

---

**VIW1 Restoration (9/7/88)**

ERT # 493  
 SDS LCSD - 9.16 Rq - 3.70 - R.86

Page: 1 of 85  
 ERT QA Form No. 6 420 618190  
 Effective: 2/87

SUBJECT: ACUTE TOXICITY DATA SHEET

SPONSOR: WRI PROJECT NUMBER: 2950-001-582-010  
 TEST SUBSTANCE: County H<sub>2</sub>O TEST SPECIES: Ceriodaphnia  
 SAMPLE INFORMATION AND DESCRIPTION FOUND ON PAGE 493 OF THE TEST SUBSTANCE USAGE LOG

TEST ORGANISM HISTORY

LOT NO. (BATCH NO.) 090685 DATE MAINTENANCE/ACCLIMATION BEGAN: 9/6/88  
 LIFE STAGE (AGE) L24 hrs CONDITION OF ORGANISMS: GOOD  
 SEE PAGE N/A OF COLLECTION/RECEIPT MORTALITY (%) IN 48 HOURS PRIOR TO TESTING: UNK %  
 LOG FOR RAW DATA  
 SEE PAGE 22 OF Ceriodaphnia Log FOR RAW DATA ON HOLDING

TEST CONDITIONS

<input type="checkbox"/> RANGE-FINDING	<input checked="" type="checkbox"/> STATIC	TIME ADDED	TEST LOCATION	TEST SYSTEM
<input checked="" type="checkbox"/> DEFINITIVE	<input type="checkbox"/> FLOW-THROUGH	SUBSTANCE/ANIMALS <u>1445T/500</u>	<u>H<sub>2</sub>O BATH #4</u>	<input checked="" type="checkbox"/> OPEN <input type="checkbox"/> CLOSED
TEST CONTAINER DIMENSIONS <u>100 X 50 mm</u>	SOLUTION HEIGHT <u>~26mm</u>	TEST CHAMBER VOL. (L) <u>0.3</u> 1.6, 3.8, 38	TEST SOLUTION VOLUME <u>0.3</u> 1.0, 3, 35	TEST CONTAINER COMPOSITION <u>GLUES</u>
PROTOCOL: <u>EPA 1985</u>		DILUTION WATER: <u>RW #105</u>		TYPE LIGHTING: <u>FLUORESCENT</u>
PHOTOPERIOD: <u>16L/8D</u>		CIRCLE ONE: TEST SUBSTANCE AS ACTIVE INGREDIENT/ <u>WHOLE MATERIAL</u>		

TEST CONCENTRATION (% mg/l ug/l ng/l)	<u>Control, 6.25, 12.5, 25, 50, 100</u>	SOLVENT/CARRIER	<u>H<sub>2</sub>O</u>
AMOUNT OF SUBSTANCE/STOCK ADDED (mg)	<u>N/A, 12.5, 25, 50, 100, 200</u>	SOLVENT/CARRIER CONCENTRATION	
STOCK SOLUTION USED (e.g. 1,2,3)	<u>N/A</u>		<u>N/A</u>
AMOUNT OF SOLVENT ADDED ( )	<u>N/A</u>		

COMMENTS:  
 ABOVE DATA RECORDED BY: SGP DATE: 9/7/88



SUBJECT: ACUTE TOXICITY DATA SHEET - BIOLOGICAL DATA

KR 618190

SPONSOR: WRI of PROJECT NUMBER: 2950-001-582-010  
 TEST SUBSTANCE: Cowley TEST SPECIES: Neotoma lepida  
H<sub>2</sub>O

DATE	0-HOUR	24-HOUR	48-HOUR	72-HOUR	96-HOUR				
	<u>4/7/88</u>	<u>9/8/88</u>	<u>9/9/88</u>						
ANIMALS FED	<u>YTC</u>	<u>YTC</u>	<u>NO</u>						
TIME	<u>1500</u>	<u>1700</u>	<u>1500</u>						
DATA BY	<u>KC-B</u>	<u>KGP</u>	<u>VOS</u>						
NOMINAL CONCENTRATION	REP	NO. OBS	NO. ALIVE	NO. OBS	NO. ALIVE	NO. OBS	NO. ALIVE	NO. OBS	NO. ALIVE
CONTROL	<u>A</u>	<u>None</u>	<u>10</u>	<u>None</u>	<u>10</u>	<u>None</u>	<u>10</u>		
	<u>B</u>		<u>10</u>		<u>10</u>		<u>10</u>		
<u>6.25</u>	<u>A</u>		<u>10</u>		<u>10</u>		<u>10</u>		
	<u>B</u>		<u>10</u>		<u>10</u>		<u>10</u>		
<u>12.5</u>	<u>A</u>		<u>10</u>		<u>10</u>		<u>10</u>		
	<u>B</u>		<u>10</u>		<u>10</u>		<u>10</u>		
<u>25</u>	<u>A</u>		<u>10</u>		<u>10</u>		<u>10</u>		
	<u>B</u>		<u>10</u>		<u>10</u>		<u>10</u>		
<u>50</u>	<u>A</u>		<u>10</u>		<u>10</u>		<u>10</u>		
	<u>B</u>		<u>10</u>		<u>10</u>		<u>10</u>		
<u>100</u>	<u>A</u>		<u>10</u>		<u>7</u>		<u>4</u>		
	<u>B</u>		<u>1</u>		<u>3</u>	<u>INF</u>	<u>1</u>		

OBSERVATION KEY

- NONE - OBSERVATION WAS MADE AND NOTHING OUT OF THE ORDINARY WAS OBSERVED
- AS - AT THE SURFACE
- MSP - MUSCLE SPASM
- CLE - COMPLETE LOSS OF EQUILIBRIUM
- PLE - PARTIAL LOSS OF EQUILIBRIUM
- LETH - LETHARGIC
- HYP - HYPERACTIVE
- ERR - ERRATIC
- GY - GYRATING
- DRK - DARK PIGMENTATION
- HEM - HEMORRHAGIC
- RAR - RAPID RESPIRATION
- G - GULPING
- CLDY - CLOUDY SOLUTION
- PRE - PRECIPITATE
- FOS - FILM ON SURFACE
- US - UNDISSOLVED CHEMICAL
- NF - NOT FOUND
- LT - LIGHT PIGMENTATION



SUBJECT: ACUTE TOXICITY DATA SHEET - CHEMICAL AND PHYSICAL DATA

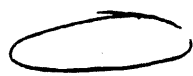
SPONSOR: WRI  
 TEST SUBSTANCE: Cavity ASD  
 PROJECT NUMBER: 2950-001-582-010  
 TEST SPECIES: Ceriodaphnia  
 DATE: 9/7/88  
 TIME: 1500  
 DATA BY: KC-BS  
 INITIALS: MS 618710

DATE	TIME	DATA BY	INITIALS	CONCENTRATION	REP	TEMP C	SAL/ HARD	PH	DO	ALK	COND	TEMP C	SAL/ HARD	PH	DO	TEMP C	SAL/ HARD	PH	DO
				CONTROL	A	20		7.5	6.5		1278	20		8.1	6.5	20		9.2	6.2
					B														
				6.25	A			6.1	6.5		478			8.6	6.4			8.5	6.2
					B														
				12.5	A			8.5	6.5		660			8.7	6.3			8.4	6.2
					B														
				25	A			8.7	6.6		1000			8.9	6.2			8.8	6.3
					B														
				50	A			8.0	6.5		1750			9.0	6.1			9.0	6.3
					B														
				100	A			8.8	6.5		3000			8.8	4.2			9.0	6.4
					B														

TEMP. DEVICE	SAL/HARD MEASUREMENT	PH METER	DO METER	ALKALINITY METHOD	CONDUCTIVITY METER
	Therm	Titration	Therm	Titration	Therm
		#4	#4	#4	N/A
		#5	#5	#5	N/A
		N/A	N/A	N/A	N/A
		N/A	N/A	N/A	N/A

SAL/HARD = ppt/ppm ALK = ppm DO = ppm COND = umhos/cm





=4 WRI  
LC50

ERT #493

WRI

Ceriodaphnia acute

9/19/88

JGP

WRI 618190



48 hr  
LC50

ERT #493

WRI

*Ceriodaphnia acute*

9/19/88 JDP

SUBJECT: PHYSICAL & CHEMICAL DATA FOR FATHEAD MIRROR 72-HOUR STATIC REHEVAL TEST

SUBSTANCE: Cavity H<sub>2</sub>O      BEGINNING: DATE 9/7      TIME 1500  
 CLIENT: WRI      ENDING: DATE 9/11      TIME 1500  
 PROJECT NO: 2950-001-582-011  
 H<sub>2</sub>O # 493  
 LOT # 88-45  
 SDS LC50-354      RANGE 245-715  
 RW # 105

CONTAINER NUMBER	NO. OF SURVIVING ORGANISMS					DISSOLVED OXYGEN (mg/l)					TEMPERATURE (C)					PH				
	0	1	2	3	4	NEW	OLD	NEW	OLD	NEW	OLD	NEW	OLD	NEW	OLD	NEW	OLD	NEW	OLD	
Control	10	10	10	10	10	6.5	6.4	6.3	6.3	6.3	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	
6.25	10	10	10	10	10	6.5	6.4	6.4	6.4	6.4	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	
12.5	10	10	10	10	10	6.5	6.3	6.4	6.3	6.4	6.2	6.4	6.2	6.4	6.2	6.4	6.2	6.4	6.2	
25	10	10	10	10	10	6.5	6.3	6.3	6.2	6.4	6.2	6.3	6.0	6.3	6.0	6.3	6.0	6.3	6.0	
50	10	4	2	0	0	6.5	6.3	6.3	6.2	6.5	6.2	6.3	6.2	6.5	6.2	6.3	6.2	6.5	6.2	
100	10	0	0	0	0	6.5	4.5	1	1	1	1	1	1	1	1	1	1	1	1	

REITER NO.      DATE      TIME      INITIALS  
 9/7 9/9 9/10 9/11 9/11 9/11 9/11 9/11 9/11 9/11 9/11 9/11 9/11 9/11 9/11 9/11 9/11 9/11 9/11 9/11  
 1500  
 WRI



SUBJECT: CHEMICAL DATA FOR FATHEAD MINNOW 96-HOUR STATIC RENEWAL TEST

APD 6/13/10

SUBSTANCE: \_\_\_\_\_ BEGINNING: DATE 9/7 TIME 1500

CLIENT: WRI ENDING: DATE 9/11 TIME 1500

PROJECT NO. 2450-001-582-011

CONTAINER NUMBER	TEST	CONDUCTIVITY (uohms/cm)				ALKALINITY (eg/l)				HARDNESS (eg/l)				NH3 (eg/l as N)				TRC (eg/l)					
		0	1	2	3	0	1	2	3	0	1	2	3	0	1	2	3	0	1	2	3		
A	278	NEW				6.7	NEW				8.2	NEW				NEW				NEW			
B	278	NEW				-	NEW				-	NEW				NEW				NEW			
A	478	NEW				-	NEW				-	NEW				NEW				NEW			
B	478	NEW				-	NEW				-	NEW				NEW				NEW			
A	160	NEW				-	NEW				-	NEW				NEW				NEW			
B	660	NEW				-	NEW				-	NEW				NEW				NEW			
A	1000	NEW				-	NEW				-	NEW				NEW				NEW			
B	1000	NEW				-	NEW				-	NEW				NEW				NEW			
A	1750	NEW				-	NEW				-	NEW				NEW				NEW			
B	1750	NEW				-	NEW				-	NEW				NEW				NEW			
A	3000	NEW				1615	NEW				232	NEW				NEW				NEW			
B	3000	NEW				-	NEW				-	NEW				NEW				NEW			
REF. NO.	47	NEW				TRC	NEW				TRC	NEW				NEW				NEW			
DATE	9/7	NEW				9/7	NEW				9/7	NEW				NEW				NEW			
TIME	1510	NEW				1540	NEW				1515	NEW				NEW				NEW			
INITIALS	UC-B	NEW				UC-B	NEW				UC-B	NEW				NEW				NEW			





ERT #493

WRI  
FHM 96 hr. acute  
9/19/88  
VJP



TIME	UNSET	UNSET	UNSET	UNSET
	UNSET	UNSET	UNSET	UNSET
1	1	1	1	1
2	2	2	2	2
3	3	3	3	3
4	4	4	4	4
5	5	5	5	5
6	6	6	6	6
7	7	7	7	7
8	8	8	8	8
9	9	9	9	9
10	10	10	10	10

... ..  
... ..  
... ..  
... ..  
... ..

... ..  
... ..

... ..  
... ..  
... ..  
... ..

... ..  
... ..

