# CLEANING LABORATORY EVALUATION SUMMARY

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|---|---|
| SCL #: | 2004 |
| DateRun: | 02/16/2004 |
| Experimenters: | Jason Marshall |
| ClientType: | General |
| ProjectNumber: | Project #1 |
| Substrates: | Stainless Steel |
| PartType: | Coupon |
| Contaminants: | Resins/Rosins |
| Cleaning Methods: | |
| Analytical Methods: | |
| Purpose: | To identify the best possible way to clean epoxy off the surface of a holding tray |
| Experimental Procedure: | Using the laboratory's database for solvent cleaning substitution, the lab generated the following lists of products. The products have been evaluated at SSL under similar conditions to the client's criteria. |
| Results: | Three lists of products were generated based on client input. The first table contains products that have been tested for resin removal on steel surfaces. The second list has products that have been tested for resin removal on other non steel surfaces. The final table designated as Vendor List contains products that are recommended by vendors for resin removal from steel surfaces. |

Table of Resin Removal From Steels

| Resin Removal From Non-steels | |
|---|---|
| CompanyName | ProductName |
| Bio Chem Systems | Bio T Max |
| Bio Chem Systems | Solsafe 245 |
| Du Pont | DBE |
| Ecolink | Safe Strip |
| Oakite Products | Inproclean 3800 |

Table of Vendor Recommended Resin Removal From Steels

| Vendor Recomened Resin removal from steels | | |
|---|---|---|
| CompanyName | ProductName | ClassificationDescription |
| Accurate Manufactured Products | Safety Layout Blue Remover | Terpene |
| AG Environmental Products | Canola Gold CE110 | Ester |
| AG Environmental Products | Soy Clear 1500 | Ester |
| AGA Chemical | AK 225 | HCFC |
| Albemarle Corporation | Abzol Cleaners | Organic |
| Alconox Inc | Alconox | Powder Detergent |
| Alconox Inc | Detergent 8 | Alkaline Aqueous |
| Alconox Inc | Det-O-Jet | Alkaline Aqueous |
| Alconox Inc | Luminox | Neutral Aqueous |
| Ausimont USA Inc | Perfluorosolv PFS 1 | HCFC |
| AW Chesterton | 278 Super Solv | Petroleum Distillate |
| Bio Chem Systems | Bio T 200 A | Terpene |
| Bio Chem Systems | Bio T Foam Plus | Terpene |

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|---|---|---|
| Bio Chem Systems | Bio T Max | Terpene-Semi-Aqueous |
| Bio Chem Systems | Solsafe 245 | Petroleum Distillate |
| Blue Wave Ultrasonics Inc | 25 I Detergent Concentrate | Neutral Aqueous |
| Blue Wave Ultrasonics Inc | Dirl-Lum 603 Powdered Detergent | Powder Detergent-Alkaline |
| Brulin Corporation | Brulin 1696 PNC | Neutral Aqueous |
| Brulin Corporation | Compliance | Caustic |
| Buckeye International | Shopmaster | Alkaline Aqueous |
| Buckeye International | Shopmaster FF | Alkaline Aqueous |
| Buckeye International | Shopmaster LPH | Alkaline Aqueous |
| Bush Boake Allen Inc | BBA Solvent K312 | Terpene |
| Chem Tech | CT 1 Multipurpose Cleaner | Alkaline Aqueous |
| Chem Tech Solutions | 1050 Magic | Organic |
| Chem Tech Solutions | Westech CT 1550 | Terpene |
| Chemtronics | Super Bio Wash | Semi-Aqueous |
| Church & Dwight | Armaklean E 2001 | Alkaline Aqueous |
| Church & Dwight | Armaklean E 2002 | Alkaline Aqueous |
| Church & Dwight | Armaklean M Aero | Alkaline Aqueous |
| CSA Inc | Bio Safe 1024 | Hydrocarbon |
| Drummond American | Keynote | Neutral Aqueous |
| Du Pont | DBE | Ester |
| Du Pont | DBE 3 | Ester |
| Du Pont | DBE 4 | Ester |
| Dynamold Solvents Inc | DS 104 | Petroleum Distillate |
| Dynamold Solvents Inc | DS 108 | Petroleum Distillate |
| Dynamold Solvents Inc | DS 801 | Alkaline Aqueous |
| Eastern Color & Chemical Company | Ecobrite Cleaner AK | Alkaline Aqueous |
| Ecolink | 2005 | HCFC |
| Ecolink | Safe Strip | Organic |
| Ecolink | VG 151 | Terpene |
| Ecolink | Vortex | Semi-Aqueous |
| Exxon Chemical | Aromatic 100 Solvent | Organic |
| Fine Organic Corporation | FO 2085 M | Alkaline Aqueous |
| Finger Lakes Chemicals | 1-1-02 | Terpene |
| Finger Lakes Chemicals | Impress Wash | Semi-Aqueous |

