

Bioassays of

Alpha Owens Corning Corporation

Lakeland, Polk County, Florida

NPDES #FL0029653

1/7/02

July 2002

Biology Section

Division of Resource Assessment & Management

Comprehensive Quality Assurance Plan #870346G

Bioassays of

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Bureau of Laboratories
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Introduction

Alpha Owens Corning Corporation, 4620 North Galloway Road, Lakeland, Polk County, Florida, NPDES #FL0029653, tests performed on 8 to 10 January 2002.

This polyester resin manufacturing company has a design flow of 0.800 MGD and an average monthly flow of 0.589 MGD (monthly average-October 1999 through September 2001). Non-contact cooling water is treated by a separator for removal of light or heavy suspended materials, then sent to a mixing basin. Effluent from the mixing basin is discharged into a holding pond where it is combined with cooling tower blow-down water prior to being discharged through Outfall 001 to the Class III freshwaters of a channelized wetland that is contiguous to Hidden Lake, then into Blackwater Creek, and then into the Hillsborough River (facility information provided by Dane Huge, FDEP, Tampa).

The toxicity tests discussed in this report were performed in accordance with methods described by Weber, 1993, *Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms*, 4th Edition, EPA/600/4-90/027F.

Results and Discussion

The FDEP Biology Section performed two 48-hour static acute screening toxicity bioassays on a sample of effluent collected from Outfall 001 of this facility using freshwater test species, the waterflea, *Ceriodaphnia dubia*, and the bannerfin shiner, *Cyprinella leedsi*. The test results did not indicate toxicity to either test species within 48 hours (Table 1).

Total residual chlorine and total ammonia were not detected in the bioassay sample in the laboratory. Further chemical analyses were performed on the effluent samples, and several metals were identified (Table 2).

Conclusion

The sample of effluent collected from this facility on January 7, 2002, did not show acute toxicity to either test species within 48 hours.

Table 1.

County, Florida, NPDES# FL0029653, performed from 8 to 10 January 2002.

Facility:	**Alpha Owens Corning Corporation**	**NPDES #**	**FL0029653**	Facility Type:	**Polyester resin**	**Analysts:**	Della Parker-Hanson
Location:	4620 North Galloway Road, Lakeland	Contact/District:	Huge/Southwest		**Manufactuting**		Joshua Ayres
County:	Polk	Test type:	static acute screen		**Company**		Gary Hardie
Sample Collection Date:	1/7/02 Time: 1100	# tests:	2	Receiving Water:	Blackwater creek		Marshall Faircloth
Test Beginning Date:	1/8/02 Time: 1400	Chlorination Type:	Chlorinated				
Test Ending Date:	1/10/02 Time: 1400		sample collected after dechlorination		**Page 1 of 1**	**Reviewer:**	David Whiting

Organism: ***Ceriodaphnia dubia*** Life stage: <24 hours

	Sample/Diluent	SURVIVAL # Alive			pH			Temperature[A]			Dissolved Oxygen			Conductivity Uncorrected µmhos/cm	
Concentrations	Volume(mL)	0 hr	24 hr	48 hr	0 hour	24 hour	48 hour	0 hour	24 hour	48 hour	0 hour	24 hour	48 hour	0 hour	48 hour
Control A	0/20	5	5	5	8.2	-	8.2	23.4	-	23.8	8.1	-	7.5	170	200
Control B	0/20	5	5	5	-	-	8.3	-	-	23.7	-	-	7.5	-	205
Control C	0/20	5	5	5	-	-	8.3	-	-	23.8	-	-	7.4	-	195
Control D	0/20	5	5	5	-	-	8.3	-	-	24.0	-	-	7.5	-	190
100% A	20/0	5	5	5	8.0	-	8.5	24.5	-	23.6	6.8	-	7.3	240	265
100% B	20/0	5	5	5	-	-	8.5	-	-	23.6	-	-	7.4	-	275
100% C	20/0	5	5	5	-	-	8.5	-	-	23.6	-	-	7.4	-	260
100% D	20/0	5	5	5	-	-	8.5	-	-	23.8	-	-	7.4	-	250

[A] Temperatures of room and test incubator were continuously recorded on a strip chart recorder.
Room Temperature range for the test period was 23.5-25.5 °C.
Incubator #2 temperature range for the test period was 25.0-26.0°C.