2950-WI-582-011

page 405

APJ 618190



ERT # 493

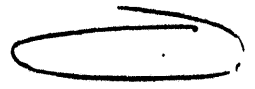
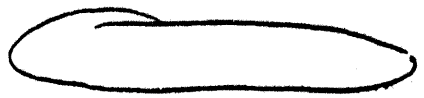
WRI

FHM 96 km. acute

9/19/88 JGP

2950-001-582-011  
page 5075  
May 6/8190

ERT #493  
WRI  
FHM 96 lu. acute  
9/19/88 LJP



1 unit installed due to conceptual  
 Control see per permit  
 RW # 105  
 FSD 6/18/92

CIN 111  
 BATCH # 890688 / < 24 hrs  
 RW # 105  
 SDS 2050-9-16 Range 3.70-18.50

Page: 1  
 ERT QA Form No. 17  
 Effective: 3/87

SUBJECT: CHEMICAL DATA FOR CERIODAPHNIA SP. CHRONIC TEST

SPONSOR: WRI  
 PROJECT NUMBER: 2150-101-58  
 Task 009

TEST SUBSTANCE: County H<sub>2</sub>O  
 BEGINNING DATE: 9/7 TIME 1500  
 ENDING DATE: 9/7 TIME 1500

CONTAINER	DISSOLVED OXYGEN (mg/l)							TEMPERATURE (C)							PH	
	0	1	2	3	4	5	6	7	0	1	2	3	4	5		6
1-10	6.25	7.16	2.5	2.6	2.5	2.5	2.5	2.5	10.4	8.3	8.3	8.3	8.3	8.3	8.3	8.3
11-20	6.3	5.2	1.5	2.4	3.1	3.5	4.1	5.6	10.4	8.3	8.3	8.3	8.3	8.3	8.3	8.3
21-30	6.4	5.3	1.6	2.5	3.2	3.6	4.2	5.6	10.4	8.3	8.3	8.3	8.3	8.3	8.3	8.3
31-40	6.4	5.3	1.6	2.5	3.2	3.6	4.2	5.6	10.4	8.3	8.3	8.3	8.3	8.3	8.3	8.3
41-50	6.3	5.2	1.5	2.4	3.1	3.5	4.1	5.6	10.4	8.3	8.3	8.3	8.3	8.3	8.3	8.3
51-60	6.3	5.2	1.5	2.4	3.1	3.5	4.1	5.6	10.4	8.3	8.3	8.3	8.3	8.3	8.3	8.3

CONTAINER	ALKALINITY (mg/l)							HARDNESS (mg/l)							CONDUCTIVITY (umhos/cm)							COMMENTS			
	0	1	2	3	4	5	6	7	0	1	2	3	4	5	6	7	0	1	2	3	4		5	6	7
1-10	6.1	-	-	-	-	-	-	-	16.2	-	-	-	-	-	-	-	117	320	1500	-	-	-	-	-	
11-20	6.25	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	120	500	1500	-	-	-	-	-	
21-30	12.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	120	720	700	-	-	-	-	-	
31-40	60	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	119	1120	600	-	-	-	-	-	
41-50	100	-	-	-	-	-	-	-	232	-	-	-	-	-	-	-	120	1120	600	-	-	-	-	-	
51-60	100	-	-	-	-	-	-	-	1100	-	-	-	-	-	-	-	120	1120	600	-	-	-	-	-	



SUBJECT: SURVIVAL AND REPRODUCTION DATA FOR CERIODAPHNIA SP. EFFLUENT TOXICITY TEST

SPONSOR: WRI PROJECT NUMBER: 2750-CU1-582  
TEST SUBSTANCE: Cavity H<sub>2</sub>O

EFFLUENT CONC.	DAY NO.	DATE/TIME	IN.	REPLICATE												TOTAL LIVE	NO. LIVE ADULTS	MOST YOUNG BY ANY ADULT
				A	B	C	D	E	F	G	H	I	J					
Control	1	9/8 1640	✓	0	*	*		*							0	10	0	
	2	9/9 1600	✓	0	0	0	0	0	0	0	0	0	0	0	0	10	0	
	3	9/10 1400	✓	2	0	0	0	0	0	3	0	0	0	0	5	10	3	
	4	9/11 1205	✓	0	0	0	3	0	4	0	0	2	4			10	4	
	5	9/12 1320	✓	5	0	0	5	0	5	6	0	3	6			10	6	
	6	9/13 1600	✓	5	0	0	0	0	0	6	0	5	6			10	6	
	7	9/14 1520	✓	0	0	0	2	0	0	0	0	0	0			10	0	
	TOT				10	0	0	10	0	15	15	0	14	16	(30)			
6.25	1	9/8 1640	✓	0	0	0	0	0	0	0	0	0	0	0	0	10	0	
	2	9/9 1600	✓	0	0	0	0	0	0	0	0	0	0	0	0	10	0	
	3	9/10 1405	✓	2	0	0	0	2	0	0	0	0	0	4	10	2		
	4	9/11 1210	✓	0	0	0	0	0	3	0	2	0	0	3	10	3		
	5	9/12 1320	✓	6	0	0	0	6	6	0	6	0	0	24	10	6		
	6	9/13 1600	✓	7	0	0	0	7	7	0	7	0	0	28	10	7		
	7	9/14 1520	✓	0	0	X	0	0	0	X	0	0	0	0	8	0		
	TOT				15	0	0	0	15	16	0	15	0	0	(61)			
12.5	1	9/8 1650	✓	0	0	0	0	0	0	0	0	0	0	0	10	0		
	2	9/9 1605	✓	0	0	0	0	0	0	0	0	0	0	0	10	0		
	3	9/10 1405	✓	2	2	3	0	0	0	0	0	2	0	9	10	3		
	4	9/11 1215	✓	0	0	0	2	2	0	0	1	0			10	2		
	5	9/12 1330	✓	0	5	5	6	5	3	0	0	7	0		10	7		
	6	9/13 1605	✓	0	X	X	X	X	0	0	0	5	0					
	7	9/14 1520	✓	0	0	0	0	6	7	0	0	0	0					
	TOT				7	11	15	16	13	11	0	0	15	0	(91)			

9/13/87

no data  
no data

NOTE: X=Dead Adult, no young produced before death.  
1x=Dead Adult, one young produced before death.

\* male



SUBJECT: SURVIVAL AND REPRODUCTION DATA FOR CERIODAPHNIA SP. EFFLUENT TOXICITY TEST

SPONSOR: WRS PROJECT NUMBER: 2950-001-582  
TEST SUBSTANCE: CaCl<sub>2</sub> 1.0

EFFLUENT CONC.	DAY NO.	DATE/TIME	IN.	REPLICATE												TOTAL LIVE	NO. LIVE ADULTS	MOST YOUNG BY ANY ADULT	
				A	B	C	D	E	F	G	H	I	J						
50	1	9/8 1655	✓	*	0	0	*	*	0	0	0	0	0	0	0	0	0	10	0
	2	9/9 1600	✓	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10	0
	3	9/10 1410	✓	2	2	2	0	0	0	0	0	0	0	0	0	0	0	10	3
	4	9/11 1220	✓	0	2	0	0	0	3	2	2	2	2	2	2	2	2	10	3
	5	9/12 1335	✓	0	4	0	0	4	3	2	6	5	3	3	3	3	3	10	6
	6	9/13 1610	✓	0	3	0	X	0	0	10	9	5	8	8	8	8	8	10	10
	7	9/14 1530	✓	0	0	0	1	3	7	0	0	0	0	0	0	0	0	8	7
TOT				0	9	0	0	10	12	14	17	12	13	11	97				
100	1	9/8 1655	✓	0	X	0	0	0	0	X	0	0	X	0	0	0	0	7	0
	2	9/9 1605	✓	0	0	0	0	0	0	0	0	X	0	0	0	0	0	6	0
	3	9/10 1420	✓	0	0	0	X	X	0	0	0	0	0	0	0	0	0	4	0
	4	9/11 1235	✓	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0
	5	9/12 1335	✓	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0
	6	9/13 1610	✓	X	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0
	7	9/14 1530	✓	1	0	0	0	0	0	0	0	X	0	0	0	0	0	2	0
TOT				0										0	0				
25	1	9/8 1650	✓	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10	0
	2	9/9 1600	✓	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10	0
	3	9/10 1410	✓	2	2	2	0	0	0	0	2	3	2	2	2	2	13	10	3
	4	9/11 1220	✓	0	0	0	2	2	3	0	0	0	0	0	0	0	0	10	3
	5	9/12 1330	✓	6	6	8	6	6	2	0	8	7	5	5	5	5	10	8	
	6	9/13 1610	✓	10	8	9	0	6	0	0	10	11	9	9	9	9	10	10	
	7	9/14 1530	✓	0	0	0	3	0	9	0	0	0	0	0	0	0	16	10	8
TOT				18	16	19	16	14	13	10	20	21	16	153					

*Note:*  
2590 here

NOTE: X=Dead Adult, no young produced before death.  
1x=Dead Adult, one young produced before death.



SUBJECT: PHYSICAL & CHEMICAL DATA FOR FAHREND MINIMUM 72-HOUR STATIC BEMERAL TEST

KAS GRFAU

SUBSTANCE: Cavitey H<sub>2</sub>O  
 CLIENT: WRI  
 PROJECT NO: 2950-001-582-014  
 ERT # 536  
 LOT # 88-51 / <24 hrs  
 SDS LCSD - 3.80 RANGE 6.71  
 RW# III NOT APPROVED

DATE: 9/22/88 TIME: 1315  
 DATE: 9/26/88 TIME: 1315

CONTAINER NUMBER	NO. OF SURVIVING ORGANISMS				DISSOLVED OXYGEN (mg/l)				TEMPERATURE (C)				PH													
	0	1	2	3	4	0	1	2	3	4	0	1	2	3	4	0	1	2	3	4						
Control A	10	10	10	10	10	6.7	6.5	6.6	6.1	6.3	5.7	6.0	6.0	6.0	6.0	20	20	20	20	20	19	8.5	8.0	8.5	8.0	8.0
1 B	10	10	10	10	10	6.7	6.5	6.6	6.3	6.3	5.5	6.3	6.0	6.0	6.0	20	20	20	20	20	20	8.5	8.0	8.5	8.0	8.0
6.25 A	10	10	10	10	10	6.7	6.4	6.6	6.0	6.3	5.7	6.3	6.0	6.0	6.0	20	20	20	20	20	20	8.5	8.0	8.5	8.0	8.0
1 B	10	10	10	10	10	6.7	6.4	6.6	6.0	6.3	5.7	6.3	6.0	6.0	6.0	20	20	20	20	20	20	8.5	8.0	8.5	8.0	8.0
12.5 A	10	10	10	10	10	6.7	6.4	6.6	6.0	6.3	5.7	6.3	6.0	6.0	6.0	20	20	20	20	20	20	8.5	8.0	8.5	8.0	8.0
1 B	10	10	10	10	10	6.7	6.4	6.6	6.0	6.3	5.7	6.3	6.0	6.0	6.0	20	20	20	20	20	20	8.5	8.0	8.5	8.0	8.0
25 A	10	10	10	10	10	6.7	6.4	6.6	6.0	6.3	5.7	6.3	6.0	6.0	6.0	20	20	20	20	20	20	8.5	8.0	8.5	8.0	8.0
1 B	10	10	10	10	10	6.7	6.4	6.6	6.0	6.3	5.7	6.3	6.0	6.0	6.0	20	20	20	20	20	20	8.5	8.0	8.5	8.0	8.0
50 A	10	10	10	10	10	6.7	6.4	6.6	6.0	6.3	5.7	6.3	6.0	6.0	6.0	20	20	20	20	20	20	8.5	8.0	8.5	8.0	8.0
1 B	10	10	10	10	10	6.7	6.4	6.6	6.0	6.3	5.7	6.3	6.0	6.0	6.0	20	20	20	20	20	20	8.5	8.0	8.5	8.0	8.0
100 A	10	10	10	10	10	6.6	6.5	6.6	6.0	6.3	5.9	6.0	6.0	6.0	6.0	20	20	20	20	20	20	8.5	8.0	8.5	8.0	8.0
1 B	10	10	10	10	10	6.6	6.5	6.6	6.0	6.3	5.9	6.0	6.0	6.0	6.0	20	20	20	20	20	20	8.5	8.0	8.5	8.0	8.0

DATE: 9/22/88 TIME: 1315  
 DATE: 9/26/88 TIME: 1315  
 INITIALS: [Handwritten initials]



SUBJECT: CHEMICAL DATA FOR FATHEAD RIMMOW 96-INCH STATIC REMEDIAL TEST

44-D 618410

SUBSTANCE: CHD BEGINNING: DATE 9/22/88 TIME 1315  
 CLIENT: WJE ENDING: DATE 9/26/88 TIME 1315  
 PROJECT NO: 29SD-001-582-014

CONTAINER	CONDUCTIVITY (umhos/cm)				ALKALINITY (mg/l)				HARDNESS (mg/l)				HMS (mg/l as H)				TDS (mg/l)			
	0	1	2	3	0	1	2	3	0	1	2	3	0	1	2	3	0	1	2	3
Control																				
1	279	350			666				88											
625																				
125																				
25																				
50																				
100	3010	3180			681				100											
METER NO.	43	43																		
DATE	9/22	9/25			9/22				9/22											
TIME	1300	1430			1315				1315											
INITIALS	WJE	WJE			WJE				WJE											





ELW

ERT TOXICOLOGY GROUP  
FT. COLLINS, COLORADO

Page: \_\_\_\_\_  
ERT QA Form No. 15  
Effective: 3/87

SUBJECT: DAILY LOG

ALL ENTRIES MUST BE INITIALED WITH DATE AND TIME:

9/7/88 - Effluent D.O. level  $< 1.0$  mg/l - Aerated  
prior to mixing dilutions 1330 JAF

This Pertains to All 3 Tests

9/19/88 JAF

SUBJECT: ACUTE TOXICITY DATA SHEET KAD 618190

---

SPONSOR: WRE PROJECT NUMBER: 2950-001-582-013  
 TEST SUBSTANCE: Caustic H<sub>2</sub>O TEST SPECIES: Caridopsis  
 SAMPLE INFORMATION AND DESCRIPTION FOUND ON PAGE 3 OF THE TEST SUBSTANCE USAGE LOG

---

TEST ORGANISM HISTORY

---

LOT NO./BATCH NO. 092188 DATE MAINTENANCE/ACCLIMATION BEGAN: 9/21/88  
 LIFE STAGE/AGE: < 24 hrs CONDITION OF ORGANISMS: GOOD  
 SEE PAGE N/A OF COLLECTION/RECEIPT LOG FOR RAW DATA MORTALITY (%) IN 48 HOURS PRIOR TO TESTING: unk %  
 SEE PAGE 24 OF Caridopsis Log FOR RAW DATA ON HOLDING

---

TEST CONDITIONS

<input type="checkbox"/> RANGE-FINDING	<input checked="" type="checkbox"/> STATIC	TIME ADDED	TEST LOCATION
<input checked="" type="checkbox"/> DEFINITIVE	<input type="checkbox"/> FLOW-THROUGH	SUBSTANCE/ANIMALS <u>1150 / 200</u>	<u>H<sub>2</sub>O Bath #4</u>
TEST CONTAINER DIMENSIONS	SOLUTION HEIGHT	TEST CHAMBER VOL. (L)	TEST SOLUTION VOLUME
<u>100 X 50 mm</u>	<u>~26 mm</u>	<u>0.3</u> , 1.6, 3.8, 38	<u>0.2</u> , 1.0, 3, 35
TEST CONTAINER COMPOSITION			<u>GLASS</u>
DILUTION WATER: <u>RW # 111</u>		TYPE LIGHTING: <u>FLUORESCENT</u>	PHOTOPERIOD: <u>12/12</u>
CIRCLE ONE: TEST SUBSTANCE AS ACTIVE INGREDIENT/WHOLE MATERIAL			SOLVENT/CARRIER
TEST CONCENTRATION (% mg/l, ug/l, ng/l) <u>Control, 6.25, 12.5, 25, 50, 100</u>			<u>H<sub>2</sub>O</u>
AMOUNT OF SUBSTANCE STOCK ADDED (ml) <u>N/A, 12.5, 25, 50, 100, 200</u>			SOLVENT/CARRIER CONCENTRATION
STOCK SOLUTION USED (e.g. 1, 2, 3) <u>N/A</u>			<u>N/A</u>
AMOUNT OF SOLVENT ADDED ( ) <u>N/A</u>			<u>/</u>
COMMENTS:			
ABOVE DATA RECORDED BY: <u>JGP</u>			DATE: <u>9/21/88</u>