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|---|---|---|
| Finger Lakes Chemicals | Resineater | Terpene |
| Finger Lakes Chemicals | Safer Stuff | Terpene |
| Fisher Scientific | Isopropanol | Alcohol |
| Florida Chemical Company | Citrus Burst 7 | Terpene |
| Florida Chemical Company | D-Limonene | Terpene |
| Frederick Gumm Chemical | Lacq off A/B | Alkaline Aqueous |
| Gemtek Products | EZ Solv | Organic |
| General Chemical Corporation | Aluminex 5761 | Caustic |
| General Chemical Corporation | Aquaclean 4784 | Caustic |
| Hotsy Cleaning Systems | Hotsy Detergents Tub & Pressure Wash | Alkaline Aqueous |
| Inland Technologies Inc | Citrasafe | Terpene |
| Inland Technologies Inc | Safety Prep | Terpene |
| Innovative Organics Inc | Amber Clean SC 11 | Neutral Aqueous |
| International Products Corporation | Surface Cleanse 930 | Neutral Aqueous |
| ISP Technologies | N Methyl Pyrrolidone | Organic |
| ISP Technologies | Ship Shape Resin Cleaner | Organic |
| Kyzen Corporation | Aquanox XIN | Alcohol-Semi Aqueous |
| Kyzen Corporation | Ionox FCR | Semi-Aqueous |
| Kyzen Corporation | Ionox HC | Alcohol |
| Kyzen Corporation | Ionox HC 2 | Alcohol |
| Kyzen Corporation | Ionox I 3330 | Alcohol-Semi Aqueous |
| Kyzen Corporation | Lonox L5003 | Alkaline Aqueous |
| Kyzen Corporation | Lonox L5005 | Alkaline Aqueous |
| Kyzen Corporation | Misprint Stencil Remover | Hydrocarbon |
| LPS Laboratories | LPS Precision Clean | Alkaline Aqueous |
| Magnaflux | Daraclean 200 | Alkaline Aqueous |
| Magnaflux | Daraclean 203 | Caustic |

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|---|---|---|
| Magnaflux | Daraclean 211 | Alkaline Aqueous |
| Magnaflux | Daraclean 212 | Neutral Aqueous |
| Magnaflux | Daraclean 232 | Alkaline Aqueous |
| Magnaflux | Daraclean 235 | Neutral Aqueous |
| Magnaflux | Daraclean 236 | Neutral Aqueous |
| Magnaflux | Daraclean 238 | Alkaline Aqueous |
| Magnaflux | Daraclean 257 | Alkaline Aqueous |
| Magnaflux | Daraclean 282 | Alkaline Aqueous |
| Magnaflux | Daraclean 282 GF | Alkaline Aqueous |
| Magnaflux | Daraclean 283 | Alkaline Aqueous |
| Metabolix Inc | Metabolix E3HB | Ester |
| Mirachem Corporation | Mirachem 250 | Acidic Aqueous |
| Mulder Hardenberg | RST 5 | Organic |
| National Diagnostic | Histo Clear | Terpene |
| National Diagnostic | Opti Clear | Terpene |
| Oakite Products | Citradet | Semi-Aqueous |
| Oakite Products | Inproclean 4000 T | Terpene-Organic |
| Occidental Chemical Corporation | OXSOL 100 | Organic |
| Pentone Corporation | Citrikleen XPC | Terpene-Semi-Aqueous |
| Phase III Inc | California Parts Washer Solution | Neutral Aqueous |
| Pride International Inc | Citrisolv Plus | Semi-Aqueous |
| Savogran | HD-34 Cleaner Degreaser | Semi-Aqueous |
| Savogran | Safety-Solve | Organic |
| Simple Green | All Purpose Cleaner/ Degreaser | Alkaline Aqueous |
| Simple Green | Crystal Simple Green Industrial Cleaner | Alkaline Aqueous |
| Simple Green | Simple Green D | Alkaline Aqueous |
| Smart Sonic | 440 R SMT Detergent | Alkaline Aqueous |
| Solutia Inc | Santosol DME | Ester |
| Solvent Kleene Inc | D Greeze 500 LO | Organic |
| | QSOL 200 | Organic |

