

# CLEANING LABORATORY EVALUATION SUMMARY

SCL #: 2008

DateRun: 09/19/2008

Experimenters: Jason Marshall

ClientType: Electronics Manufacturer

ProjectNumber: Project #1

Substrates: Ceramics

PartType: Part

Contaminants: Carbon Deposits

Cleaning Methods: Immersion/Soak

Analytical Methods: Visual

Purpose: To screen potential alternative cleaning products

Experimental Procedure: Sixteen products were selected from the lab's on-line database of testing results, [www.cleansolutions.org](http://www.cleansolutions.org), based on client supplied information and past testing results. All products were used at room temperature and full strength. A 1 milliliter sample of fourteen of the products was applied onto the surface of the part and allowed to sit for about one minute and then was wiped off to determine if there was any effect on the carbon deposit. Observations were recorded on the effectiveness of the solutions.  
The last two products utilized media blasting using baking soda and carbon dioxide as the medium. A portion of the ceramic part was cleaned for under 1 minute to determine the potential cleaning of the blasting.

Results: Five of the liquid products showed some to little signs of removing the oxide layer. The other 10 had no effect. The baking soda blasting was the only process that was effective in removing the contaminant. The table lists the observations made for each of the 16 products.

Manufacturer	Product	Concentration	Observations
Bi-o-kleen	Citrus Soy Solvent Cleaner & Degreaser	100	Possible - residue
Bi-o-kleen	Soy Cream Cleaner Kitchen & Bath	100	Possible
Gemtek	SC Omnibrite	100	Possible
Valtech Corp	Valtron SP 2700 KB	10	No
Alconox	Citranox	3	No
Clorox	Green Works All Purpose Cleaner	100	No
Chem Sciences	Green Power Metal Bright	100	Possible
Chemspec	Phosphoric Acid Cleaner #1	100	Possible
	CO2 Snow	100	No
Brulin	Aquavantage 1400	100	No
United Labs	Smart Solve 605	100	Possible - residue
Cogent	DFC 30 Mold Release	100	Possible
Church & Dwight	Armakleen M Aero NS	100	Possible
International Products Corp	Surface Cleanse 930	100	Possible

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Clean Environment Co	The Natural Citric Acid Bathroom Cleaner	100	Possible
	Baking Soda	100	Yes

Summary:

<b>Substrates:</b>		Ceramics				
<b>Contaminants:</b>		Carbon Deposits				
Company Name:	Product Name:	Conc.:	Efficiency:	Effective:	Observations:	
Bi-O-Kleen Industries	Citrus Soy Solvent Cleaner & Degreaser	100		<input checked="" type="checkbox"/>		
Bi-O-Kleen Industries	Soy Cream Cleaner	100		<input checked="" type="checkbox"/>		
Gemtek Products	SC OmniBrite Acid	100		<input checked="" type="checkbox"/>		
Valtech Corporation	Valtron SP 2700 KB	100		<input type="checkbox"/>		
Alconox Inc	Citranox	100		<input type="checkbox"/>		
Clorox Company	Green Works Multi-Surface Cleaner	100		<input type="checkbox"/>		
Green Power	Metal Bright	100		<input checked="" type="checkbox"/>		
Chemspec	Phosphoric Acid Cleaner #1	100		<input checked="" type="checkbox"/>		
Brulin Corporation	Aquavantage 1400	100		<input type="checkbox"/>		
United Laboratories International	Smart Solve 605	100		<input checked="" type="checkbox"/>		
Cogent Environmental Solutions	DFC 30 Mold Release	100		<input checked="" type="checkbox"/>		
Church & Dwight Co Inc.	Armakleen M Aero	100		<input type="checkbox"/>		
International Products Corporation	Surface Cleanse Concentrated Neutral 930	100		<input type="checkbox"/>		
The Clean Environment Co	The Natural - Citric Acid Bathroom Cleaner	100		<input type="checkbox"/>		
Applied Surface Technologies	CO2 Snowflakes, Medium Flow	100		<input type="checkbox"/>		
Armex Cleaning and Coating Removal Systems	Sodium Bicarbonate	100		<input checked="" type="checkbox"/>		

Conclusion:

Baking soda blasting was the only option found to have definite cleaning of the carbon deposit from the ceramic parts.