SUBJECT: ACUTE TOXICITY DATA SHEET - BIOLOGICAL DATA

KRS 618190

SPONSOR: WRI PROJECT NUMBER: 2950-001-582-013  
 TEST SUBSTANCE: Candizide TEST SPECIES: Daphnia

DATE	0 HOUR 9/22/88	24-HOUR 9/23/88	48-HOUR 9/24/88	72-HOUR	96-HOUR					
ANIMALS FED	YTC	SWC 8-23 40 YTC	NO							
TIME	1200	1200	1200							
DATA BY	<u>WJP</u>	SWC	<u>KRS</u>							
NOMINAL CONCENTRATION	NO.		NO.		NO.		NO.		NO.	
	mg/l	ug/l	ng/l	REP	OBS	ALIVE	OBS	ALIVE	OBS	ALIVE
CONTROL				A	None	10	B	None	10	
6.25				A		10	B		10	
12.5				A		10	B		10	
25				A		10	B		10	
50				A		10	B		10	
100				A		10	B		10	

OBSERVATION KEY

- NONE - OBSERVATION WAS MADE AND NOTHING OUT OF THE ORDINARY WAS OBSERVED
- AS - AT THE SURFACE
- MSP - MUSCLE SPASM
- CLE - COMPLETE LOSS OF EQUILIBRIUM
- PLE - PARTIAL LOSS OF EQUILIBRIUM
- LETH - LETHARGIC
- HYP - HYPERACTIVE
- ERR - ERRATIC
- GY - GYRATING
- DRK - DARK PIGMENTATION
- HEM - HEMORRHAGIC
- RAR - RAPID RESPIRATION
- G - GULPING
- CLDY - CLOUDY SOLUTION
- PRE - PRECIPITATE
- FOS - FILM ON SURFACE
- US - UNDISSOLVED CHEMICAL
- NF - NOT FOUND
- LT - LIGHT PIGMENTATION



SUBJECT: ACUTE TOXICITY DATA SHEET - CHEMICAL AND PHYSICAL DATA

SPONSOR: AKI PROJECT NUMBER: 2950-001-582 HW 6/18/90

TEST SUBSTANCE: Caustic H<sub>2</sub>O TEST SPECIES: Pericardophora

DATE: 9/22/88 9/23/88 9/24/88

TIME: 1300 0800 0850

DATA BY: DFP SJC MS

NOMINAL CONCENTRATION (mg/l ug/l)	TEMP C	SAL/ HARD	PH	DO	ALK	COND	TEMP C	SAL/ HARD	PH	DO	TEMP C	SAL/ HARD	PH	DO
CONTROL	A 20	88	8.3	6.7	66	279	20	88	8.0	6.4	20	88	8.0	6.4
	B		8.3	6.7			1		8.0	6.2				
6.25	A		8.2	6.7			20		8.2	6.2				
	B		8.2	6.7			1		8.2	6.3				
12.5	A		8.2	6.8			20		8.1	6.3				
	B		8.2	6.9			1		8.4	6.3				
25	A		8.2	6.7			20		8.5	6.3				
	B		8.2	6.7			1		8.5	6.4				
50	A		8.1	6.4			20		8.7	6.5				
	B		8.1	6.6			1		9.0	6.5				
100	A	100	7.8	5.0	1581	3010	20		9.1	6.5				
	B		7.8	5.0			1		9.1	6.5				

TEMP. DEVICE: Therm Therm

SAL/HARD MEASUREMENT: N/A N/A

PH METER: #4 #4

DO METER: #5 #5

ALKALINITY METHOD: Orion N/A

CONDUCTIVITY METER: #3 N/A

SAL/HARD = ppt/ppm DO = ppm ALK = ppm COND = umhos/cm



V: W1 - 1<sup>st</sup> Restoration  
 9-07-88 # 493  
 C. dubia repred.

THE NUMBER OF RESAMPLES IS 80

\*\*\* LISTING OF GROUP CONCENTRATIONS (% EFF.) AND RESPONSE MEANS \*\*\*

CONC. (%EFF)	RESPONSE MEAN	MEAN AFTER POOLING
.000	13.333	14.808
6.250	15.250	14.808
12.500	13.000	14.808
25.000	17.000	14.808
50.000	12.429	12.429
100.000	.000	.000

THE LINEAR INTERPOLATION ESTIMATE OF THE TOTAL IMPACT CONCENTRATION FROM THE INPUT SAMPLE IS 55.3216.

100.000	.000	.000
---------	------	------

THE LINEAR INTERPOLATION ESTIMATE OF THE TOTAL IMPACT CONCENTRATION FROM THE INPUT SAMPLE IS 55.3216.

\*\*\*\*\*  
 \* BOOTSTRAP PROCEDURE TO ESTIMATE VARIABILITY \*  
 \* OF THE ESTIMATED ICP \*  
 \*\*\*\*\*

THE MEAN OF THE BOOTSTRAP ESTIMATES IS 55.4844.

ASC  
 7-9-93  
 C25

THE STANDARD DEVIATION OF THE BOOTSTRAP ESTIMATES IS 3.5326.

AN EMPIRICAL 95.0% CONFIDENCE INTERVAL FOR THE BOOTSTRAP ESTIMATE IS ( 48.1414, 61.0149).

C:\STATS\BOOTSTRP>

---

---

**TWT (Treated, 9/22/88)**

Toss 012

SUBJECT: CHEMICAL DATA FOR CERIODAPHNIA SP. CHRONIC TEST  
 SPONSOR: WRI  
 PROJECT NUMBER: 2120-001-582  
 BEGINNING DATE: 9/28/88 TIME: 1145  
 ENDING DATE: 9/29/88 TIME: 1145  
 AW# 61890

CONC. TEST CONTAINER	DISSOLVED OXYGEN (mg/l)							TEMPERATURE (C)							PH																		
	0	1	2	3	4	5	6	7	0	1	2	3	4	5	6	7	0	1	2	3	4	5	6	7									
Control 1-10	6.4	6.4	6.5	6.2	6.3	6.3	6.6	6.8	6.2	6.4	6.4	6.5	6.4	25	25	25	25	25	25	25	25	25	25	25	25	8.3	8.1	8.1	8.1	8.1	8.1	8.1	8.1
6-25	6.4	6.4	6.5	6.2	6.3	6.3	6.6	6.8	6.2	6.4	6.4	6.5	6.4	25	25	25	25	25	25	25	25	25	25	25	25	8.2	8.2	8.1	8.1	8.1	8.1	8.1	8.1
12-5	6.4	6.4	6.5	6.2	6.3	6.3	6.6	6.8	6.2	6.4	6.4	6.5	6.4	25	25	25	25	25	25	25	25	25	25	25	25	8.0	8.2	8.1	8.1	8.1	8.1	8.1	8.1
25	6.4	6.4	6.5	6.2	6.3	6.3	6.6	6.8	6.2	6.4	6.4	6.5	6.4	25	25	25	25	25	25	25	25	25	25	25	25	8.2	8.2	8.1	8.1	8.1	8.1	8.1	8.1
21-30	6.4	6.4	6.5	6.2	6.3	6.3	6.6	6.8	6.2	6.4	6.4	6.5	6.4	25	25	25	25	25	25	25	25	25	25	25	25	8.2	8.2	8.1	8.1	8.1	8.1	8.1	8.1
27-40	6.4	6.4	6.5	6.2	6.3	6.3	6.6	6.8	6.2	6.4	6.4	6.5	6.4	25	25	25	25	25	25	25	25	25	25	25	25	8.2	8.2	8.1	8.1	8.1	8.1	8.1	8.1
51-60	6.4	6.4	6.5	6.2	6.3	6.3	6.6	6.8	6.2	6.4	6.4	6.5	6.4	25	25	25	25	25	25	25	25	25	25	25	25	8.2	8.2	8.1	8.1	8.1	8.1	8.1	8.1
METER #																																	
DATE																																	
TIME																																	
INITIALS																																	

CONC. TEST CONTAINER	ALKALINITY (mg/l)							HARDNESS (mg/l)							CONDUCTIVITY (umhos/cm)							COMMENTS												
	0	1	2	3	4	5	6	0	1	2	3	4	5	6	7	0	1	2	3	4	5		6	7										
Control 1-10	6.4	6.4	6.5	6.2	6.3	6.3	6.6	6.8	6.2	6.4	6.4	6.5	6.4	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	ERT #536 BATCH # 09288 / < 24 hour SDS USD-916 Range 3.70-11.5a AW # 111
6-25	6.4	6.4	6.5	6.2	6.3	6.3	6.6	6.8	6.2	6.4	6.4	6.5	6.4	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	
12-5	6.4	6.4	6.5	6.2	6.3	6.3	6.6	6.8	6.2	6.4	6.4	6.5	6.4	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	
25	6.4	6.4	6.5	6.2	6.3	6.3	6.6	6.8	6.2	6.4	6.4	6.5	6.4	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	
21-30	6.4	6.4	6.5	6.2	6.3	6.3	6.6	6.8	6.2	6.4	6.4	6.5	6.4	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	
27-40	6.4	6.4	6.5	6.2	6.3	6.3	6.6	6.8	6.2	6.4	6.4	6.5	6.4	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	
51-60	6.4	6.4	6.5	6.2	6.3	6.3	6.6	6.8	6.2	6.4	6.4	6.5	6.4	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	
METER #																																		
DATE																																		
TIME																																		
INITIALS																																		



6/18/90

SUBJECT: SURVIVAL AND REPRODUCTION DATA FOR CERIODAPHNIA SP. EFFLUENT TOXICITY TEST

SPONSOR: WRI PROJECT NUMBER: 2950-001-592-012  
 TEST SUBSTANCE: Cowley H<sub>2</sub>O

EFFLUENT CONC.	DAY NO.	DATE/TIME	IN.	REPLICATE												TOTAL LIVE	NO. LIVE ADULTS	MOST YOUNG BY ANY ADULT
				A	B	C	D	E	F	G	H	I	J					
<u>Control</u>	1	<u>9-23/1150</u>	<u>SW</u>	0	0	0	0	0	0	0	0	0	0	0	0	10	0	
	2	<u>9/24/1150</u>	<u>SW</u>	0	0	0	0	0	0	0	0	0	0	0	0	10	0	
	3	<u>11/25/1530</u>	<u>SW</u>	0	0	0	0	0	0	0	0	0	0	0	0	10	0	
	4	<u>9/26 1450</u>	<u>SW</u>	3	4	4	3	4	4	3	2	4	4	35	10	4		
	5	<u>9/27 1040</u>	<u>SW</u>	0	0	0	0	0	0	7	0	0	0	7	10	7		
	6	<u>9/29 1335</u>	<u>SW</u>	4	6	6	6	6	6	0	6	6	6	52	10	6		
	7	<u>9/29 1130</u>	<u>SW</u>	7	8	9	8	7	9	6	8	8	8	78	10	9		
TOT				14	18	19	17	17	19	16	16	18	18	<u>172</u>				
<u>6.25</u>	1	<u>9-23/1150</u>	<u>SW</u>	0	0	0	0	0	0	0	0	0	0	0	10	0		
	2	<u>9/24/1150</u>	<u>SW</u>	0	0	0	0	0	0	0	0	0	0	0	10	0		
	3	<u>9/25/1530</u>	<u>SW</u>	0	0	0	0	0	0	0	0	0	0	0	10	0		
	4	<u>9/26 1450</u>	<u>SW</u>	2	4	4	3	4	4	4	4	3	4	36	10	4		
	5	<u>9/27 1040</u>	<u>SW</u>	7	0	0	0	0	0	0	0	0	0	7	10	7		
	6	<u>9/28 1335</u>	<u>SW</u>	0	8	7	8	8	7	9	8	8	7	70	10	9		
	7	<u>9/29 1130</u>	<u>SW</u>	13	14	12	10	9	12	10	11	10	11	112	10	14		
TOT				22	26	23	21	24	23	23	23	24	22	<u>225</u>				
<u>12.5</u>	1	<u>9-23/1150</u>	<u>SW</u>	0	0	0	0	0	0	0	0	0	0	0	10	0		
	2	<u>9/24/1150</u>	<u>SW</u>	0	0	0	0	0	0	0	0	0	0	0	10	0		
	3	<u>11/25/1540</u>	<u>SW</u>	0	0	0	0	0	0	0	0	0	0	0	10	0		
	4	<u>9/26 1455</u>	<u>SW</u>	4	3	4	4	4	4	4	4	4	3	38	10	4		
	5	<u>9/27 1045</u>	<u>SW</u>	0	1	0	0	0	0	0	0	0	0	0	10	0		
	6	<u>9/28 1340</u>	<u>SW</u>	6	9	8	9	8	7	6	7	8	7	74	10	9		
	7	<u>9/29 1135</u>	<u>SW</u>	10	11	12	13	12	11	12	9	11	12	113	10	13		
TOT				20	24	24	26	24	22	22	20	23	22	<u>228</u>				

NOTE: X=Dead Adult, no young produced before death.  
 1x=Dead Adult, one young produced before death.

