

CLEANING LABORATORY EVALUATION SUMMARY

SCL #: 2002

DateRun: 08/27/2002

Experimenters: Jason Marshall

ClientType: General

ProjectNumber: Project #1

Substrates: Aluminum, Stainless Steel, Steel

PartType: Coupon

Contaminants: Greases, Oil

Cleaning Methods:

Analytical Methods:

Purpose: To generate list of water based alternatives to TCE and TCA for cleaning metals.

Experimental Procedure: Client requested lab to email how to manufacture eco-friendly water based cleaner. Lab suggested looking at products that already exist based on the following:
 1) Wanted to remove Oil, Grease and foreign dust/particles
 2) Parts are of both ferrous and non ferrous (aluminium, copper & brass)
 3) We have both Ultrasonic and Pressure Washing Machine.

Results: Results from Laboratory Database of Testing
 Oil Removal from Steels, Aluminum, Copper or Brass using Ultrasonics or Spray Washing

| Company Name | Product Name | Classification | Total |
|------------------------|--------------------|------------------|-------|
| AW Chesterton | KPC 820 N | Alkaline Aqueous | 1 |
| Bio Chem Systems | Green Stuff (6325) | Alkaline Aqueous | 10 |
| Brulin Corporation | Formula 815 GD | Alkaline Aqueous | 8 |
| Calgon Corporation | AK 6215 | Alkaline Aqueous | 5 |
| Church & Dwight | Armakleen M Auto | Alkaline Aqueous | 2 |
| Fine Organic Corp | FO 2085 M | Alkaline Aqueous | 1 |
| Heatbath Corporation | Uni Kleen 10 | Powder Detergent | 1 |
| MacDermid | ND 17 | Alkaline Aqueous | 2 |
| MacDermid | ND LF Supreme | Alkaline Aqueous | 1 |
| Magnaflux | Daraclean 212 | Neutral Aqueous | 1 |
| Magnaflux | Daraclean 232 | Alkaline Aqueous | 2 |
| Magnaflux | Daraclean 235 | Neutral Aqueous | 2 |
| Magnaflux | Daraclean 282 | Alkaline Aqueous | 5 |
| Magnaflux | Daraclean 282 GF | Alkaline Aqueous | 12 |
| Magnaflux | Daraclean 283 | Alkaline Aqueous | 12 |
| Man Gill Chemical | Gillite 0650 Cl | Alkaline Aqueous | 1 |
| Matchless Metal Polish | MC 580 | Alkaline Aqueous | 2 |
| Oakite Products | Inproclean 3800 | Alkaline Aqueous | 14 |

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|------------------------|---------------------|------------------|----|
| Oakite Products | Inproclean 4000 T | Terpene-Organic | 1 |
| Sky Products Co., Inc. | Cleaner #10 | Alkaline Aqueous | 2 |
| Today & Beyond | Beyond-2001 | Alkaline Aqueous | 10 |
| U.S. Polychem Corp. | Polychem A 2000 XS | Alkaline Aqueous | 2 |
| U.S. Polychem Corp. | Polyspray Jet 790 P | Alkaline Aqueous | 2 |
| Valtech Corporation | Valtron SP 2200 | Alkaline Aqueous | 1 |
| Warren Chemical Co | Sea Wash 700 New | Neutral Aqueous | 1 |
| Warren Chemical Co | Sea Wash Neutral | Neutral Aqueous | 1 |

Grease Removal from Steels, Aluminum, Copper or Brass using Ultrasonics or Spray Washing

| Company Name | Product Name | Classification | Total |
|------------------------|-----------------------------|---------------------------|-------|
| Alconox, Inc. | Alcojet | Powder Detergent-Alkaline | 2 |
| Bio Chem Systems | Green Stuff (6325) | Alkaline Aqueous | 1 |
| Brulin Corporation | EXP 1400 | Alkaline Aqueous | 1 |
| Brulin Corporation | Formula 815 GD | Alkaline Aqueous | 3 |
| Gemtek Products | SC Aircraft & Metal Cleaner | Alkaline Aqueous | 1 |
| International Products | Micro 90 | Alkaline Aqueous | 1 |
| International Products | Surface Cleanse 930 | Neutral Aqueous | 1 |
| Magnaflux | Daraclean 282 GF | Alkaline Aqueous | 2 |
| Matchless Metal Polish | MC 132 | Alkaline Aqueous | 2 |
| Oakite Products | Inproclean 3800 | Alkaline Aqueous | 2 |
| Simple Green | Crystal Simple Green | Alkaline Aqueous | 1 |
| Texo Corporation | Texolite 1734 XL | Alkaline Aqueous | 1 |
| Today & Beyond | Beyond-2001 | Alkaline Aqueous | 2 |
| Today & Beyond | Beyond-2005 | Alkaline Aqueous | 1 |
| Tomah Products | Tomadyne Mix | Neutral Aqueous | 1 |
| U.S. Polychem Corp. | Polychem A 2000 XS | Alkaline Aqueous | 1 |
| United Laboratories | United 450 All Clear | Enzymatic/ Microbial | 2 |
| Valtech Corporation | Valtron SP 2250-2LF | Alkaline Aqueous | 4 |
| Watson Technical | Watson Formula 7300 | Alkaline Aqueous | 2 |

Summary:

Conclusion:

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