CLEANING LABORATORY EVALUATION SUMMARY

SCL #: 2005

DateRun: 08/03/2005

Experimenters: Jason Marshall, Heidi Wilcox

ClientType: Metal Finishing

ProjectNumber: Project #1

Substrates: Brass

PartType: Coupon

Contaminants: Buffing/Polishing Compounds

Cleaning Methods: Immersion/Soak

Analytical Methods: Gravimetric

Purpose: To evaluate successful products on second supplied buffing compound using immersion cleaning.

Experimental Procedure: Seven products from the previous trial were selected based on performance. Each product was used at full strength at room temperature. A 250 ml beaker was filled with each product and placed on a stir plate.

Twenty-one preweighed 260 Brass coupons were coated with the Z-66 buffing compound. The compound was applied by heating the coupons and the buffing compound with a Master Appliance Heat Gun. The hot buffing compound was rubbed across the surface. Coupons were allowed to cool to room temperature and weighed a second time to determine the amount of contaminant applied. Three coupons were cleaned in each product for 5 minutes using stir-bar agitation. After cleaning, the parts were allowed to air dry for 10 minutes at room temperature. Once dry, final weights were recorded and efficiencies were calculated for each product.

Results: Six of the seven removed over 60% of the Z-66 buffing compound using immersion cleaning at room temperature. The AK 225 removed just over 50% of the contaminant. The table lists the amount of soil added, the amount remaining and the efficiency for each coupon cleaned.

Cleaner	Initial wt	Final wt	% Removed
Ak 225	0.2244	0.1661	25.98
	0.4625	0.1443	68.80
	0.2384	0.0831	65.14
Ensolv	0.3730	0.0685	81.64
	0.2359	0.0736	68.80
	0.1525	0.0688	54.89
CCA	0.2148	0.0514	76.07
	0.1754	0.0910	48.12
	0.2565	0.0587	77.12
MCA	0.1774	0.0581	67.25
	0.2165	0.0272	87.44
	0.2913	0.2027	30.42
Lenium ES	0.0752	0.0125	83.38
	0.2515	0.1160	53.88
	0.3746	0.1196	68.07
Solvon IP	0.3391	0.0423	87.53
	0.1280	0.0320	75.00
	0.4003	0.1925	51.91
Solvon PB	0.2542	0.0694	72.70
	0.8655	0.5184	40.10
	0.4278	0.0904	78.87

Summary:

Substrates:	Brass
Contaminants:	Buffing/Polishing Compounds

Company Name:	Product Name:	Conc.:	Efficiency:	Effective:	Observations:
AGA Chemical	AK 225	100	53.31	☐	
Enviro Tech International Inc	Ensolv	100	68.44	☑	
DuPont	Vertrel CCA	100	67.10	☑	
DuPont	Vertrel MCA	100	61.70	☑	

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Petroferm Inc	Lenium ES	100	68.44	☑	
Poly Systems USA Inc	Solvon Kreussler IP	100	71.48	☑	
Poly Systems USA Inc	Solvon Kreussler PB	100	63.89	☑	

Conclusion: The six products that were effective will be evaluated on the third supplied buffing compound under the same operating conditions.