CLEANING LABORATORY EVALUATION SUMMARY

SCL #:	2003
DateRun:	02/26/2003
Experimenters:	Jason Marshall
ClientType:	Medical Instrument Mfr
ProjectNumber:	Project #1
Substrates:	Plastic
PartType:	Coupon
Contaminants:	Hucker's Soil
Cleaning Methods:	Immersion/Soak
Analytical Methods:	Gravimetric
Purpose:	To evaluate alternative cleaners to supplied current cleaners for Hucker's Soil removal from plastic substrates.
Experimental Procedure:	Six cleaners were selected from the laboratory's database of testing based on supplied client information. All six were diluted to 5% using DI water in 600 ml beakers. The two supplied cleaners were diluted to concentrations used by client in 600 ml beakers. All eight cleaners were heated to 130 F on a hot plate. Twenty-four preweighed plastic coupons were coated with the supplied Hucker' Soil (Creamy Peanut Butter, Salted Butter, Wheat gluten, Egg Yolk, Evaporated milk, DI water, Printer's ink with boiled linseed oil, India Ink, Saline Solution) using a hand held swab and allowed to dry. Coupons were weighed again to determine the amount of soil added. Three coupons were cleaned in each solution for 5 minutes using stir-bar agitation at 130 F. Rinsing was performed for 15 seconds in tap water at 120 F and followed by drying with a Master Appliance heat gun for 30 seconds at 500 F. Once coupons cooled to room temperature, final weights were recorded and efficiencies were calculated.
Results:	Five of the six selected products performed better than the two supplied products. Four of these products removed over 90% of the Hucker's soil from the plastic coupons. The table below lists the amount of soil applied and removed for each coupon.

Cleaner	Initial wt	Final wt	% Removed
Sea Wash 8	0.5427	0.0675	87.56
	0.2955	0.0288	90.25
	0.4932	0.0362	92.66
Ozzy Juice SW3	0.3075	0.0534	82.63
	0.2673	0.0313	88.29
	0.1937	0.0425	78.06
SC Aircraft &Metal	0.4544	0.0554	87.81
	0.1820	0.0326	82.09
	0.2821	0.0147	94.79
United 450 All Clear	0.2877	0.0063	97.81
	0.5779	0.0185	96.80
	0.4547	0.0293	93.56
Micro 90	0.2512	0.0008	99.68
	0.3372	0.0194	94.25
	0.1741	0.0183	89.49
Aluminum Aerowash	0.3133	0.0170	94.57
	0.3219	0.0259	91.95
	1.0261	0.0140	98.64
Simple Green D	0.1571	0.0269	82.88
	0.2494	0.0396	84.12
	0.3770	0.0551	85.38
Lestoil	0.3413	0.0444	86.99
	0.2609	0.0385	85.24
	0.3718	0.0617	83.41

Summary:

Substrates:	Plastic

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Contaminants:	Hucker's Soil				
Company Name:	**Product Name:**	**Conc.:**	**Efficiency:**	**Effective:**	**Observations:**
Warren Chemical Company	Sea Wash 8 No Force	5	90.16	☑	
Chem Free Corporation	SW-3 Ozzy Juice (Improved Low Odor)	5	82.99	☐	
Gemtek Products	SC Aircraft & Metal Cleaner Super Concentrate	5	88.23	☑	
United Laboratories International	United 450 All Clear	5	96.06	☑	
International Products Corporation	Micro 90 Conc.	5	94.47	☑	
Magnum Research Corporation	Aluminum Aerowash	5	95.05	☑	
Simple Green	Simple Green D	10	84.13	☐	
Clorox Company	Lestoil	2	85.21	☑	

Conclusion: The five successful products (United 450 All Clear, Aluminum Aerowash, Micro 90, Sea Wash 8, SC Aircraft &Metal) will be used in the next trial on supplied tubing. The two client supplied products will also be tested.