

CLEANING LABORATORY EVALUATION SUMMARY

SCL #: 2000
DateRun: 08/09/2000
Experimenters: Jason Marshall
ClientType: State Agency
ProjectNumber: Project #1
Substrates: Stainless Steel
PartType: Coupon
Contaminants: Inks
Cleaning Methods: Immersion/Soak
Analytical Methods:

Purpose: Information request

Experimental Procedure: SUBSTRATE MATERIAL: Stainless steel
REQUEST: A company that screen prints with solvent inks uses MEK to clean the equipment in a cold immersion tank or by hand depending on the size of the part to be cleaned. They are desiring minimal change to the process, but a substitute for MEK.

Results: RESPONSE: Using the lab's Effective Test Conditions and Industrial Cleaning Survey Directory databases, the query yielded the following information. Three tables of results were generated, Table 1 from actual client testing, Table 2 from generic laboratory testing, and Table 3 from vendor supplied information without SCL evaluation.

Table 1. Effective Test Condition Results

| SCL # | Substrate | Process | Manufacturer | Product | Classification |
|-------------|-----------|-------------|------------------|-------------------|----------------------|
| 97-538-02-2 | SS | MANUAL | T-SQUARE | HTF 60 | Semi-Aqueous Terpene |
| 97-538-02-2 | SS | MANUAL | T-SQUARE | HTF 50 | Semi-Aqueous Terpene |
| 98-559-01-1 | AL-OXIDE | IMMERSION | US POLYCHEM | DE-OX 007 | Alkaline Aqueous |
| 98-559-01-1 | AL-OXIDE | IMMERSION | Oakite Products | Inproclean 3800 | Alkaline Aqueous |
| 98-559-03-2 | AL-OXIDE | ULTRASONICS | Oakite Products | Inproclean 3800 | Alkaline Aqueous |
| 96-423-02-2 | PLASTIC | IMMERSION | MACDERMID | ND 17 | Alkaline Aqueous |
| 96-423-02-2 | PLASTIC | IMMERSION | MIRACHEM | MIRACHEM 500 | Alkaline Aqueous |
| 98-559-04-2 | PLASTIC | IMMERSION | Oakite Products | Inproclean 3800 | Alkaline Aqueous |
| 98-559-04-2 | PLASTIC | IMMERSION | CHRISAL USA | SUPER CMF 240 | Alkaline Aqueous |
| 98-571-02-2 | AL | MANUAL | AG ENVIRONMENTAL | SOY GOLD 1000 | Soy Methyl Ester |
| 98-571-02-2 | AL | MANUAL | Oakite Products | Inproclean 4000 T | Semi-Aqueous Terpene |
| 98-571-02-2 | AL | MANUAL | BUCKEYE | SHOPMASTER | Alkaline Aqueous |
| 98-571-03-2 | AL | MANUAL | T-SQUARE | HTF 50 | Semi-Aqueous Terpene |
| 98-571-03-2 | AL | MANUAL | Oakite Products | Inproclean 4000 T | Semi-Aqueous Terpene |
| 98-682-01-2 | SS | MANUAL | EXXON | AROMATIC 100 | SOLVENT |
| 98-682-01-2 | SS | MANUAL | AG ENVIRONMENTAL | SOY GOLD 1000 | Soy Methyl Ester |

CLEANING LABORATORY EVALUATION SUMMARY

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| 98-682-01-2 | SS | MANUAL | ENVIROSOLUTIONS | BIO-T MAX | Semi-Aqueous Terpene |
| 98-682-01-2 | SS | MANUAL | FINGER LAKES | 1/1/02 | |
| 98-682-01-2 | SS | MANUAL | INLAND TECHNOLOGY | EP 921 | |
| 98-682-01-2 | SS | MANUAL | T-SQUARE | HTF 60 | Semi-Aqueous Terpene |
| 98-682-03-4 | SS | MANUAL | ENVIROSOLUTIONS | BIO-T MAX | Semi-Aqueous Terpene |
| 00-7123-01-2 | PLASTIC | IMMERSION | Envirosolutions, Inc. | BIO T MAX | Semi-Aqueous Terpene |
| 00-7123-01-2 | PLASTIC | IMMERSION | Oakite Products | Inproclean 4000 T | Semi-Aqueous Terpene |
| 00-7123-01-2 | PLASTIC | IMMERSION | Valtech Corporation | Valtron SP2250-2LF | Alkaline Aqueous |
| 00-7123-07-4 | SS | IMMERSION | SWR CORP | SWR ONE | Alkaline Aqueous |
| 00-7123-08-4 | SS | WIPE | OAKITE PRODUCTS | Inproclean 4000 T | Semi-Aqueous Terpene |
| 00-7123-08-4 | SS | WIPE | Envirosolutions, Inc. | BIO T MAX | Semi-Aqueous Terpene |
| 00-7123-07-4 | SS | WIPE | SWR CORP | SWR ONE | Alkaline Aqueous |

