CLEANING LABORATORY EVALUATION SUMMARY

SCL #: 2006

DateRun: 02/12/2006

Experimenters: Jason Marshall

ClientType: Chemical Company

ProjectNumber: Project #2

Substrates: Gold

PartType: Coupon

Contaminants: Dirt, Fingerprints, Oil

Cleaning Methods: Immersion/Soak

Analytical Methods: Gravimetric

Purpose: To evaluate requested products for removal of light oil, dirt and fingerprints from gold coupons

Experimental Procedure: Two requested powdered products were made into solution by adding 3 grams of powder to 250 ml of tap water. The supplied gold coupons were weighed to establish a base line weight. The coupons were then wiped with isopropyl alcohol and weighed again to determine if the coupons were free of any contamination. When the weight of the coupons did not very after being wiped, the true baseline weights were recorded.

Fingerprints were then applied to the surface. Approximately 0.0005 grams of finger oil were applied to each coupon. In addition a oil-dirt mix also was applied. The oil-dirt mix consisted of 25 ml of Mobil Oil Corp Vactra Oil Light and 1.00 grams of dirt collected from a vacuum cleaner. The two components were mixed together and applied over the fingerprints using a hand held swab. Coupons were then weighed again to determine the total soil added. Three coupons were immersed in a 150 ml glass beaker filled with each solution at room temperature. Cleaning lasted for 5 minutes using stir-bar agitation. After cleaning coupons were immersed briefly (5 seconds) into a tap water rinse bath at room temperature, air dried using compressed air and then weighed to determine the amount of soil remaining. Final weights were recorded and efficiency of each cleaning solution was calculated.

Results: One of the two products removed over 90% of the oil-dirt-fingerprint mixture after immersion cleaning at room temperature. The table lists the amount of soil added, the amount remaining and the efficiency for each coupon cleaned.

Cleaner	Initial wt	Final wt	% Removed
Alconox	0.0642	0.0019	97.04
	0.0680	0.0039	94.26
	0.0377	0.0050	86.74
Tergajet	0.0354	0.0076	78.53
	0.0598	0.0089	85.12
	0.0402	0.0093	76.87

Summary:

Substrates:	Gold				
Contaminants:	Dirt, Fingerprints, Oil				
Company Name:	**Product Name:**	**Conc.:**	**Efficiency:**	**Effective:**	**Observations:**
Alconox Inc	Alconox	1.2	92.68	☑	
Alconox Inc	Tergajet	1.2	80.17	☐	

Conclusion: The Alconox powder solution removed 92% of the oil-dirt-fingerprint mix and the Tergajet removed only 80%.