

# CLEANING LABORATORY EVALUATION SUMMARY

SCL #: 2000

DateRun: 06/15/2000

Experimenters: Jason Marshall

ClientType: Light Manufacturer

ProjectNumber: Project #2

Substrates: Aluminum, Copper, Plastic, Iron, Fiberglass

PartType: Part

Contaminants: Tar, Asphalt

Cleaning Methods: Immersion/Soak

Analytical Methods: Wipe

Purpose: To further evaluate selected cleaners from previous testing.

Experimental Procedure: Three cleaners were selected based on performance in previous trial. The aqueous solution was diluted using DI water in a 600 ml beaker. Cleaning was performed at room temperature for 30 minutes. After each ballast was removed from the solution and wiped with a paper towel to determine the extent of the cleaning. Parts were then rinsed in room temperature tap water for one minute and wiped dry. Observations were recorded for both cleaning times.

SUBSTRATE MATERIAL: Light Ballast (Fiberglass 50%, Al 10%, Cu 10%, Fe, 5%, Polypropar 25%)

CONTAMINANTS: Tar/Asphalt

CONTAMINATING PROCESS USED: Samples were received contaminated

Results: All three products showed signs of being able to dissolve the tar from the ballasts. Again, the Harvest Gold solution was the best cleaner tested followed by the V-50 and then Super Neutral. Both the Harvest gold and V-50 made tar removal very easy with wiping. The Super Neutral only improved slightly with the increased cleaning time. This product is designed to be heated to 105 F. During the experiment, the decision was made to verify cleaning at this temperature. At the warm temperature, Super Neutral did have better cleaning results. Table 2 lists the observations made during cleaning.

Table 2. Cleaning Results

Cleaner #	30 minutes
1	Good/Excellent
2	Excellent
3	Okay/Good
Ranking	2>1>3

Summary:	<b>Substrates:</b> Aluminum, Copper, Plastic, Iron, Fiberglass					
	<b>Contaminants:</b> Tar, Asphalt					
Company Name:		Product Name:	Conc.:	Efficiency:	Effective:	Observations:
Bio Chem Systems		Bio T V 50	100		<input checked="" type="checkbox"/>	
Safe CleanUp Solutions		Super Neutral	10		<input checked="" type="checkbox"/>	
United Laboratories International		United 2002 Harvest Gold	100		<input checked="" type="checkbox"/>	

Conclusion: Harvest Gold proved to be the most effective cleaner at 30 minutes. All three products can tolerate moderate temperature increase, up to 140 F. The increase in temperature should increase the rate of removal of the tar from the ballasts.