

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

Results:

| 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.