10/11/88





SUBJECT: SURVIVAL AND REPRODUCTION DATA FOR CERIODAPHNIA SP. EFFLUENT TOXICITY TEST

SPONSOR: WRI PROJECT NUMBER: 2950-001-582-012  
 TEST SUBSTANCE: County H<sub>2</sub>O

EFFLUENT CONC.	DAY NO.	DATE/TIME	IN.	REPLICATE												TOTAL LIVE	NO. LIVE ADULTS	MOST YOUNG BY ANY ADULT
				A	B	C	D	E	F	G	H	I	J					
<u>25</u>	1	9-23/1155	Sec	0	0	0	0	0	0	0	0	0	0	0	0	10	0	
	2	9/24/1145	Sec	0	0	0	0	0	0	0	0	0	0	0	0	10	0	
	3	9/25/1145	Sec	0	0	0	0	0	0	0	0	0	0	0	0	10	0	
	4	9/26/1155	Sec	4	4	4	4	4	4	4	4	4	4	4	40	10	4	
	5	9/27/1145	Sec	5	0	0	0	0	0	0	0	0	8	8	21	10	8	
	6	9/28/1135	Sec	1	9	7	8	7	9	7	8	0	0	56	10	9		
	7	9/29/1135	Sec	12	14	14	12	14	13	12	12	11	12	126	10	14		
	TOT				22	23	25	24	25	26	23	24	23	243				

<u>50</u>	1	9-23/1155	Sec	0	0	0	0	0	0	0	0	0	0	0	10	0
	2	9/24/1140	Sec	0	0	0	0	0	0	0	0	0	0	0	10	0
	3	9/25/1150	Sec	0	0	0	0	0	0	0	0	0	0	0	10	0
	4	9/26/1500	Sec	2	2	4	4	4	4	4	3	4	0	31	10	4
	5	9/27/1055	Sec	7	8	7	8	0	0	7	0	0	0	37	10	8
	6	9/28/1350	Sec	0	0	0	0	7	8	8	0	8	0	31	10	8
	7	9/29/1145	Sec	13	12	14	12	12	13	11	11	12	11	112	10	8
	TOT				22	24	25	24	28	25	23	24	24	214		

\*M = male

<u>100</u>	1	9-23/1155	Sec	0	0	0	0	0	0	0	0	0	0	0	10	0
	2	9/24/1145	Sec	0	0	X	0	0	0	0	0	0	0	0	9	0
	3	9/25/1155	Sec	0	0		0	0	0	0	0	0	0	0	9	0
	4	9/26/1500	Sec	0	0		0	0	0	0	0	0	0	0	9	0
	5	9/27/1055	Sec	2	0		0	0	0	0	0	0	0	2	9	2
	6	9/28/1355	Sec	0	0		0	0	0	0	0	0	0	0	8	0
	7	9/29/1145	Sec	0	2		0	0	0	0	0	0	0	0	8	2
	TOT				2	2	0	1	0	0	0	0	0	0	5	

NOTE: X=Dead Adult, no young produced before death.  
 1x=Dead Adult, one young produced before death.



## SUMMARY OF FISHERS EXACT TESTS

GROUP	IDENTIFICATION	NUMBER EXPOSED	NUMBER DEAD	SIG (P=.05)
	CONTROL	10	0	
1	6.25	10	0	
2	12.5	10	0	
3	25	10	0	
4	50	10	0	
5	100	10	2	

|| Press any key to continue ||

2950-001-582-012 Ceriodaphnia Reproduction  
File: A:012 Transform: NO TRANSFORMATION

Chi-square test for normality: actual and expected frequencies

---

INTERVAL	<-1.5	-1.5 to <-0.5	-0.5 to 0.5	>0.5 to 1.5	>1.5
EXPECTED	3.953	14.278	22.538	14.278	3.953
OBSERVED	2	19	20	12	6

---

Calculated Chi-Square goodness of fit test statistic = 4.2358  
Table Chi-Square value (alpha = 0.01) = 13.277

Data PASS normality test. Continue analysis.

2950-001-582-012 Ceriodaphnia Reproduction  
File: A:012 Transform: NO TRANSFORMATION

Bartlett's test for homogeneity of variance

---

Calculated B statistic = 6.85  
Table Chi-square value = 15.09 (alpha = 0.01)  
Table Chi-square value = 11.07 (alpha = 0.05)

Average df used in calculation ==> df (avg n - 1) = 8.83  
Used for Chi-square table value ==> df (#groups-1) = 5

---

Data PASS homogeneity test at 0.01 level. Continue analysis.

NOTE: If groups have unequal replicate sizes the average replicate size is used to calculate the B statistic (see above).

page 6 of 7  
VAD 6/8/90

2950-001-582-012 Ceriodaphnia Reproduction  
File: A:012 Transform: NO TRANSFORMATION

SUMMARY STATISTICS ON TRANSFORMED DATA TABLE 1 of 2

GRP	IDENTIFICATION	N	MIN	MAX	MEAN
1	Control	10	14.000	19.000	17.200
2	6.25	10	21.000	26.000	22.500
3	12.5	10	20.000	26.000	22.700
4	25	10	22.000	27.000	24.300
5	50	9	21.000	28.000	23.778
6	100	10	0.000	2.000	0.500

2950-001-582-012 Ceriodaphnia Reproduction  
File: A:012 Transform: NO TRANSFORMATION

SUMMARY STATISTICS ON TRANSFORMED DATA TABLE 2 of 2

GRP	IDENTIFICATION	VARIANCE	SD	SEM
1	Control	2.400	1.549	0.490
2	6.25	2.278	1.509	0.477
3	12.5	3.567	1.889	0.597
4	25	2.233	1.494	0.473
5	50	4.444	2.108	0.703
6	100	0.722	0.850	0.269

page 7 of 7  
 6/18/90

2950-001-582-012 Ceriodaphnia Reproduction  
 File: A:012 Transform: NO TRANSFORMATION

ANOVA TABLE

SOURCE	DF	SS	MS	F
Between	5	4179.882	835.976	324.903
Within (Error)	53	136.356	2.573	
Total	58	4316.237		

Critical F value = 2.45 (0.05, 5, 40)  
 Since F > Critical F REJECT Ho: All groups equal

2950-001-582-012 Ceriodaphnia Reproduction  
 File: A:012 Transform: NO TRANSFORMATION

BONFERRONI T-TEST - TABLE 1 OF 2 Ho: Control < Treatment

GROUP	IDENTIFICATION	TRANSFORMED MEAN	MEAN CALCULATED IN ORIGINAL UNITS	T STAT	SIG
1	Control	17.200	17.200		
2	6.25	22.500	22.500	-7.388	
3	12.5	22.700	22.700	-7.667	
4	25	24.300	24.300	-9.897	
5	50	23.778	23.778	-8.925	
6	100	0.500	0.500	23.280	*

Bonferroni T table value = 2.40 (1 Tailed Value, P=0.05, df=50, 5)

2950-001-582-012 Ceriodaphnia Reproduction  
 File: A:012 Transform: NO TRANSFORMATION

BONFERRONI T-TEST - TABLE 2 OF 2 Ho: Control < Treatment

GROUP	IDENTIFICATION	NUM OF REPS	Minimum Sig Diff (IN ORIG. UNITS)	% of CONTROL	DIFFERENCE FROM CONTROL
1	Control	10			
2	6.25	10	1.725	10.0	-5.300
3	12.5	10	1.725	10.0	-5.500
4	25	10	1.725	10.0	-7.100
5	50	9	1.772	10.3	-6.578
6	100	10	1.725	10.0	16.700

TWT (Treated) - 1st Roster  
 9-22-93 # 536  
 C. Linton Reprod.

THE NUMBER OF RESAMPLES IS 80

\*\*\* LISTING OF GROUP CONCENTRATIONS (% EFF.) AND RESPONSE MEANS \*\*\*

CONC. (%EFF)	RESPONSE MEAN	MEAN AFTER POOLING
.000	17.200	22.061
6.250	22.500	22.061
12.500	22.700	22.061
25.000	24.300	22.061
50.000	23.778	22.061
100.000	.500	.500

THE LINEAR INTERPOLATION ESTIMATE OF THE TOTAL IMPACT CONCENTRATION FROM THE INPUT SAMPLE IS 62.7899.

100.000 .500 .500

THE LINEAR INTERPOLATION ESTIMATE OF THE TOTAL IMPACT CONCENTRATION FROM THE INPUT SAMPLE IS 62.7899.

\*\*\*\*\*  
 \* BOOTSTRAP PROCEDURE TO ESTIMATE VARIABILITY \*  
 \* OF THE ESTIMATED ICP \*  
 \*\*\*\*\*

THE MEAN OF THE BOOTSTRAP ESTIMATES IS 62.8179. *IC 25 ABC 7-9-93*

THE STANDARD DEVIATION OF THE BOOTSTRAP ESTIMATES IS .1547.

AN EMPIRICAL 95.0% CONFIDENCE INTERVAL FOR THE BOOTSTRAP ESTIMATE IS ( 62.5571, 63.1534).

C:\STATS\BOOTSTRP>

---

**VIW-1 (9/10/90)**



Toxicity Test Cover Sheet

Test Substance: UVW-1 Project No.: 2950-CC3-SS2-016

Sponsor: UCG Species: Ceriodaphnia dubia

FCETL Sample No.: 1702 Lot/Batch: 090990

Dilution Water: Mod Hard Match: ( ) Age: <24hrs ( )

Sample Type: Cyabs LC50: 1250 RNG: 11091-1932

Collection Date/Time: From: 9/9 Method: Surv  
To: / /

Date/Time Test Began: 9-1040/1700 Protocol No. \_\_\_\_\_  
Date/Time Test Ended: 9-1240/1700  
Investigator(s): DCH  
Study Task Manager: Dana

Background Information

Type of Test: Cerio Static Acute  
Length of Test: 48h  
Test Temperature: 20  
Test Chambers: 30-ml Plastic Cups  
Test Solution Volume: 15ml  
No. Replicates/Treatment: 4  
No. Organisms/Replicate: 5  
Type Food/Quantity: YFC/ALG (200ul)  
Test Effluent Characterization: Hardness  Alkalinity   
Conductivity  TRC  NH3

Summary Sheet: None  Specificity \_\_\_\_\_

Special Procedures or Consideration: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Study Director Initials/Date \_\_\_\_\_





Acute Biological Data

Sponsor: UCG Beginning Date: 9-10-90  
 Test Substance: VW-1 Time: 1700  
 Project No.: 2950-003-582  
 Test Species: Ceriodaphnia

Conc.	Test Replicate	Number of Surviving Organisms					Comments
		(0 hrs)	(24 hrs)	(48 hrs)	(72 hrs)	(96 hrs)	
Control	A	5	5	5			
	B						
	C						
	D						
6.25	A						
	B		4	4			
	C		5	5			
	D						
12.5	A						
	B						
	C						
	D						
25	A						
	B						
	C						
	D						
50	A						
	B						
	C						
	D						
100	A						
	B						
	C						
	D						
	A						
	B						
	C						
	D						
Date:		9-10-90	9-11-90	9-12-90			
Time:		1700	1700	1700			
Initials:		SD	DCH	DCH			

## Acute Chemical Data

Sponsor: UCCG  
 Test Substance: VW-1  
 Project No.: 2950-003-SS2  
 Test Species: Ceriodaphnia  
 Beginning Date: 9-10-90  
 Time: 1700

Conc.	Test Replicate	Dissolved Oxygen (mg/l)				Temperature °C				pH				
		0	1	2	3	0	1	2	3	0	1	2	3	4
Control	A	6.5	6.3	6.6		20	20	20		8.4	8.2	8.2		
	B	C												
	C		6.3	6.4		20				8.2				
	D													
6.25	A	6.5	6.1	6.5		20	20	20		8.3	8.3	8.2		
	B	C												
	C		6.1	6.5		20				8.3				
	D													
12.5	A	6.5	6.2	6.5		20	20	20		8.4	8.4	8.4		
	B	C												
	C		6.2	6.5		20				8.4				
	D													
25	A	6.5	6.2	6.5		20	20	20		8.6	8.6	8.6		
	B	C												
	C		6.2	6.5		20				8.6				
	D													
		Meter #												
		Date:	9-10-90											
		Time:	1700											
		Initials:	DCH DCH DCH DCH DCH DCH DCH DCH DCH DCH DCH DCH DCH DCH											

## Acute Chemical Data

Sponsor: UCG  
 Test Substance: VIV-1  
 Project No.: 2450-003-583  
 Test Species: Caridaphnia

Beginning Date: 9-10-90  
 Time: 1700

Conc.	Test Replicate	Dissolved Oxygen (mg/l)				Temperature °C				pH				
		0	1	2	3	0	1	2	3	0	1	2	3	4
50	A	6.0	6.3	NA	6.5	20	20	20	20	8.2	8.6	NA	8.5	
	B	C	-	-	-	-	-	-	-	-	-	-	-	-
	C	6.1	-	6.5	-	20	-	20	-	8.6	-	8.5	-	-
	D	-	-	-	-	-	-	-	-	-	-	-	-	-
100	A	5.5	5.9	6.5	6.5	20	20	20	20	7.9	8.4	8.2	8.2	
	B	C	-	-	-	-	-	-	-	-	-	-	-	-
	C	5.9	-	6.5	-	20	-	20	-	8.4	-	8.2	-	-
	D	-	-	-	-	-	-	-	-	-	-	-	-	-
	A													
	B													
	C													
	D													
	A													
	B													
	C													
	D													
	Meter #	1	1	1	1									
	Date:	9-10	9-11	9-12	9-12									
	Time:	1700	1700	1700	1700									
	Initials:	DCH	DCH	DCH	DCH									



Acute Chemical Data

Sponsor: <sup>PH 9/10</sup> UCG Beginning Date: 9-10-90  
 Test Substance: VIW-1 Time: 1300  
 Project No.: 2950-003-582  
 Test Species: Ceriodaphnia

Conc.	Conductivity umhos/cm				Hardness (mg/L)				Alkalinity (mg/L)				TRC (mg/L)	NH <sub>3</sub> (mg/L)
	0	1	2	3	0	1	2	3	0	1	2	3	0	0
Control	311				86				65				20.01	<del>4.2</del> 20.1 DCH 9-10
6.25	525													
12.5	871													
25	1414													
50	2300													
100	4200				920				484				20.01	<del>20.1</del> 4.2 DCH 9-10
Meter #	+				htr				htr				HACHKET	TTT2
Date:	9/10				9/10				9/10				9/10	9/10
Time:	1630				1600				1600				1600	1600
Initials:	DCH				SD				SD				SD	SD

**SUBJECT: DAILY TOXICITY TEST LOG**

General Comments	
Test Day 0	
Test Day 1	all Cerios look fine
Test Day 2	all okay DCH
Test Day 3	
Test Day 4	
Test Day 5	
Test Day 6	
Test Day 7	
Test Day 8	



