CLEANING LABORATORY EVALUATION SUMMARY

SCL #: 1998

DateRun: 11/02/1998

Experimenters: Jason Marshall

ClientType: Name Plate Mfg-Etching

ProjectNumber: Project #1

Substrates: Aluminum

PartType: Coupon

Contaminants: Abrasive, Paints, Dirt, Soaps

Cleaning Methods: Immersion/Soak

Analytical Methods: Visual

Purpose: To evaluate more aqueous cleaners.

Experimental Procedure: Several aqueous cleaners and one semi-aqueous cleaner were selected from vendor information and past testing. The aqueous solutions were diluted to 10% by volume in 400 mL beakers and heated to 130 F on hot plates. The other solution was tested at 50 and 25%. Coupons were contaminated using the dirty cleaning solution. Three coupons were placed into each solution and cleaned for five minutes. Coupons were rinsed in 120 F tap water for 20 seconds and air dried.

SUBSTRATE MATERIAL: Aluminum Coupons 3003
CONTAMINANTS: Dirty cleaning solution-D-Greeze 500 w/ residual paint chips and pumice sludge

Results: Gravimetric analysis revealed that all samples cleaned gained weight. Results were therefore based on visual observations. The Soy Gold 2000 solution worked very well at the 50% dilution, requiring less than 1 minute to clean the coupons. The film left behind was not as thick as in previous testing. The 25% dilution also worked well, needing just over 2 minutes to clean. There was very little film remaining after rinsing and drying. Most of the remaining chemistries did very little in cleaning. Two products, US Polychem and Turco appeared to remove more than the other four aqueous cleaners.

A second part of the experiment was run using the coupons cleaned with the 25 and 50% Soy Gold. Two coupons from each dilution were rinsed in the Turco product for 30 seconds and then in tap water. This additional rinsing was repeated for a second time. Coupons were again allowed to dry. Final gravimetric weights were recorded. These coupons were then touched to determine the amount of film remaining. The 25% solution seemed to be nearly free of the film while the 50% solution did have some film remaining. Table 1 lists the final clean weights for the Soy Gold double rinsed coupons.

Table 1. Soy Gold Cleaning

Dilution	25%	50%
Coupon 1	81.74	64
Coupon 2	90.83	43.58
Ave	86.28	53.79

Summary:

Substrates:	Aluminum				
Contaminants:	Abrasive, Paints, Dirt, Soaps				
Company Name:	**Product Name:**	**Conc.:**	**Efficiency:**	**Effective:**	**Observations:**
AG Environmental Products	Soy Gold 2000	25	86.28	☑	
AG Environmental Products	Soy Gold 2000	50	53.79	☐	
Ardrox Inc	6333	10	0.00	☐	
Calgon Corporation	Geo Guard 2825 (Nalgene)	10	0.00	☐	
Turco Products Inc	Liquid Spray LT	10	0.00	☐	
Magnaflux	Daraclean 200	10	0.00	☐	
US Polychem Corporation	Polyspray Jet 790 XS	10	0.00	☐	
Hurri Kleen Corportion	HurriSafe - Hot Immersion Degreaser	10	0.00	☐	

Conclusion: Aqueous cleaners have had little success in removing the D-Greeze 500 dirty cleaning solution. The Soy Gold has been found to clean easily at dilutions of 25 and 50%. The lower dilution in conjunction with and aqueous cleaner rinse has resulted in reducing the amount of residue left behind after cleaning the of the D-Greeze 500. Addition testing will be conducted to further examine the removal of all of the Soy Gold film.

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