Table 2. Non-Client Testing Results

| SCL Trial Number | Company Name | Product Name | Classification | Efficiency |
|------------------|---|---------------------------------------|--------------------|------------|
| 00-SS-IK-IS-4-3 | Warren Chemical Co | Sea Wash Dispersant | Alkaline Aqueous | 88 |
| 00-CU-IK-IS-2-12 | MacDermid | ND LF Supreme | Alkaline Aqueous | 105 |
| 00-CU-IK-IS-2-12 | Chem-Tech Int | Green Thunder | Alkaline Aqueous | 102 |
| 00-SS-IK-IS-4-14 | Warren Chemical Co | Sea Wash Dispersant | Alkaline Aqueous | 99 |
| 00-SS-IK-IS-4-15 | Calgon Corporation | Geo-Guard 4017 | Alkaline Aqueous | 100 |
| 00-SS-IK-IS-1-11 | Master Chemical Corp | Trim Rinse 100 | Alkaline Aqueous | 92 |
| 00-SS-IK-IS-3-37 | Kyzen Corp | Misprint Adhesive Remover | Cyclic hyrdocarbon | 104 |
| CAS # cleaned: | 67-63-0, 8004-87-3, | 64-17-5, 123-86-4, 71-36-3, 9004-70-0 | | |
| 00-SS-IK-IS-3-41 | US Polychem | Polyspray Jet 790 C | Alkaline Aqueous | 93 |
| CAS # cleaned: | 8004-87-3 | | | |
| 00-IK-BR-IM-4-49 | Finger Lakes | Resineater | terpene | 88 |
| CAS # cleaned: | 64-17-5, 67-63-0, 8004-87-3, 123-86-4, 71-36-3, 9004-70-0 | | | |

Table 3. Industrial Cleaning Survey: Directory of Vendors Results

| Name | Product Name |
|----------------|----------------|
| AJ Associates | Dynadet |
| Albemarle Corp | Abzol Cleaners |
| Alconox, Inc. | Det-O-Jet |
| AW Chesterton | 278 Super Solv |

CLEANING LABORATORY EVALUATION SUMMARY

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| Blue Wave Ultrasonics | Dirt-Lum 603 Powdered Detergent |
| Blue Wave Ultrasonics | Dirt-Strip 606 Powdered Detergent |
| Broco Products Inc. | Broco OC-HDD |
| Brulin Corporation | Brulin 1696 PNC |
| Buckeye International | Shopmaster |
| Buckeye International | Shopmaster FF |
| Buckeye International | Shopmaster LPH |
| By*Pas & Star Cleaning | By*Pas #1500 |
| By*Pas & Star Cleaning | Star Cleaning Miracle # 50 |
| Calgon Corporation | SC 844 |
| Calgon Corporation | SMS 206 K |
| Calgon Corporation | SMS 9706 |
| Chrisal USA, Inc. | Super CMF 240 |
| Drummond American | Keynote |
| Dynamold Solvents, Inc. | DS-104 |
| Dynamold Solvents, Inc. | DS-108 |
| Dynamold Solvents, Inc. | DS-801 |
| Ecolink | Pinnacle |
| Envirosolutions, Inc. | Bio T Max |
| Envirosolutions, Inc. | Bio T V-50 |
| Envirosolutions, Inc. | Green Stuff (6325) |
| Envirosolutions, Inc. | Neutral Green (8020) |
| Envirosolutions, Inc. | SOLSAFE 245 |
| Gemtek Products | SC 1000 |
| Gemtek Products | SC Supersolve |
| Hazwell International | Biosolve |
| Hotsy Cleaning Systems | Hotsy Tub & Pressure Wash |
| International Products | Micro 90 |
| Kyzen Corporation | Metalnox 6304 |
| New Pig Corporation | New Pig Degreaser |
| Northern Products, Inc. | Necco Super Cleaner |
| Oakite Products | Inproclean 3800 |
| Oakite Products | Inproclean 4000 T |
| Purac America, Inc. | Purasolv Els |
| Safe Science | All Purpose (Industrial) |
| Safe Science | Concrete/Graffiti (Industrial) |
| Safe Science | Engine Degreaser (Industrial) |
| Savogran | HD-34 Cleaner Degreaser |
| Savogran | Safety-Solve |
| Savogran | SI #3 Coating Remover |
| Savogran | SI #8 Coating Remover |
| Simple Green | All Purpose Cleaner/ Degreaser |