Toxicity Test Cover Sheet

Test Substance: VIW-1 Project No.: 2950-003-582-017  
Sponsor: UCC Species: P. promelas (FAM)  
FCETL Sample No.: 1702 Lot/Batch: 90-62  
Dilution Water: Mod Hard Match: ( ) Age: 224 hrs  
Sample Type: Grab LC50: 5833 RNG: 4080-757  
Collection Date/Time: From: 9/9 Method: BWOM  
To: / /

Date/Time Test Began: 9-10-90/1700 Protocol No.             
Date/Time Test Ended: 9-14-90/1700  
Investigator(s): DCI+  
Study Task Manager: Kiana

(Background Information)

Type of Test: FAM Acute (Static Renewal)  
Length of Test: 96h  
Test Temperature: 20  
Test Chambers: 1-L Beakers  
Test Solution Volume: 250ml  
No. Replicates/Treatment: 4  
No. Organisms/Replicate: 10  
Type Food/Quantity: Concentrated PRRR TO SOLUTION AND @ 48 HRS (SUG 9/11) 0.1 ml  
Test Effluent Characterization: Hardness ✓ All:alinity ✓  
Conductivity ✓ TRC ✓ NH3 ✓

Summary Sheet: None ✓ Specify           

Special Procedures or Consideration:           

Study Director Initials/Date



Acute Biological Data

Sponsor: UCG Beginning Date: 9-10-90  
 Test Substance: VIW-1 Time: 1700  
 Project No.: 2950-003-582  
 Test Species: P. promelas

Conc.	Test Replicate	Number of Surviving Organisms					Comments
		(0 hrs)	(24 hrs)	(48 hrs)	(72 hrs)	(96 hrs)	
Control	A	10	10	10	10	10	
	B						
	C						
	D						
6.25	A						
	B						
	C		9	9	9	9	
	D		10	10	10	10	
12.5	A			10			
	B			10			
	C		9 (INF)	9	9	9	
	D		10	10	10	10	
25	A		9	9	9	8	
	B		10	10	10	10	
	C						
	D						
50	A						
	B						
	C			9	9	9	
	D			10	10	10	
100	A					9	
	B					10	
	C					10	
	D				9	8	
	A						
	B						
	C						
	D						

Date: 9-10-90 9/11/90 9-12-90 9/13/90 9/14/90  
 Time: 1700 1000 1515 0945 1700  
 Initials: DCH SD DCH SD SD

## Acute Chemical Data

Page: 3  
 FCETL QA Form No. 053  
 Effective: 1/90

Sponsor: UCCG  
 Test Substance: V1W-1  
 Project No.: 2750-003-582  
 Test Species: FHM  
 Beginning Date: 9-10-90  
 Time: 1700

Conc.	Test Replicate	Dissolved Oxygen (mg/l)				Temperature °C				pH				
		0	1	2	3	0	1	2	3	0	1	2	3	4
Control	A	6.5	6.7	6.6	6.3	6.7	20	20	20	20	8.4	8.2	8.1	8.2
	B	C	6.1	-	C	6.7	20	20	20	20	8.4	C	8.1	C
	C	-	-	6.6	6.2	-	20	20	20	-	8.2	-	-	-
	D	-	-	-	-	-	20	20	20	20	-	-	-	-
6.25	A	6.5	6.8	6.7	6.4	6.7	20	20	20	8.3	8.1	8.3	8.2	
	B	C	6.6	-	C	6.7	20	20	20	8.4	C	8.1	C	
	C	-	-	6.7	6.1	-	20	20	20	-	8.3	-	-	
	D	-	-	-	-	-	20	20	20	20	-	-	-	
13.5	A	6.5	6.7	6.7	6.4	6.7	20	20	20	8.2	8.4	8.4	8.2	
	B	C	6.7	-	C	6.7	20	20	20	8.4	C	8.2	8.1	
	C	-	-	6.7	6.2	-	20	20	20	-	8.4	-	-	
	D	-	-	-	-	-	20	20	20	20	-	-	-	
25	A	6.5	6.7	6.7	6.3	6.7	20	20	20	8.1	8.5	8.5	8.1	
	B	C	6.1	-	C	6.7	20	20	20	8.5	C	8.3	8.1	
	C	-	-	6.7	6.1	-	20	20	20	-	8.5	-	-	
	D	-	-	-	-	-	20	20	20	20	-	-	-	

Meter #  
 Date:  
 Time:  
 Initials:



## Acute Chemical Data

Sponsor: UCB  
 Test Substance: V1W-1  
 Project No.: 2950-003-582  
 Test Species: FHM  
 Beginning Date: 9-10-90  
 Time: 1000

Conc.	Test Replicate	Dissolved Oxygen (mg/l)				Temperature °C				pH				
		0	1	2	3	0	1	2	3	0	1	2	3	4
50	A	6.0	6.7	6.2	6.7	20	20	20	20	8.2	8.5	8.6	8.4	8.5
	B	C	6.7	C	C	C	C	C	C	C	C	C	C	C
	C			6.7		20					8.6			
	D													
100	A	5.5	6.7	6.3	6.7	20	20	20	20	7.9	8.5	8.7	8.2	8.5
	B	C	6.7	C	C	C	C	C	C	C	C	C	C	C
	C			6.7		20					8.4			
	D													
	A													
	B													
	C													
	D													
	A	9-10	9-11	9-12	9-13	DT	DT	DT	DT	26	26	26	26	26
	B	100	100	100	100	100	100	100	100	100	100	100	100	100
	C	SP	SP	SP	SP	SP	SP	SP	SP	SP	SP	SP	SP	SP
	D	DLH	DLH	DLH	DLH	DLH	DLH	DLH	DLH	DLH	DLH	DLH	DLH	DLH

Meter #  
 Date:  
 Time:  
 Initials:



Acute Chemical Data

Sponsor: UUG  
 Test Substance: VW-1  
 Project No.: 2950-003-582  
 Test Species: FHM

Beginning Date: 9-10-90  
 Time: 100

Conc.	Conductivity $\mu\text{mhos/cm}$				Hardness (mg/L)				Alkalinity (mg/L)				TRC (mg/L), $\text{NH}_3$ (mg/L)		
	0	1	2	3	0	1	2	3	0	1	2	3	0	0	
Control	311	302	300	312	56					65				<0.01	<0.1
6.25	525	557	561	564											
12.5	871	874	844	876											
25	1414	1394	1375	1344											
50	2300	2290	2500	2500											
100	4200	3600	3900	4170		920				484				<0.01	4.2
Meter #	7	7	7	7		TITR				TITR				HACH KIT	TITR
Date:	9-10	9-11	9-12	9/13		9/10				9-10				9-10	9-10
Time:	1630	1100	1515	1000		1600				1600				1600	1600
Initials:	DCH	DH	DH	SD		DCH				DH				DH	DH

**SUBJECT: DAILY TOXICITY TEST LOG**

General Comments	
Test Day 0	
9-11 Test Day 1	All fish look healthy-DH
9-12 Test Day 2	All fish okay DH
9-13 Test Day 3	All okay DH
9-14 Test Day 4	OK (Swc)
Test Day 5	
Test Day 6	
Test Day 7	
Test Day 8	

**Toxicity Test Cover Sheet**

Test Substance: VW-1 Project No.: 2950-003-582-015  
Sponsor: UCG Species: Ceriodaphnia dubia  
FCETL Sample No.: 1702 Lot/Batch: 090990  
Dilution Water: Med Hard Match(      ) Age: 24 hrs (24 hrs)  
Sample Type: Grab LC50: 1250 RNG: 1109-1932  
Collection Date/Time: 9/19 09:00 From: 99 Method: 15 NCM  
To:     

Date/Time Test Began: 9-10-90/1645 Protocol No.       
Date/Time Test Ended: 9-17-90/0930  
Investigator(s): DCH  
Study Task Manager: Diana

(Background Information)

Type of Test: Ceriod Chronic  
Length of Test: 3 broods  
Test Temperature: 25  
Test Chambers: 30-ml plastic cups  
Test Solution Volume: 15 ml  
No. Replicates/Treatment: 10  
No. Organisms/Replicate: 1  
Type Food/Quantity: YTC/ALG (200µl)  
Test Effluent Characterization: Hardness      Alkalinity       
Conductivity      TPC      NH3     

Summary Sheet: None      Specify     

Special Procedures or Consideration:     

Study Director Initials/Date

(Ceriodaphnia dubia)  
 Chronic Biological Data

Sponsor: UCG Beginning Date: 9-10-90  
 Test Substance: VIIW-1 Time: 1145  
 Project No.: 2950-001-587  
 Test Species: Ceriodaphnia

Conc.	Day	Number of Surviving Organisms per Replicate										Comments
		A	B	C	D	E	F	G	H	I	J	
Control	1	0	0	0	0	0	0	0	0	0	0	✓
	2	0	0	0	0	0	0	0	0	0	0	✓
	3	0	0	5/1	0	0	0	4/1	0	4/1	0	13
	4	D	4/1	0	0	4/1	4/1	0	4/1	0	4/1	20
	5		9/2	0	9/2	0	12/2	0	7/2	0	9/2	46
	6		14/3	0	11/3	0	11/3	0	12/3	0	12/3	60
	7		21/4	0	17/4	0	16/4	0	0	0	0	72
	TOTAL	29	5	20	4	27	4	23	4	25	(141)	
6.25	1	0	0	0	0	0	0	0	0	0	0	✓
	2	0	0	0	0	0	0	0	0	0	0	✓
	3	0	0	3/1	0	0	4/1	0	0	3/1	0	10
	4	0	0	1/1	3/1	0	0	4/1	4/1	0	4/1	16
	5	D	0	10/2	10/2	0	0	0	11/2	8/2	0	39
	6		9/2	13/3	11/3	0	0	0	11/3	12/3	0	56
	7		0	0	0	0	0	0	0	0	0	✓
	TOTALS	9	27	24	0	4	4	26	23	4	(121)	
12.5	1	0	0	0	0	0	0	0	0	0	0	✓
	2	0	0	0	0	0	0	0	0	0	0	✓
	3	0	0	0	0	0	0	0	0	4/1	0	4
	4	1/1	3/1	4/1	3/1	4/1	3/1	4/1	4/1	0	0	28
	5	4/1	10/2	10/2	8/2	6/2	0	11/2	9/2	9/2	0	67
	6	10/2	0	5/3	2/2	15/3	0	10/3	13/3	13/3	0	68
	7	4/3	10/3	0	0	0	0	0	0	10/3	0	✓
	TOTAL	19	23	19	13	25	5	25	26	29	180 (184)	
Date:	9-11-90	9-12-90	9/13/90	9/14/90	9/15	9/16	9/17					
Time:	1115	1600	1020	1400	1340	1330	0930					
Initials:	DCH	SD	SD	M	SB	SK	DCH					
	DAY 1	DAY 2	DAY 3	DAY 4	DAY 5	DAY 6	DAY 7	DAY 8				

**(Ceriodaphnia dubia)**  
 Chronic Biological Data

Sponsor: UCG Beginning Date: 9-10-90  
 Test Substance: V1W-1 Time: 1645  
 Project No.: 2950-003-382  
 Test Species: Ceriodaphnia

Conc.	Day	Number of Surviving Organisms per Replicate										Comments
		A	B	C	D	E	F	G	H	I	J	
25	1	0	0	0	0	0	0	0	0	0	0	✓
	2	0	0	0	0	0	0	0	0	0	0	✓
	3	0	0	0	0	0	4/1	4/1	0	4/1	0	42
	4	4/1	3/1	4/1	3/1	3/1	0	0	4/1	10/2	4/1	35
	5	4/2	10/2	0	11/2	12/2	8/2	11/2	11/2	0	12/2	84
	6	0	10/3	0	10/3	5/3	14/3	14/3	8/3	12/3	10/3	86
	7	12/3	4/3	0	0	0	10/4	0	0	15/4	1/2	39
	TOTAL	25	24	4	24	23	36	29	23	41	27	256
50 100	1	0	0	0	0	0	0	0	0	0	0	✓
	2	0	0	0	0	0	0	0	0	0	0	✓
	3	0	0	0	0	0	3/1	0	0	5/1	0	8
	4	4/1	4/1	4/1	4/1	4/1	0	4/1	4/1	0	4/1	32
	5	6/2	9/2	19/2	9/2	0	9/2	10/2	7/2	9/2	10/2	79
	6	1/2	11/3	10/3	8/3	0	13/3	9/3	9/3	11/3	10/3	82
	7	9/3	0	0	1/3	0	3/4	0	0	0	0	17
	TOTAL	19	24	24	22	4	33	23	20	25	24	218
100	1	0	0	0	0	0	0	0	0	0	0	✓
	2	0	0	0	0	0	0	0	0	0	0	✓
	3	0	0	0	0	0	0	0	0	0	0	✓
	4	1/1	1	3/1	4/1	1/1	4/1	3/1	2/1	4/1	3/1	25
	5	7/2	1	8/2	7/2	7/2	6/2	7/2	5/2	5/2	7/2	52 59
	6	0	1	7/3	5/3	0	7/3	5/3	4/3	9/3	6/3	43 02/19
	7	8/3	1	0	0	8/3	0	0	0	0	0	813
	TOTAL	13	0	18	16	16	17	15	11	18	16	140
Date:	9-11	9-12	9/13	9/14	9/15	9/16	9/17					
Time:	1115	1100	1015	140	1340	1330	0930					
Initials:	TYH	ISD	SD	MD	SB	SC	DC					
	DAY 1	DAY 2	DAY 3	DAY 4	DAY 5	DAY 6	DAY 7	DAY 8				

Chronic Chemical Data  
 (Initial)

Sponsor: UCG      Beginning Date: 9-10-90  
 Test Substance: VW-1      Time: 1645  
 Project No.: 2930-003-582  
 Test Species: Ceriodaphnia