Organism: ***Cyprinella leedsi*** Life stage: 9 days

	Sample/Diluent	SURVIVAL # Alive			pH			Temperature[B]			Dissolved Oxygen			Conductivity Uncorrected µmhos/cm	
Concentrations	Volume(mL)	0 hr	24 hr	48 hr	0 hour	24 hour	48 hour	0 hour	24 hour	48 hour	0 hour	24 hour	48 hour	0 hour	48 hour
Control A	0/500	5	5	5	7.8	8.2	8.4	24.5	24.5	24.7	7.6	7.4	7.1	250	255
Control B	0/500	5	5	5	7.8	8.3	8.4	24.5	24.6	24.7	7.6	7.4	7.1	260	275
Control C	0/500	5	5	5	7.8	8.3	8.4	24.6	24.6	24.8	7.5	7.3	6.9	260	285
Cotnrol D	0/500	5	5	5	7.8	8.2	8.4	24.7	24.6	24.7	7.5	7.3	7.0	260	310
100% A	500/0	5	5	5	8.0	8.2	8.3	24.7	24.6	24.9	6.9	7.4	6.5	240	265
100% B	500/0	5	5	5	8.0	8.2	8.2	24.7	24.6	24.5	6.9	7.2	6.6	240	280
100 % C	500/0	5	5	4	8.0	8.2	8.2	24.7	24.7	24.6	6.8	7.1	6.4	245	280
100% D	500/0	5	5	5	8.0	8.2	8.3	24.8	24.7	24.7	6.8	7.0	6.6	245	275

[B] Temperatures of room and test incubator were continuously recorded on a strip chart recorder.
Room Temperature range for the test period was 23.5-25.5°C.
Incubator #3 temperature range for the test period was 24.0-25.0°C.

LIMS	
Job number:	TLH-2002-01-08-04
sample number:	569542

Data Transcription Verification	
date:	5/2/02
by:	Gary Hardie
	Joshua Ayres

Total Residual CL2	mg/L	Method
Field:	-	-
Lab:	<0.03	Hach

Ammonia	Total (mg/L)	Unionized (mg/L)
Control water (fish):	<0.017	<0.017
Control water (water flea):	<0.017	<0.017
100% Sample:	<0.017	<0.017

Alk & Hardness	Alkalinity (mg/L)	Hardness (mg/L)
Control water (fish):	137	131
Control water (water flea):	80	85
100% Sample:	111	114

Table 2. Results of chemical analyses on the effluent from Alpha Owens Corning Corporation sampled on January 7, 2002.

Metals

Calcium	34.1	mg/L	AJ
Copper	2.1	µg/L	I
Iron	38	µg/L	I
Magnesium	6	mg/L	A
Selenium	1.8	µg/L	I

Pesticides and Herbicides

None detected

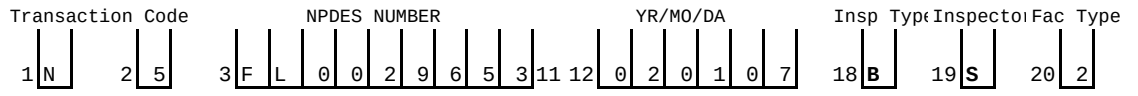
Base, Neutral, & Acid Extractable Organics

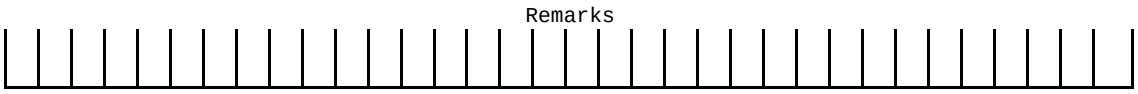
None detected

[A] Value reported is the mean of two or more determinations.
[I] The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.

The Bioassay of Alpha Owens Corning Corporation effluent sampled on January 7, 2002, NPDES #FL0029653.

Fill Out This Section For All Surface Water Discharger Inspections(CEI, CSI, CBI, PAI, X

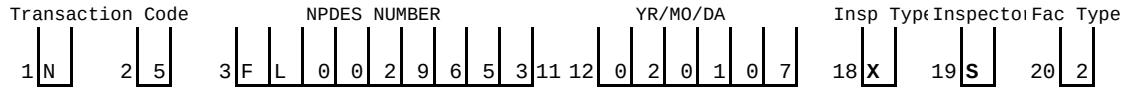


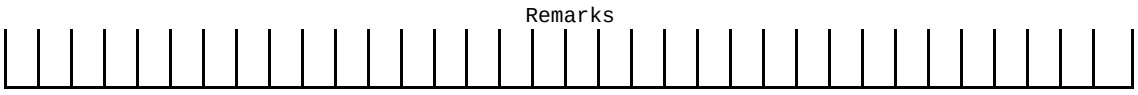


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The Priority Pollutants Analysis for Bioassay of Alpha Owens Corning Corporation effluent sampled on January 7, 2002, NPDES #FL0029653.

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