



## Bio-Aquatic Testing

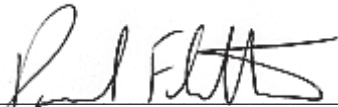
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### **LBI Product Test**

48 Hour Acute *Mysidopsis bahia* Toxicity Test  
and  
96-Hour Acute *Menidia beryllina* Toxicity Test

Using:  
LBI Dual Zorb,  
#2 Fuel Oil,  
LBI Dual Zorb /#2 Fuel Oil Mixture

Prepared by:

  
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6/25/2010

Date

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### EXECUTIVE SUMMARY

Bio-Aquatic Testing Inc. located at 2501 Mayes Rd. Suite 100, Carrollton, Texas 75006 was contracted by LBI to test the toxicity of their product Dual Zorb. Bio-Aquatic Testing used the Environmental Protection Agency (EPA) protocol listed in 40 CFR Chapter 1 (7-1-99) Pt. 300 Appendix C, Item 3.0. Revised Standard Dispersant Toxicity Test.

Test protocols call for testing the toxicity of the LBI Dual Zorb, #2 Fuel Oil, and LBI Dual Zorb fuel oil mix. The marine invertebrate species, *Mysidopsis bahia* (*Americamysis bahia*) and the marine vertebrate species, *Menidia beryllina* were used in the tests. A dilution series of 4000 mg/L, 3000 mg/L, 2000 mg/L, 1000 mg/L and 500 mg/L was used for the LBI Dual Zorb product only tests. Test concentrations used for the all of the #2 fuel oil and #2 fuel oil/ LBI Dual Zorb product mix tests, were 20 mg/L, 10 mg/L, 5 mg/L, 1 mg/L, and 0.1 mg/L. The test duration using *M. bahia* and *M. beryllina* was 48 hours and 96 hours, respectively.

A summary of all the LC-50 values is given below:

MATERIAL TESTED	SPECIES	LC50 (MG/L)	Least to Most Toxic
LBI Dual Zorb	<i>Menidia beryllina</i>	1414.21	1
	<i>Mysidopsis bahia</i>	1096.05	2
No. 2 Fuel Oil	<i>Menidia beryllina</i>	7.08	4
	<i>Mysidopsis bahia</i>	1.13	6
LBI Dual Zorb & No. 2 Fuel Oil	<i>Menidia beryllina</i>	8.43	3
	<i>Mysidopsis bahia</i>	2.70	5
Reference Toxicant: (Sodium Laurel Sulfate)	<i>Menidia beryllina</i>	12.25	
	<i>Mysidopsis bahia</i>	11.71	

*M. bahia* proved the more sensitive of the two marine species.