	0	1	2	3	4	5	6	Meter #	Comments
Conc.: <u>Control</u>									
pH	8.4	8.2	8.4	8.3	8.2	8.4	8.4	#26	
D.O. (mg/L)	6.5	6.3	6.5	6.3	6.2	6.7	6.6	#1	
Temp (°C)	25	25	25	25	25	25	25	DT	
Cond (umho/cm)	311	302	300	307	300	306	306	#7	
Hard (mg/L)	86							TTR	
Alk (mg/L)	65							TTR	
Conc.: <u>6.25</u>									
pH	8.3	8.1	8.2	8.2	8.1	8.3	8.4		
D.O. (mg/L)	6.5	6.4	6.5	6.3	6.3	6.7	6.7		
Temp (°C)	25	25	25	25	25	25	25		
Cond (umho/cm)	525	587	561	514	621	565	617		
Conc.: <u>12.5</u>									
pH	8.2	8.0	8.2	8.1	8.1	8.3	8.3		
D.O. (mg/L)	6.5	6.4	6.5	6.3	6.3	6.7	6.7		
Temp. (°C)	25	25	25	25	25	25	25		
Cond. (umho/cm)	871	874	844	876	760	756	914		
Conc.: <u>25</u>									
pH	8.1	8.0	8.1	8.1	8.1	8.2	8.3		
D.O. (mg/L)	6.5	6.3	6.6	6.4	6.3	6.8	6.7		
Temp. (°C)	25	25	25	25	25	25	25		
Cond. (umho/cm)	1414	1394	1375	1344	1301	1201	1452		
Hard (mg/L)									
Alk (mg/L)									
Date:	9-10-90	9-11	9-12	9-13	9-14	9-15	9-16		
Time:	1700	1100	1515	1030	1330	1330	1320		
Initials:	DCH	SD	DH	DH	SD	FDG	SD		

Chronic Chemical Data  
 (Initial)

Sponsor: UCG Beginning Date: 9-10-90  
 Test Substance: VW-1 Time: 1645  
 Project No.: 2950-003-582  
 Test Species: Ceriodaphnia

	0	1	2	3	4	5	6	Meter #	Comments
Conc.: <u>50</u>									
pH	8.2	7.9	8.0	8.0	8.0	8.2	8.2	#26	
D.O. (mg/L)	6.5	6.2	6.6	6.3	6.5	6.8	6.7	#1	
Temp (°C)	25	25	25	25	25	25	25	DT.	
Cond (umho/cm)	2300	2250	2500	2500	2500	2500	2610	#7	
Hard (mg/L)								titr.	
Alk (mg/L)								titr.	
Conc.: <u>100</u>									
pH	7.9	7.9	7.9	7.9	7.9	8.1	8.1		
D.O. (mg/L)	6.5	6.5	6.7	6.0	6.8	6.9	6.7		
Temp (°C)	25	25	25	25	25	25	25		
Cond (umho/cm)	4200	3600	3900	4150	4000	3600	4170		
Conc.: <u>100</u>									
pH									
D.O. (mg/L)									
Temp. (°C)									
Cond. (umho/cm)									
Hard (mg/L)	920								
Alk (mg/L)	484								
Date:	9-10-90	9/11	9-12	9-13	9/14	9/15	9/16		
Time:	1700	1100	1515	1030	1330	1330	1320		
Initials:	DCH	DD	DCH	DH	SD	ES	RS		



Chronic Chemical Data  
 (Final)

Sponsor: UCG  
 Test Substance: VIW-1  
 Project No.: 2950-003-582  
 Test Species: Ceriodaphnia

Beginning Date: 9-10-90  
 Time: 1645

	1	2	3	4	5	6	7	Meter #	Comments
Conc.: <u>Control</u>				<u>1/14</u>				<u>Rel Conc.</u>	
pH	<u>8.4</u>	<u>8.4</u>	<u>8.3</u>	<u>8.2</u>	<u>8.3</u>	<u>8.4</u>	<u>8.3</u>	<u>26</u>	
D.O. (mg/L)	<u>6.1</u>	<u>6.3</u>	<u>6.1</u>	<u>6.1</u>	<u>6.5</u>	<u>6.4</u>	<u>6.4</u>	<u>1</u>	
Temp (°C)	<u>25</u>	<u>25</u>	<u>25</u>	<u>25</u>	<u>25</u>	<u>25</u>	<u>25</u>	<u>OT</u>	
Conc.: <u>6.25</u>	<u>8.5</u>	<u>8.5</u>	<u>8.3</u>	<u>8.2</u>	<u>8.3</u>	<u>8.5</u>	<u>8.4</u>		
pH	<u>8.5</u>	<u>8.5</u>	<u>8.3</u>	<u>8.2</u>	<u>8.3</u>	<u>8.5</u>	<u>8.4</u>		
D.O. (mg/L)	<u>6.2</u>	<u>6.3</u>	<u>6.0</u>	<u>5.7</u>	<u>6.5</u>	<u>6.3</u>	<u>6.4</u>		
Temp (°C)	<u>25</u>	<u>25</u>	<u>25</u>	<u>25</u>	<u>25</u>	<u>25</u>	<u>25</u>		
Conc.: <u>12.5</u>	<u>8.6</u>	<u>8.6</u>	<u>8.4</u>	<u>8.3</u>	<u>8.5</u>	<u>8.6</u>	<u>8.5</u>		
pH	<u>8.6</u>	<u>8.6</u>	<u>8.4</u>	<u>8.3</u>	<u>8.5</u>	<u>8.6</u>	<u>8.5</u>		
D.O. (mg/L)	<u>6.2</u>	<u>6.3</u>	<u>6.0</u>	<u>5.6</u>	<u>6.5</u>	<u>6.3</u>	<u>6.3</u>		
Temp. (°C)	<u>25</u>	<u>25</u>	<u>25</u>	<u>25</u>	<u>25</u>	<u>25</u>	<u>25</u>		
Conc.: <u>25</u>	<u>8.7</u>	<u>8.7</u>	<u>8.6</u>	<u>8.4</u>	<u>8.7</u>	<u>8.7</u>	<u>8.7</u>		
pH	<u>8.7</u>	<u>8.7</u>	<u>8.6</u>	<u>8.4</u>	<u>8.7</u>	<u>8.7</u>	<u>8.7</u>		
D.O. (mg/L)	<u>6.2</u>	<u>6.2</u>	<u>6.0</u>	<u>5.1</u>	<u>6.5</u>	<u>6.4</u>	<u>6.4</u>		
Temp. (°C)	<u>25</u>	<u>25</u>	<u>25</u>	<u>25</u>	<u>25</u>	<u>25</u>	<u>25</u>		
Conc.: <u>50</u>	<u>8.6</u>	<u>8.5</u>	<u>8.6</u>	<u>8.7</u>	<u>8.6</u>	<u>8.5</u>	<u>8.6</u>		
pH	<u>8.6</u>	<u>8.5</u>	<u>8.6</u>	<u>8.7</u>	<u>8.6</u>	<u>8.5</u>	<u>8.6</u>		
D.O. (mg/L)	<u>6.2</u>	<u>6.2</u>	<u>6.0</u>	<u>6.0</u>	<u>6.6</u>	<u>6.4</u>	<u>6.4</u>		
Temp. (°C)	<u>25</u>	<u>25</u>	<u>25</u>	<u>25</u>	<u>25</u>	<u>25</u>	<u>25</u>		
Conc.: <u>100</u>	<u>8.3</u>	<u>8.3</u>	<u>8.3</u>	<u>8.4</u>	<u>8.3</u>	<u>8.3</u>	<u>8.3</u>		
pH	<u>8.3</u>	<u>8.3</u>	<u>8.3</u>	<u>8.4</u>	<u>8.3</u>	<u>8.3</u>	<u>8.3</u>		
D.O. (mg/L)	<u>6.2</u>	<u>6.3</u>	<u>5.9</u>	<u>5.8</u>	<u>6.6</u>	<u>6.4</u>	<u>6.4</u>		
Temp. (°C)	<u>25</u>	<u>25</u>	<u>25</u>	<u>25</u>	<u>25</u>	<u>25</u>	<u>25</u>		
Date:	<u>9/11</u>	<u>9/12</u>	<u>9/13</u>	<u>9/14</u>	<u>9/15</u>	<u>9/16</u>	<u>9/17</u>		
Time:	<u>1100</u>	<u>1515</u>	<u>1030</u>	<u>1730</u>	<u>1330</u>	<u>1320</u>	<u>0930</u>		
Initials:	<u>SO</u>	<u>DCH</u>	<u>DA</u>	<u>SO</u>	<u>DS</u>	<u>DS</u>	<u>OH</u>		

SUBJECT: DAILY TOXICITY TEST LOG

General Comments	
Test Day 0	
9-11 Test Day 1	all <del>fish</del> <sup>fish</sup> will look healthy DCH cerio
9-12 Test Day 2	All okay DCH
9-13 Test Day 3	All okay DCH
Test Day 4	
9-15 Test Day 5	Some test organisms appear weak (randomly distributed throughout test) (SB)
Test Day 6	<u>FAIR</u> ORGANISM HEALTH THRU-OUT TESTS (SUC) ✓
Test Day 7	44% OF CONTROL ORGANISMS WILL NOT REPRODUCE AGAIN THUS TEST TERMINATED (SUC)
Test Day 8	

Viw,  
 9-10-90 # 1702  
 e. Dutia Reprod.

THE NUMBER OF RESAMPLES IS 80

\*\*\* LISTING OF GROUP CONCENTRATIONS (% EFF.) AND RESPONSE MEANS \*\*\*

CONC. (%EFF)	RESPONSE MEAN	MEAN AFTER POOLING
.000	14.100	18.400
6.250	12.100	18.400
12.500	18.400	18.400
25.000	25.600	18.400
50.000	21.800	18.400
100.000	14.000	14.000

\*\*\* NO LINEAR INTERPOLATION ESTIMATE CAN BE CALCULATED FROM THE INPUT DATA, SINCE NONE OF THE (POSSIBLY POOLED) GROUP RESPONSE MEANS WERE LESS THAN 75.0% OF THE CONTROL RESPONSE MEAN.

DATA, SINCE NONE OF THE (POSSIBLY POOLED) GROUP RESPONSE MEANS WERE LESS THAN 75.0% OF THE CONTROL RESPONSE MEAN.

\*\*\*\*\*  
 \* BOOTSTRAP PROCEDURE TO ESTIMATE VARIABILITY \*  
 \* OF THE ESTIMATED ICP \*  
 \*\*\*\*\*

THE MEAN OF THE BOOTSTRAP ESTIMATES IS 85.9813.

IC<sub>25</sub>  
 15C 7-9-93

THE STANDARD DEVIATION OF THE BOOTSTRAP ESTIMATES IS 7.4483.

- Note:

AN EMPIRICAL 94.4% CONFIDENCE INTERVAL FOR THE BOOTSTRAP ESTIMATE IS ( 74.8518, 99.5763).

No 25% reduc'n  
 relative to true  
 response mean -

\*\*\* NOTE: THE ABOVE BOOTSTRAP CALCULATIONS WERE BASED ON 36 INSTEAD OF 80 RESAMPLINGS. THOSE RESAMPLES NOT USED HAD ESTIMATES ABOVE THE HIGHEST CONCENTRATION / % EFF.

only  
 relative  
 to mean after  
 pooling.

C:\STATS\BOOTSTRP>

IC<sub>25</sub> > 100%

---

**EMW-9 (9/10/90)**



Toxicity Test Cover Sheet

Test Substance: EMW-9 Project No.: 3950-003-582  
Sponsor: UCG Species: Ceriodaphnia dubia  
FCETL Sample No.: 1703 Lot/Batch: 090990  
Dilution Water: Mod Hard Match: ( ) Age: 24 hrs  
Sample Type: Grab LC50: 1280 RNG: 1109-1932  
Collection Date/Time: From: 9/9 Method: BAM  
To: / /

Date/Time Test Began: 9-10-90 / 1640 Protocol No. \_\_\_\_\_  
Date/Time Test Ended: 9-12-90 / 1640  
Investigator(s): DCH  
Study Task Manager: LIANA

(Background Information)

Type of Test: Ceriodaphnia Acute  
Length of Test: 48h  
Test Temperature: 20  
Test Chambers: 30-ml plastic beakers  
Test Solution Volume: 15ml  
No. Replicates/Treatment: 4  
No. Organisms/Replicate: 5  
Type Food/Quantity: YTG/ALG (200ul)  
Test Effluent Characterization: Hardness  Alkalinity   
Conductivity  TRC  NH3   
Summary Sheet: None  Specify \_\_\_\_\_

Special Procedures or Consideration: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Study Director Initials/Date \_\_\_\_\_



### Acute Biological Data

Sponsor: UCL Beginning Date: 9-10-90  
Test Substance: PMW-9 Time: 1640  
Project No.: 2950-003-582  
Test Species: Ceriodaphnia

Conc.	Test Replicate	Number of Surviving Organisms					Comments
		(0 hrs)	(24 hrs)	(48 hrs)	(72 hrs)	(96 hrs)	
Control	A	5	5	5			
	B	1	1	1			
	C						
	D						
6.25	A						
	B						
	C						
	D						
12.5	A		0 *S-NF	0			
	B		5	5			
	C						
	D						
25	A						
	B						
	C						
	D						
50	A						
	B						
	C						
	D						
100	A						
	B						
	C						
	D						
	A						
	B						
	C						
	D						
Date:	9/10	9-11-90	9-12				
Time:	1640	0935	1640				
Initials:	gn	DH	DH				

## Acute Chemical Data

Sponsor: UCLG  
 Test Substance: FAW-9  
 Project No.: 2950-003-582  
 Test Species: Ceriodaphnia

Beginning Date: 9-10-90  
 Time: 1640

Conc.	Test Replicate	Dissolved Oxygen (mg/l)				Temperature °C				pH				
		0	1	2	3	0	1	2	3	0	1	2	3	4
Control	A	6.5	6.2	6.5		20	20	20		8.3	8.4	8.4		
	B	C				C								
	C			6.5				20			8.4			
	D													
6.25	A	6.5	6.1	6.6		20	20	20		8.3	8.5	8.4		
	B	C				C								
	C			6.6				20			8.5			
	D													
12.5	A	6.5	6.1	6.6		20	20	20		8.4	8.6	8.7		
	B	C				C								
	C			6.6				20			8.6			
	D													
25	A	6.5	6.1	6.7		20	20	20		8.4	8.1	8.7		
	B	C				C								
	C			6.7				20			8.1			
	D													
		Meter #												
		Date:	9/10											
		Time:	1600											
		Initials:	BCH DCH DCH DCH DCH DCH DCH DCH DCH DCH DCH DCH DCH											

## Acute Chemical Data

Sponsor: UC6 Beginning Date: 9-10-90  
 Test Substance: EMW-9 Time: 1640  
 Project No.: 2950-003-582  
 Test Species: Ceriodaphnia

