

11/22/96

MRID No. 440031-03

**DATA EVALUATION RECORD**  
**§ 72-2 - ACUTE EC<sub>50</sub> TEST WITH A FRESHWATER INVERTEBRATE**

1. **CHEMICAL:** Zinc Silicate + Silver      **PC Code No.:** 008103 &  
(TLF-8227)      072501
2. **TEST MATERIAL:** TLF-8227      **Purity:** 0.80% ZnSiO<sub>3</sub>  
0.91% Ag  
98.29% Inerts
3. **CITATION:**  
    **Authors:** G.C. Kreamer  
    **Title:** Static, Acute, 48-Hour EC<sub>50</sub> of TLF-8227  
    to *Daphnia magna*.  
**Study Completion Date:** August 3, 1995  
    **Laboratory:** Haskell Laboratory for Toxicology and  
    Industrial Medicine, Newark, DE  
    **Sponsor:** E.I. du Pont de Nemours and Company,  
    Wilmington, DE  
    **Laboratory Report ID:** 511-93  
    **MRID No.:** 440031-03  
    **DP Barcode:** D230591
4. **REVIEWED BY:** Max A. Feken, M.S., Environmental Toxicologist,  
    KBN Engineering and Applied Sciences, Inc.,  
    **Signature:** *Max A. Feken for MAF*      **Date:** 11/20/96  
    **APPROVED BY:** Pim Kosalwat, Ph.D., Senior Scientist,  
    KBN Engineering and Applied Sciences, Inc.,  
    **Signature:** *P. Kosalwat*      **Date:** 11/20/96
5. **APPROVED BY:**  
    **Signature:**      **Date:**
6. **STUDY PARAMETERS:**  
    **Age of Test Organism:** <24 hours  
    **Definitive Test Duration:** 48 hours  
    **Study Method:** Static  
    **Type of Concentrations:** Nominal
7. **CONCLUSIONS:** This study is scientifically sound but does not  
    fulfill the guideline requirements. An EC<sub>50</sub> of 0.70 ppm  
    (based on nominal concentrations of the whole test material)  
    classifies TLF-8227 as highly toxic to *Daphnia magna*.



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KOSALWAT TLF-8227 DAPHNIA MAGNA 11-20-96

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CONC.	NUMBER EXPOSED	NUMBER DEAD	PERCENT DEAD	BINOMIAL PROB. (PERCENT)
1	20	16	80	.5908966
.6	20	6	30	5.765915
.36	20	2	10	2.012253E-02
.22	20	1	5	2.002716E-03
.13	20	0	0	9.536742E-05
.08	20	0	0	9.536742E-05

THE BINOMIAL TEST SHOWS THAT .36 AND 1 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 .7326691

RESULTS CALCULATED USING THE MOVING AVERAGE METHOD

SPAN	G	LC50	95 PERCENT CONFIDENCE LIMITS
2	.1713617	.7183996	.5981798 .9295012

RESULTS CALCULATED USING THE PROBIT METHOD

ITERATIONS	G	H	GOODNESS OF FIT PROBABILITY
5	.1531625	1	.7007496

SLOPE = 4.117836  
95 PERCENT CONFIDENCE LIMITS = 2.506281 AND 5.729392

LC50 = .7009611  
95 PERCENT CONFIDENCE LIMITS = .5799283 AND .9059676

LC10 = .3445716  
95 PERCENT CONFIDENCE LIMITS = .2279509 AND .4307792

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