		Physical & Chemical Properties of a (FG) Formalex® "GREEN" Neutralized Formalin Waste				
Sample No.#	FG Dosage Level, Fl. Oz. per gal.	Final Batch pH	B.O.D. Analysis, ppm	Phosphate Content*, as ppm of P	Sulfate Content, as ppm of SO_4^{-2}	Sulfite Content, as ppm of SO_3^{-2}
15A	32	6.2	Not Detected (< 4ppm)	1,600*	29	Not Detected (< 100 ppm)

Note: * Content originates from buffered Formalin. Formalex® Green contains no Phosphate based compounds.

CA Title 22 Acute Fish Bioassay Definitive Test for Hazardous Waste

Extraction Method: CA DFG (Polinsi & Miller) **Analytical Method:** CA DFG (Polinsi & Miller) **Work Order:** 0909111

Lab ID	0909111 -001D	Species: Pimephales promelas	Avg. Length (mm) 36.6
Client Sample ID	15A	Common Name: Fathead Minnows	Avg. Weight (g) 0.341
Test Matrix	Water		Max Weight (g) 0.351
Control Water	Moderately hard synthetic water		Min Weight (g) 0.339

Concentration	Survival		Dissolved O2 (mg/L)		pH		Temperature (°C)		Comments	
	A	B	A	B	A	B	A	B		
Control	10	10	8.57	8.63	7.29	7.30	19.5	19.5	Analyst:	CM
250 MG/L	10	10	8.65	8.67	7.29	7.28	19.5	19.5	0	0
500 MG/L	10	10	8.67	8.69	7.28	7.27	19.5	19.5	0	0
1000 MG/L	10	10	8.63	8.70	7.27	7.28	19.5	19.5	Date:	**9/9/2009**
2000 MG/L	10	10	8.65	7.71	7.25	7.24	19.5	19.5	Time:	11:00 AM
Control	10	10	8.52	8.60	7.40	7.35	19.9	19.9	Analyst:	CM
250 MG/L	10	10	8.45	8.60	7.25	7.26	19.9	19.9	0	0
500 MG/L	10	10	8.60	8.63	7.27	7.28	19.9	19.9	0	0
1000 MG/L	10	10	8.49	8.65	7.29	7.29	19.9	19.9	Date:	**9/10/2009**
2000 MG/L	10	10	8.57	8.60	7.28	7.31	19.9	19.9	Time:	11:00 AM
Control	10	10	6.46	6.40	7.24	7.20	20.0	20.0	Analyst:	CM
250 MG/L	10	10	6.19	6.21	7.07	7.08	20.0	20.0	0	0
500 MG/L	10	10	6.40	8.05	7.06	7.05	20.0	20.0	0	0
1000 MG/L	10	10	6.22	5.77	7.05	7.02	20.0	20.0	Date:	**9/11/2009**
2000 MG/L	10	10	6.05	5.90	7.03	7.03	20.0	20.0	Time:	11:00 AM
Control	10	10	6.81	6.90	7.16	7.10	20.0	20.0	Analyst:	CM
250 MG/L	10	10	6.61	6.55	7.16	7.14	20.0	20.0	0	0
500 MG/L	10	10	6.80	6.71	7.14	7.12	20.0	20.0	0	0
1000 MG/L	10	10	6.70	6.37	7.15	7.13	20.0	20.0	Date:	**9/12/2009**
2000 MG/L	9	9	6.61	6.19	7.14	7.15	20.0	20.0	Time:	11:00 AM
Control	10	10	6.86	6.95	7.13	7.15	20.0	20.0	Analyst:	CM
250 MG/L	10	10	6.81	6.68	7.04	7.07	20.0	20.0	0	0
500 MG/L	10	10	6.77	6.61	7.08	7.05	20.0	20.0	0	0
1000 MG/L	10	10	6.95	6.99	7.03	7.04	20.0	20.0	Date:	**9/13/2009**
2000 MG/L	9	9	6.61	6.80	7.05	7.06	20.0	20.0	Time:	11:00 AM

	Initial		**Final**	
	Control	2000 MG/L	Control	2000 MG/L
Hardness (mg/L as CaCO3)	40	40	40	40
Alkalinity (mg/L as CaCO3)	33.84	39	31.6	39.72
Conductivity (uS/cm)	160	161.1	176.5	173.3
Salinity (mg/L)	N/A	N/A	N/A	N/A

Test Result: Mortality < 40% at highest concentration. Therefore LC50>=500mg/L ('non-hazardous')

Methodology & Summary of Results:

A volume of 10% buffered formalin waste was collected from a histology-pathology lab in CA and sent via a certified carrier to an EPA certified Analytical Laboratory (EPA Lab). The EPA Lab was instructed to treat 1 gallon of this 10% formalin waste with 32 fl. oz. of Formalex® Green and to designate this neutralization batch as Client Sample ID # 15A. Sample # 15A was then allowed to react overnight where after the neutralized formalin was analyzed as follows:

- B.O.D. (Biological Oxygen Demand), Sulfite Content, Sulfate Content & Phosphate Content. Results are tabulated above.
- Aquatic toxicity study was conducted using CA Title 22 Acute Fish Bioassay Definitive Test for Hazardous Waste. Ten minnows were exposed to a range of neutralized waste concentrations for 96 hours. For waste products to be classified as 'non-hazardous' 60% of the exposed minnows must survive at a concentration level ≥ 500 mg/L.

Results show a 90%-100% survival rate was still achieved at concentrations up to 2000 mg/L (4x the minimum critical exposure level).