

# CLEANING LABORATORY EVALUATION SUMMARY

SCL #: 2024

DateRun: 02/14/2024

Experimenters: Amelia Wagner

ClientType: University

ProjectNumber: Project #1

Substrates: Aluminum

PartType: Coupon

Contaminants: Inks

Cleaning Methods: Manual Wipe

Analytical Methods: Visual

Purpose: To evaluate the efficacy of previously identified solvents and mixture in removing sharpie ink from aluminum panels via manual wipe

Experimental Procedure: Three aluminum coupons were used per cleaner for a total of 9 coupons. The coupons soiled with sharpie ink by drawing a squiggle along the bottom third of the coupon. The dirty visual rankings were then recorded. The coupons were then cleaned with their respective cleaners by manually wiping a paper towel wet with the cleaner on the coupons for a total of 5 seconds. The cleaned visual rankings were then recorded.

Visual Rankings Key:

- 1: 100% soil removed
- 2: 75% soil removed
- 3: 50% soil removed
- 4: 25% soil removed
- 5: 0% soil removed

Cleaner	Dirty Visual	Clean Visual	AVG Clean Visual
Dimethyl Carbonate	5	1	1.2
	5	1.5	
	5	1	
Ethyl Acetate	5	1	1.0
	5	1	
	5	1	
62% Dimethyl Carbonate + 38% Ethyl Acetate	5	1	1.0
	5	1	
	5	1	

Summary:

Conclusion: Dimethyl Carbonate, Ethyl Acetate, and the mixture of 62% Ethyl Acetate + 38% Dimethyl Carbonate were all able to effectively remove sharpie ink from aluminum coupons within 5 seconds via manual wiping.