Conc.	Test Replicate	Dissolved Oxygen (mg/l)				Temperature °C				pH				
		0	1	2	3	0	1	2	3	0	1	2	3	4
50	A	new 6.5	old 6.0	NA	6.5	new 20	old 20	NA	20	new 8.4	old 8.8	NA	8.9	
	B	C	-	-	-	-	-	-	-	C	-	-	-	
	C		6.0	-	6.5		20	-	20		8.8	-	8.9	
	D		-	-	-		-	-	-		-	-	-	
100	A	new 6.5	old 6.0	-	6.6	new 20	old 20	-	20	new 8.3	old 9.0	-	9.1	
	B	C	-	-	-	-	-	-	-	C	-	-	-	
	C		6.0	-	6.6		20	-	20		9.0	-	9.1	
	D		-	-	-		-	-	-		-	-	-	
	A													
	B													
	C													
	D													
	A													
	B													
	C													
	D													
	Meter #	1	1	1	1	1	1	1	1	DT	DT	DT	DT	DT
	Date:	9/10	9/11	9/12	9/11	9/11	9/11	9/11	9/11	9/10	9/11	9/12	9/12	9/12
	Time:	1600	0805	1400	0805	0805	0805	0805	0805	0805	0805	0805	0805	0805
	Initials:	DCH	DCH	DCH	DCH	DCH	DCH	DCH	DCH	DCH	DCH	DCH	DCH	DCH





Acute Chemical Data

Sponsor: UCG  
Test Substance: EMW-9  
Project No.: 2950-003-582  
Test Species: Ceriodaphnia

Beginning Date: 9-10-90  
Time: 1640

Conc.	Conductivity umhos/cm				Hardness (mg/L)				Alkalinity (mg/L)				TRC (mg/L)	NH <sub>3</sub> (mg/L)
	0	1	2	3	0	1	2	3	0	1	2	3	0	0
Control	311				86				65				20.01	20.1
6.25	491													
12.5	685													
25	1065													
50	1713													
100	3200				560				568				20.01	3.9
Meter #	#9				hr				hr				14AC11	
Date:	9-10				9/10				9/10				9/10	9/10
Time:	1605				1500				1500				1500	1500
Initials:	DH				SD				SD				SD	SD

**SUBJECT: DAILY TOXICITY TEST LOG**

General Comments	
Test Day 0	Effluent D.O - 3.0, aerated ~ 15 min prior to setting test up. DCH 9-10-90
Test Day 1	OK (Swc)
Test Day 2	All okay DCH
Test Day 3	
Test Day 4	
Test Day 5	
Test Day 6	
Test Day 7	
Test Day 8	



Toxicity Test Cover Sheet

Test Substance: EMW-9 Project No.: 2950-CC3-582  
Sponsor: UCG Species: P. promelas (FHM)  
FCETL Sample No.: 1703 Lot/Batch: 90-62  
Dilution Water: Med Hard Match: ( ) Age: 24 hrs ( )  
Sample Type: Grab / / LC50: 5833 RNG: 4080-7574  
Collection Date/Time: From: 9/9 Method: Renew  
To: / /

Date/Time Test Began: 9-10/1630 Protocol No. \_\_\_\_\_  
Date/Time Test Ended: 9-14/1630  
Investigator(s): DCH  
Study Task Manager: Diana

(Background Information)

Type of Test: FHM Acute (Static Renewal)  
Length of Test: 96h  
Test Temperature: 20  
Test Chambers: 1-L Beakers  
Test Solution Volume: 250 mL  
No. Replicates/Treatment: 4  
No. Organisms/Replicate: 10  
Type Food/Quantity: \_\_\_\_\_  
Test Effluent Characterization: Hardness ✓ Alkalinity ✓  
Conductivity ✓ TRC ✓ NH3 ✓  
Summary Sheet: None ✓ Specify \_\_\_\_\_

Special Procedures or Consideration: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Study Director Initials/Date \_\_\_\_\_



Acute Biological Data

Sponsor: UCG Beginning Date: 9-10-90  
 Test Substance: EMW-9 Time: 1630  
 Project No.: 2950-003-582  
 Test Species: FHM

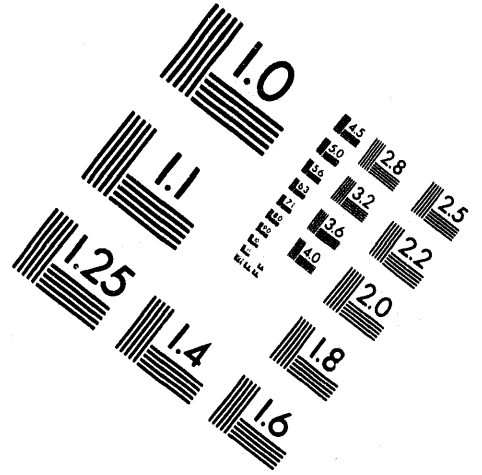
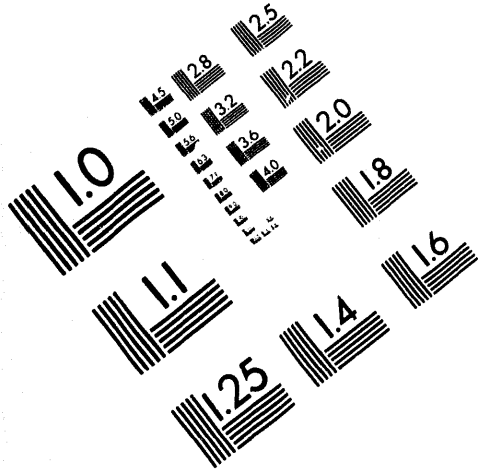
Conc.	Test Replicate	Number of Surviving Organisms					Comments
		(0 hrs)	(24 hrs)	(48 hrs)	(72 hrs)	(96 hrs)	
Control	A	10	10	9	9	9	
	B			10	10	10	
	C						
	D						
6.25	A						
	B						
	C						
	D						
12.5	A						
	B						
	C						
	D						
25	A						
	B						
	C						
	D						
50	A						
	B						
	C						
	D						
100	A					9	
	B					10	
	C			9	9	9	
	D			10	10	10	
	A						
	B						
	C						
	D						
Date:		9-10-90	9-11-90	9-12-90	9-15-90	9/14/90	
Time:		1630	1200	1610	1015	1630	
Initials:		RH	DH	DH	RS	SO	



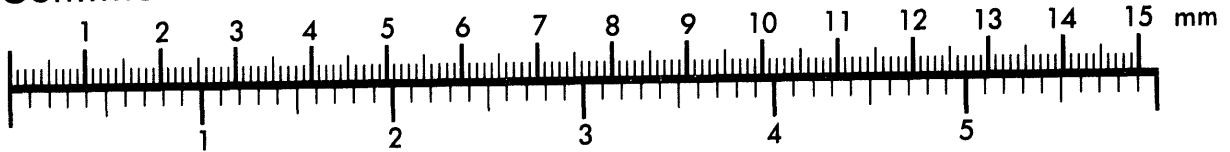
**AIM**

**Association for Information and Image Management**

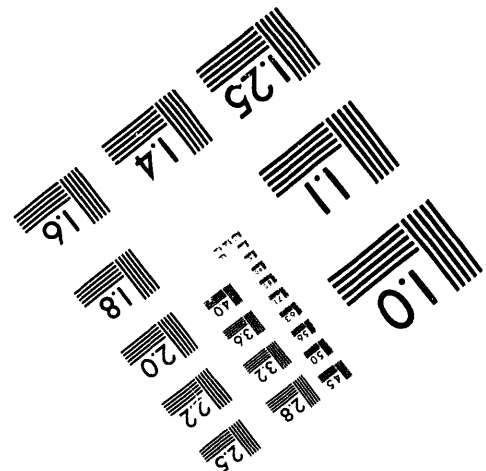
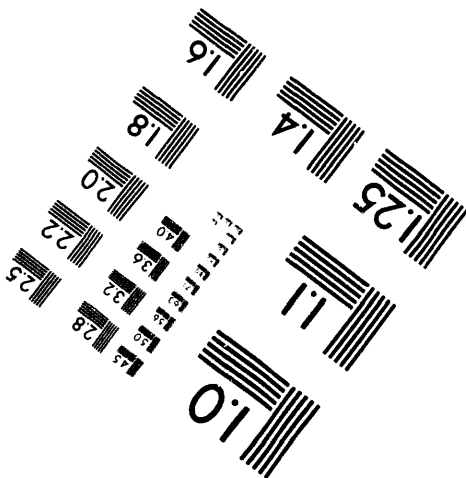
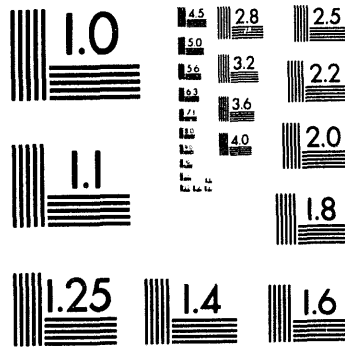
1100 Wayne Avenue, Suite 1100  
Silver Spring, Maryland 20910  
301/587-8202



Centimeter



Inches



MANUFACTURED TO AIM STANDARDS  
BY APPLIED IMAGE, INC.

**6 of 6**

## Acute Chemical Data

Sponsor: UCG  
 Test Substance: EMW-9  
 Project No.: 2950-003-582  
 Test Species: FHM  
 Beginning Date: 9-10-90  
 Time: 6:30

Conc.	Test Replicate	Dissolved Oxygen (mg/l)				Temperature °C				pH				
		0	1	2	3	0	1	2	3	0	1	2	3	4
Control	A	6.5	6.8	6.6	6.4	20	20	20	20	8.3	8.2	8.2	8.2	8.2
	B	C	C	C	C	20	20	20	20	8.3	C	C	C	C
	C	+	+	+	+	20	20	20	20	8.3	+	+	+	+
	D	+	+	+	+	20	20	20	20	8.3	+	+	+	+
6.25	A	6.5	6.7	6.6	6.5	20	20	20	20	8.3	8.4	8.3	8.3	8.3
	B	C	6.7	C	C	20	20	20	20	8.4	C	C	C	C
	C	+	+	+	+	20	20	20	20	8.4	+	+	+	+
	D	+	+	+	+	20	20	20	20	8.4	+	+	+	+
12.5	A	6.5	6.7	6.7	6.5	20	20	20	20	8.5	8.5	8.4	8.5	8.5
	B	C	6.7	C	C	20	20	20	20	8.5	C	C	C	C
	C	+	+	+	+	20	20	20	20	8.5	+	+	+	+
	D	+	+	+	+	20	20	20	20	8.5	+	+	+	+
25	A	6.5	6.7	6.7	6.5	20	20	20	20	8.7	8.6	8.5	8.5	8.6
	B	C	6.7	C	C	20	20	20	20	8.7	C	C	C	C
	C	+	+	+	+	20	20	20	20	8.7	+	+	+	+
	D	+	+	+	+	20	20	20	20	8.7	+	+	+	+

Meter #  
 Date:  
 Time:  
 Initials:



Acute Chemical Data

Sponsor: UCG  
 Test Substance: EMU-9  
 Project No.: 2950-003-582  
 Test Species: FHM  
 Beginning Date: 9-10-90  
 Time: 1630

Conc.	Test Replicate	Dissolved Oxygen (mg/l)				Temperature °C				pH				
		0	1	2	3	0	1	2	3	0	1	2	3	4
50	A	6.5	6.7	6.7	6.5	20	20	20	20	8.4	8.7	8.4	8.7	8.4
	B	C	6.7	C	C	C	C	C	C	C	C	C	C	C
	C													
	D													
100	A	6.5	6.7	6.7	6.5	20	20	20	20	8.3	8.5	8.4	8.7	8.3
	B	C	6.7	C	C	C	C	C	C	C	C	C	C	C
	C													
	D													
	A													
	B													
	C													
	D													
	A	1	9/11	9/12	9/12	DT	DT	DT	DT	26	26	26	26	26
	B	9/10	9/11	9/12	9/12	9/11	9/11	9/12	9/12	9/11	9/11	9/12	9/12	9/12
	C	1000	1200	1000	1000	1200	1200	1000	1000	1000	1000	1000	1000	1000
	D	50	50	50	50	50	50	50	50	50	50	50	50	50

Meter #  
 Date:  
 Time:  
 Initials:





Acute Chemical Data

Sponsor: UCG  
 Test Substance: EMW-9  
 Project No.: 2950-003-582  
 Test Species: FHM

Beginning Date: 9-10-90  
 Time: 1630

Conc.	Conductivity umhos/cm				Hardness (mg/L)				Alkalinity (mg/L)				TRC (mg/L)	NH <sub>3</sub> (mg/L)
	0	1	2	3	0	1	2	3	0	1	2	3	0	0
Control	311	301	292	317 <del>301</del> DH 9-13	86				65				20.01	20.1
6.25	491	506	500	495										
12.5	685	684	708	696										
25	1065	1048	1033	1066										
50	1713	1746	1773	1762										
100	3200	3200	3100	3000	560				568				20.01	3.9
Meter #	9	9	9	9	hr				hr				HACH	
Date:	9/10	9-12	9-13	9-12	9/10				9/10				9/10	9/10
Time:	1405	1200	1045	1600	1500				1500				1500	1500
Initials:	SD	DH	DH	DH	SD				SD				SD	SD

\* Note → 9/10 9/12 9/13 9/11

**SUBJECT: DAILY TOXICITY TEST LOG**

General Comments	
9-10 Test Day 0	Effluent D.O - 3.0, aerated ~ 15 min prior to setting up test.
9-11 Test Day 1	All okay DCH
9-12 Test Day 2	All okay DCH
9-13 Test Day 3	All okay DCH
Test Day 4	All OK SWC
Test Day 5	
Test Day 6	
Test Day 7	
Test Day 8	

Toxicity Test Cover Sheet

Test Substance: EMW-9 Project No.: 2950-003-582-018  
Sponsor: UCG Species: Ceriodaphnia dubia  
FCETL Sample No.: 1703 Lot/Batch: 090990  
Dilution Water: Mod Hard Match( ) Age: < 24hrs ( )  
Sample Type: Grab / / LC50: 1280 RNG: 1109-183Z  
Collection Date/Time: From: 9/9 / / Method: from  
To: / /

