

US EPA ARCHIVE DOCUMENT

1-ΣEB-080  
6/26/98

MRID No. 438646-16

**DATA EVALUATION RECORD**  
**§ 72-1 - ACUTE LC<sub>50</sub> TEST WITH A COLDWATER FISH**

1. **CHEMICAL:** Omadine® Sulfonic Acid **PC Code No.:** 088002

2. **TEST MATERIAL:** Pyridine-N-oxide-2-sulfonic acid (98.5%)  
(Omadine® sulfonic acid)

3. **CITATION:**

**Authors:** T.J. Ward, P.L. Kowalski, and R.L. Boeri  
**Title:** Acute Toxicity of Omadine® Sulfonic Acid  
(Pyridine-N-oxide-2-sulfonic acid) to the  
Rainbow Trout, *Oncorhynchus mykiss*

**Study Completion Date:** May 10, 1994

**Laboratory:** T.R. Wilbury Laboratories, Inc.,  
Marblehead, MA

**Sponsor:** Olin Corporation, New Haven, CT

**Laboratory Report ID:** 34-OL

**MRID No.:** 438646-16

**DP Barcode:** D239429

4. **REVIEWED BY:** Mark Mossler, M.S., Toxicologist,  
Golder Associates Inc.

**Signature:** *Mark Mossler* **Date:** 6/25/98

**APPROVED BY:** Pim Kosalwat, Ph.D., Senior Scientist,  
Golder Associates Inc.

**Signature:** *P. Kosalwat* **Date:** 6/25/98

5. **APPROVED BY:**

**Signature:** **Date:**

6. **STUDY PARAMETERS:**

**Age or Size of Test Organism:** 37 mm  
**Definitive Test Duration:** 96 hours  
**Study Method:** Flow-through  
**Type of Concentrations:** Mean measured

7. **CONCLUSIONS:** This study is scientifically sound and fulfills the guideline requirements. The 96-hour LC<sub>50</sub> for rainbow trout exposed to Omadine® sulfonic acid was determined to be 92.3 ppm ai, which classifies the test material as slightly toxic to the rainbow trout.

**Results Synopsis:**

LC<sub>50</sub>: 92.3 ppm ai

95% C.I.: 73.6 - 124 ppm ai

NOEC: 73.6 ppm ai

Probit Slope: N/A

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NOTE: BECAUSE THERE WAS CONTROL MORTALITY, AND NONE OF THE LOWER CONCENTRATIONS PRODUCED ZERO MORTALITY, THE DATA HAS BEEN SUBJECTED TO ABBOTT'S CORRECTION.

Mossler Omadine sulfonic acid Oncorhynchus mykiss 6-3-98  
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CONC.	NUMBER EXPOSED	NUMBER DEAD	PERCENT DEAD	BINOMIAL PROB. (PERCENT)
124	19	19	100	1.907348E-04
73.6	19	0	0	1.907348E-04
50.5	19	4	21.0526	.9605406
31.4	19	1	5.2632	3.814697E-03
18	19	0	0	1.907348E-04

THE BINOMIAL TEST SHOWS THAT 73.6 AND 124 CAN BE USED AS STATISTICALLY SOUND CONSERVATIVE 95 PERCENT CONFIDENCE LIMITS, BECAUSE THE ACTUAL CONFIDENCE LEVEL ASSOCIATED WITH THESE LIMITS IS GREATER THAN 95 PERCENT.

AN APPROXIMATE LC50 FOR THIS SET OF DATA IS 95.53216

THE MOVING AVERAGE METHOD CANNOT BE USED WITH THIS DATA SET BECAUSE NO SPAN WHICH PRODUCES MOVING AVERAGE ANGLES THAT BRACKET 45 DEGREES ALSO USES TWO PERCENT DEAD BETWEEN 0 AND 100 PERCENT.

RESULTS CALCULATED USING THE PROBIT METHOD  
 ITERATIONS            G            H            GOODNESS OF FIT PROBABILITY  
                       7            2.830324            6.940079            0  
 A PROBABILITY OF 0 MEANS THAT IT IS LESS THAN 0.001.

SINCE THE PROBABILITY IS LESS THAN 0.05, RESULTS CALCULATED USING THE PROBIT METHOD PROBABLY SHOULD NOT BE USED.

SLOPE = 5.442868  
 95 PERCENT CONFIDENCE LIMITS = -3.713978 AND 14.59971

LC50 = 83.8769  
 95 PERCENT CONFIDENCE LIMITS = 0 AND +INFINITY

LC10 = 49.0128  
 95 PERCENT CONFIDENCE LIMITS = 0 AND +INFINITY

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