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|---|---|---|
| System One Technologies | | |
| System One Technologies | QSOL 220 | Organic |
| Tarksol Inc | SR 225 | Terpene |
| Tarksol Inc | Tarksol Biosoy 60 | Alcohol-Organic |
| Tarksol Inc | Tarksol HTF 60 | Terpene |
| Tarksol Inc | Tarksol HTF 85 B | Alcohol-Organic |
| Tarksol Inc | Tarksol HTF 90 | Alcohol-Organic |
| Tarksol Inc | Tarksol HTF-50 | Semi-Aqueous |
| Tarksol Inc | Tarksol NPB | Organic |
| Today & Beyond | Beyond 2001 | Alkaline Aqueous |
| Today & Beyond | Beyond 2002 | Alkaline Aqueous |
| Today & Beyond | Beyond 2003 | Alkaline Aqueous |
| Today & Beyond | Beyond 2004 | Alkaline Aqueous |
| Today & Beyond | Beyond 2005 | Alkaline Aqueous |
| Today & Beyond | Beyond 2006 | Alkaline Aqueous |
| Today & Beyond | Beyond 2007 | Alcohol |
| Today & Beyond | Beyond 2009 | Organic |
| Tower Products Inc | Tower 270 Cleaner Concentrate | Alkaline Aqueous |
| Twin Rivers Corp | Methyl Ester 1618 | Ester |
| US Polychem Corporation | 87 RB | Hydrocarbon |
| US Polychem Corporation | Hydropurge 36 | Alkaline Aqueous |
| US Polychem Corporation | Hydropurge HPL 790 | Caustic |
| US Polychem Corporation | Polychem 2000 P | Alkaline Aqueous |
| US Polychem Corporation | Polychem A 2000 XS | Alkaline Aqueous |
| US Polychem Corporation | Polychem Acra Strip 600 | Semi-Aqueous |
| US Polychem Corporation | Polychem Aquaspat Ti | Neutral Aqueous |
| US Polychem Corporation | Polychem DE 144 | Petroleum Distillate |
| US Polychem Corporation | Polychem DEOX 007 | Alkaline Aqueous |
| US Polychem Corporation | Polychem Hydropurge 21 | Alkaline Aqueous |
| US Polychem Corporation | Polychem Hydropurge 36 XS | Alkaline Aqueous |
| US Polychem Corporation | Polychem Hydropurge 790 XS | Alkaline Aqueous |
| | | Alkaline Aqueous |

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|---|---|---|
| US Polychem Corporation | Polychem PW 147 | |
| US Polychem Corporation | Polychem QS 85 LO | Terpene-Petroleum Distillate |
| US Polychem Corporation | Polychem RCC 25 | Terpene-Petroleum Distillate |
| US Polychem Corporation | Polychem Ultra CR | Alkaline Aqueous |
| US Polychem Corporation | Polyspray Jet 790 C | Caustic |
| US Polychem Corporation | Polyspray Jet 790 P | Alkaline Aqueous |
| US Polychem Corporation | Polyspray Jet 790 XS | Alkaline Aqueous |
| US Polychem Corporation | Polyspray Jet ST-21 | Alkaline Aqueous |
| Valtech Corporation | Valtron DP 98023 | Caustic |
| Valtech Corporation | Valtron SP 2200 | Alkaline Aqueous |
| Valtech Corporation | Valtron SP 2201 | Alkaline Aqueous |
| Valtech Corporation | Valtron SP 2250 2LF | Alkaline Aqueous |
| Valtech Corporation | Valtron SP 2500 | Alkaline Aqueous |
| Vertec BioSolvents | Take Off Green | Organic |
| Vertec BioSolvents | VertecBio Gold 2 | Organic |
| WM Barr & Company | Citristrip | Terpene-Semi-Aqueous |

Summary:

Conclusion: Cleaning varies from case to case. The SSL recommends process specific testing on potential replacement cleaning chemicals. If more information is needed on a particular product, or you are interested in conducting cleaning trials, please contact the lab at (978)934-3133.