Date/Time Test Began: 9-10-90/1630 Protocol No. \_\_\_\_\_  
Date/Time Test Ended: ~~9-11-90/1630~~ 9-16-90/1330  
Investigator(s): DCH SD9/14  
Study Task Manager: DIANA

(Background Information)

Type of Test: Ceriod chronic  
Length of Test: 3 broods  
Test Temperature: 25  
Test Chambers: 30-ml plastic cups  
Test Solution Volume: 15 ml  
No. Replicates/Treatment: 10  
No. Organisms/Replicate: 1  
Type Food/Quantity: YTC/ALG (200µl)  
Test Effluent Characterization: Hardness  Alkalinity   
Conductivity  TRC  NH<sub>3</sub>   
Summary Sheet: None  Specify \_\_\_\_\_

Special Procedures or Consideration: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Study Director Initials/Date \_\_\_\_\_

**(Ceriodaphnia dubia)**  
**Chronic Biological Data**

Sponsor: UCG Beginning Date: 9-10-90  
 Test Substance: EMW-4 Time: 1630  
 Project No.: 2950-003-582  
 Test Species: Ceriodaphnia

Conc.	Day	Number of Surviving Organisms per Replicate										Comments	
		A	B	C	D	E	F	G	H	I	J		
Control	1	0	0	0	0	0	0	0	0	0	0		
	2	0	0	0	0	0	0	0	0	0	0		
	3	0	0	0	0	0	0	0	0	0	0		
	4	4	4	4	4	4	4	6	4	5	4	43	
	5	5/2	8/2	13/2	13/2	11/2	10/2	9/2	6/2	12/2	5/2	92	
	6	0	8/3	0	12/3	13/3	11/3	12/3	13/3	11/3	10/3	88	90
	7												
	total	9	20	17	24	28	25	27	23	28	19	(225)	
6.25	1	0	0	0	0	0	0	0	0	0	0		
	2	0	0	0	0	0	0	0	0	0	0		
	3	0	0	0	0	0	0	0	4/1	0	0	4	
	4	0	0	4	0	4	4	4	0	4	4	24	
	5			10/2	0	8/2	11/2	9/2	9/2	11/2	8/2	66	
	6			11/3	0	0	11/3	12/3	14/3	10/3	14/3	74	
	7												
	total	0	0	25	0	12	26	25	29	25	26	(168)	
12.5	1	0	0	0	0	0	0	0	0	0	0		
	2	0	0	0	0	0	0	0	0	0	0		
	3	0	0	0	0	0	0	5/1	0	0	0	5	
	4	4	0	4	3	3	5	0	6	4	4	33	
	5	9/2	0	11/2	10/2	12/2	10/2	8/2	9/2	10/2	9/2	88	
	6	0	0	12/3	0	10/3	12/3	14/3	10/3	13/3	7/3	78	
	7												
	total	13	0	27	13	25	27	27	25	27	20	(202)	DCH 9/19
Date:	9/11	9/12	9/13	9-14	9-15	9-16							
Time:	1250	1630	1100	1400	1330	1330							
Initials:	sp	mm	mm	DH	mm	AD							
	Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7	Day 8					

(Ceriodaphnia dubia)  
 Chronic Biological Data

Sponsor: EMW-9 UCB <sup>24/10</sup> Beginning Date: 9-10-90  
 Test Substance: EMW-9 Time: 1630  
 Project No.: 2950-003-582  
 Test Species: Ceriodaphnia

Conc.	Day	Number of Surviving Organisms per Replicate										Comments
		A	B	C	D	E	F	G	H	I	J	
25	1	0	0	0	0	0	0	0	0	0	0	
	2	0	0	0	0	0	0	0	0	0	0	
	3	0	0	0	0	0	0	0	0	0	0	
	4	4	4	4	0	5	6	D-5	4	4	4	40
	5	10/2	0	11/2	0	14/2	0		10/2	10/2	9/2	60
	6	0	00	10/3	0	3/3	0		10/3	9/3	6/3	38
	7											138
	total	14	4	25	0	18	6	5	24	23	19	
50	1	0	0	0	0	0	0	0	0	0	0	
	2	0	0	0	0	0	0	0	0	0	0	
	3	0	D	0	D	0	0	4/1	4/1	0	0	8
	4	0		5		4	6	0	0	0	4	19
	5	0		10/2		0	9/2	8/2	7/2	0	0	34
	6	0*		9/3		0	7/3	12/3	13/3	0	0	4 placed brood
	7	r										
	total	0	0	24	0	4	22	24	24	0	4	102
100	1	0	D	D	D	0	0	0	0	0	0	
	2	6				0	0	0	0	0	0	
	3	D				0	0	0	0	0	0	
	4					0		0	0	0	0	
	5					0		D	0	0	0	
	6					D			0	00	0	0
	7											0
Date:	9/11	9/12	9/13	9/14	9/15	9/16						
Time:	1230	1630	1100	1400	1530	1550						
Initials:	so	DL	DL	DH	DL	DL						
	Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7	Day 8				

Chronic Chemical Data  
 (Initial)

Sponsor: UC6 Beginning Date: 9-10-90  
 Test Substance: EMW-9 Time: 1630  
 Project No.: 2950-003-582  
 Test Species: Cariodaphnia

	0	1	2	3	4	5	6	Meter #	Comments
Conc.: <u>Control</u>								<u>Ac Couc</u>	
pH	8.3	8.2	8.3	8.2	8.3	8.3		26	
D.O. (mg/L)	6.5	6.2	6.5	6.3	6.4	6.7		1	
Temp (°C)	25	25	25	25	25	25		8T	
Cond (umho/cm)	311	317	301	292	291	308		9	
Hard (mg/L) %/10	<del>56</del> 86								TITR
Alk (mg/L) %/10	<del>56</del> 65								TITR
Conc.: <u>6.25</u>									
pH	8.3	8.3	8.3	8.3	8.3	8.3			
D.O. (mg/L)	6.5	6.3	6.6	6.5	6.4	6.7			
Temp (°C)	25	25	25	25	25	25			
Cond (umho/cm)	491	495	506	500	523	505			
Conc.: <u>12.5</u>									
pH	8.4	8.3	8.4	8.3	8.3	8.4			
D.O. (mg/L)	6.5	6.3	6.6	6.5	6.4	6.7			
Temp (°C)	25	25	25	25	25	25			
Cond. (umho/cm)	685	696	684	6708	644	710			
Conc.: <u>25</u>									
pH	8.4	8.3	8.4	8.3	8.3	8.4			
D.O. (mg/L)	6.5	6.3	6.7	6.5	6.4	6.7			
Temp (°C)	25	25	25	25	25	25			
Cond. (umho/cm)	1065	1066	1018	1033	1107	975			
Hard (mg/L)									
Alk (mg/L)									
Date:	9/10	9/11	9-12	9/13	9/14	9/15			
Time:	1600	1200	1600	1045	1345	1320			
Initials:	SO	SO	DL	SP	SO	RDS			

Chronic Chemical Data  
 (Initial)

Sponsor: UC 6  
 Test Substance: EMW-9  
 Project No.: 2950-003-582  
 Test Species: Ceriodaphnia

Beginning Date: 9-10-90  
 Time: 1630

	0	1	2	3	4	5	6	Meter #	Comments
Conc.: <u>50</u>									
pH	8.4	8.4	8.4	8.3	8.3	8.4			
D.O. (mg/L)	6.5	6.3	6.7	6.5	6.2	6.7			
Temp (°C)	25	25	25	25	25	25			
Cond (umho/cm)	1713	1762	1746	1773	1810	1728			
Hard (mg/L)									
Alk (mg/L)									
Conc.: <u>100</u>									
pH	8.3	8.3	8.3	8.3	8.3	8.3			
D.O. (mg/L)	6.5	6.0	6.7	5.6	6.0	6.7			
Temp (°C)	25	25	25	25	25	25			
Cond (umho/cm)	3200	3000	3200	3100	3150	3300			
Hard/Alk	560/568								Titr
Conc.:									
pH									
D.O. (mg/L)									
Temp. (°C)									
Cond. (umho/cm)									
Conc.:									
pH									
D.O. (mg/L)									
Temp. (°C)									
Cond. (umho/cm)									
Hard (mg/L)									
Alk (mg/L)									
Date:	9/10	9/11	9-12	9/13	9/14	9/15			
Time:	1600	1200	1600	1045	1345	1320			
Intials:	JD	JD	JH	JD	JD	JD			

Chronic Chemical Data  
 (Final)

Sponsor: UCG  
 Test Substance: EMW-9  
 Project No.: 2950-003-582  
 Test Species: Ceriodaphnia

Beginning Date: 9-10-90  
 Time: 1630

	1	2	3	4	5	6	7	Meter #	Comments
Conc.: <u>Control</u>								<u>Acc/Con</u>	
pH	<u>8.3</u>	<u>8.4</u>	<u>8.2</u>	<u>8.3</u>	<u>8.4</u>	<u>8.4</u>		<u>26</u>	
D.O. (mg/L)	<u>6.1</u>	<u>6.3</u>	<u>6.2</u>	<u>6.4</u>	<u>6.6</u>	<u>6.4</u>		<u>1</u>	
Temp (°C)	<u>25</u>	<u>25</u>	<u>25</u>	<u>25</u>	<u>25</u>	<u>25</u>		<u>DT</u>	
Conc.: <u>6.25</u>									
pH	<u>8.5</u>	<u>8.6</u>	<u>8.4</u>	<u>8.4</u>	<u>8.6</u>	<u>8.5</u>			
D.O. (mg/L)	<u>5.9</u>	<u>6.4</u>	<u>6.3</u>	<u>6.2</u>	<u>6.6</u>	<u>6.2</u>			
Temp (°C)	<u>25</u>	<u>25</u>	<u>25</u>	<u>25</u>	<u>25</u>	<u>25</u>			
Conc.: <u>12.5</u>									
pH	<u>8.6</u>	<u>8.4</u>	<u>8.5</u>	<u>8.5</u>	<u>8.7</u>	<u>8.7</u>			
D.O. (mg/L)	<u>6.0</u>	<u>6.4</u>	<u>6.3</u>	<u>6.2</u>	<u>6.7</u>	<u>6.1</u>			
Temp. (°C)	<u>25</u>	<u>25</u>	<u>25</u>	<u>25</u>	<u>25</u>	<u>25</u>			
Conc.: <u>25</u>									
pH	<u>8.7</u>	<u>8.7</u>	<u>8.7</u>	<u>8.7</u>	<u>8.8</u>	<u>8.9</u>			
D.O. (mg/L)	<u>6.0</u>	<u>6.1</u>	<u>6.3</u>	<u>6.1</u>	<u>6.7</u>	<u>6.4</u>			
Temp. (°C)	<u>25</u>	<u>25</u>	<u>25</u>	<u>25</u>	<u>25</u>	<u>25</u>			
Conc.: <u>50</u>									
pH	<u>8.9</u>	<u>8.9</u>	<u>8.9</u>	<u>9.0</u>	<u>9.0</u>	<u>9.0</u>			
D.O. (mg/L)	<u>6.0</u>	<u>6.0</u>	<u>6.3</u>	<u>6.2</u>	<u>6.7</u>	<u>6.5</u>			
Temp. (°C)	<u>25</u>	<u>25</u>	<u>25</u>	<u>25</u>	<u>25</u>	<u>25</u>			
Conc.: <u>100</u>									
pH	<u>9.1</u>	<u>9.1</u>	<u>9.0</u>	<u>9.1</u>	<u>9.1</u>	<u>9.2</u>			
D.O. (mg/L)	<u>6.0</u>	<u>6.2</u>	<u>6.2</u>	<u>6.1</u>	<u>6.6</u>	<u>6.4</u>			
Temp. (°C)	<u>25</u>	<u>25</u>	<u>25</u>	<u>25</u>	<u>25</u>	<u>25</u>			
Date:	<u>9/11</u>	<u>9/12</u>	<u>9/13</u>	<u>9/14</u>	<u>9/15</u>	<u>9/16</u>			
Time:	<u>1730</u>	<u>1445</u>	<u>1045</u>	<u>1445</u>	<u>1820</u>	<u>1330</u>			
Initials:	<u>EDS</u>	<u>ED</u>	<u>SO</u>	<u>SO</u>	<u>EDS</u>	<u>ED</u>			



SUBJECT: DAILY TOXICITY TEST LOG

General Comments	2950-003-582
Test Day 0 9-10	Effluent D.O. - 3.0, aerated prior to setting up. TRC 20.01 NH <sub>3</sub> 3.9
Test Day 1 9-11	OK ✓
Test Day 2 9-12	OK ✓
Test Day 3 9-13	100% look weak - DCH
Test Day 4 9-14	100% look weak + misc. species in other conc. DCH
Test Day 5 9-15	100% weak (DCH)
Test Day 6	Surviving 50% - 100% organisms look weak
Test Day 7	
Test Day 8	

THE NUMBER OF RESAMPLES IS 80

091090B.DAT

\*\*\* LISTING OF GROUP CONCENTRATIONS (% EFF.) AND RESPONSE MEANS \*\*\*

1C5

DU 11/17/92

CONC. (%EFF)	RESPONSE MEAN	MEAN AFTER POOLING
.000	22.500	22.500
6.250	16.800	18.600
12.500	20.400	18.600
25.000	13.800	13.800
50.000	10.200	10.200
100.000	.000	.000

EMW9

9-10-90 # 1703

C dubia Reprod.

THE LINEAR INTERPOLATION ESTIMATE OF THE TOTAL IMPACT CONCENTRATION FROM THE INPUT SAMPLE IS 16.9922.

100.000	.000	.000
---------	------	------

THE LINEAR INTERPOLATION ESTIMATE OF THE TOTAL IMPACT CONCENTRATION FROM THE INPUT SAMPLE IS 16.9922.

\*\*\*\*\*  
 \* BOOTSTRAP PROCEDURE TO ESTIMATE VARIABILITY \*  
 \* OF THE ESTIMATED ICP \*  
 \*\*\*\*\*

THE MEAN OF THE BOOTSTRAP ESTIMATES IS 16.5047.

1C25

MS 7-9-93

THE STANDARD DEVIATION OF THE BOOTSTRAP ESTIMATES IS 10.7694.

AN EMPIRICAL 95.0% CONFIDENCE INTERVAL FOR THE BOOTSTRAP ESTIMATE IS ( 4.0594, 40.1210).

C:\IC50>