.30%	0.47%
17.1		4	1.039	1.006	1.071	0.916	1.12	0.04405	0.08811	8.48%	-0.62%
25		4	0.9295	0.9007	0.9584	0.86	1.041	0.03936	0.07872	8.47%	9.96%
71.8		4	0.9492	0.9238	0.9746	0.8911	1.041	0.03459	0.06919	7.29%	8.06%
100		4	0.9495	0.9046	0.9945	0.775	1.059	0.06124	0.1225	12.90%	8.02%