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| Simple Green | Industrial Strength Cleaner |
| Simple Green | Simple GreenD Disinfectant |
| Sky Products Co., Inc. | Cleaner #10 |
| Solvent Kleene, Inc. | D-Greeze 1000 |
| Solvent Kleene, Inc. | D-Greeze 500 LO |
| Soy Environmental | Soy Clean |
| System One Tech | QSOL-100 |
| System One Tech | QSOL-110 |
| System One Tech | QSOL-200 |
| System One Tech | QSOL-220 |
| Tarksol, Inc. | Tarksol Biosoy 60 |
| Tarksol, Inc. | Tarksol HTF-90 |
| Tarksol, Inc. | Tarksol NPB |
| Tarksol, Inc. | Tarksol Polystrip |
| Today & Beyond | Beyond-2001 |
| Today & Beyond | Beyond-2002 |
| Today & Beyond | Beyond-2003 |
| Today & Beyond | Beyond-2004 |
| Today & Beyond | Beyond-2005 |
| Today & Beyond | Beyond-2006 |
| Today & Beyond | Beyond-2007 |
| Tower Products, Inc | Tower 270 Cleaner Conc |
| U.S. Polychem Corp. | Hydropurge 36 |
| U.S. Polychem Corp. | Polychem 2000 P |
| U.S. Polychem Corp. | Polychem A 2000 XS |
| U.S. Polychem Corp. | Polychem Acra Strip 600 |
| U.S. Polychem Corp. | Polychem Aquaspat Ti |
| U.S. Polychem Corp. | Polychem DE-144 |
| U.S. Polychem Corp. | Polychem DEOX - 007 |
| U.S. Polychem Corp. | Polychem Hydropurge 21 |
| U.S. Polychem Corp. | Polychem Hydropurge 36 XS |
| U.S. Polychem Corp. | Polychem Hydropurge XS-790 |
| U.S. Polychem Corp. | Polychem PW-147 |
| U.S. Polychem Corp. | Polychem QS-85 LO |
| U.S. Polychem Corp. | Polychem RCC-25 |
| U.S. Polychem Corp. | Polyspray Jet 790 C |
| U.S. Polychem Corp. | Polyspray Jet 790 P |
| U.S. Polychem Corp. | Polyspray Jet 790 XS |
| U.S. Polychem Corp. | Polyspray Jet ST-21 |
| Valtech Corporation | Valtron SP 2201 |
| Valtech Corporation | Valtron SP 2270 |
| Valtech Corporation | Valtron SP 2700-KB |
| W.R. Grace & Co. | Daraclean 203 |
| W.R. Grace & Co. | Daraclean 212 |
| W.R. Grace & Co. | Daraclean 235 |
| W.R. Grace & Co. | Daraclean 236 |
| W.R. Grace & Co. | Daraclean 238 |
| W.R. Grace & Co. | Daraclean 257 |
| W.R. Grace & Co. | Daraclean 282 |
| W.R. Grace & Co. | Daraclean 282 GF |
| W.R. Grace & Co. | Daraclean 283 |
| Warren Chemical Co | Sea-Wash Cleaner |
| Watson Technical | Drain Away |
| Watson Technical | Watson Formula 7000 |

CLEANING LABORATORY EVALUATION SUMMARY

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| Westford Chemical Corp | Biosolve |
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Summary:

Conclusion:

Cleaning projects vary from case-to-case. To obtain more detailed information about any of the listed trials, have the SCL # ready when contacting the lab at (978)934-3133.