

# CLEANING LABORATORY EVALUATION SUMMARY

SCL #: 2001

DateRun: 12/03/2001

Experimenters: Carole LeBlanc, Jason Marshall

ClientType: Manufacturing

ProjectNumber: Project #1

Substrates: Alloys, Copper, Gold, Nickel, Other

PartType: Coupon

Contaminants: Cutting/Tapping Fluids, Lubricating/Lapping Oils, Oil

Cleaning Methods:

Analytical Methods:

Purpose: Run database search for alternatives

Experimental Procedure: An electronic search of SSL's databases of cleaning trials on projects similar to clients situation.

Results:

| CompanyName                     | ProductName                  | ClassificationDescription | SubstrateDescription | Trials |
|---------------------------------|------------------------------|---------------------------|----------------------|--------|
| Abatement Technology            | Bio Might 100                | Alkaline Aqueous          | Copper               | 4      |
| Alconox, Inc.                   | Detergent 8                  | Alkaline Aqueous          | Copper               | 8      |
| Alconox, Inc.                   | Detergent 8                  | Alkaline Aqueous          | Nickel               | 8      |
| Ardrox                          | 6333                         | Caustic                   | Nickel               | 4      |
| Brulin Corporation              | Formula 815 GD               | Alkaline Aqueous          | Copper               | 2      |
| By*Pas & Star Cleaning Products | Star Cleaning Miracle # 50   | Alkaline Aqueous          | Nickel               | 2      |
| Calgon Corporation              | AK 6215                      | Alkaline Aqueous          | Copper               | 12     |
| Carroll Company                 | Blue Gold Industrial Cleaner | Alkaline Aqueous          | Nickel               | 4      |
| Chemical Technologies           | Green Thunder                | Alkaline Aqueous          | Copper               | 6      |
| Chemical Technologies           | Green Thunder                | Alkaline Aqueous          | Nickel               | 6      |
| Cleansafe Solutions             | Solution 2000                | Alkaline Aqueous          | Copper               | 8      |
| Cleansafe Solutions             | Solution 2000                | Alkaline Aqueous          | Nickel               | 8      |
| CRC Industries                  | Complex Blue                 | Semi-Aqueous              | Copper               | 4      |
| CRC Industries                  | Complex Blue                 | Semi-Aqueous              | Nickel               | 4      |
| Ecolink                         | Positron                     | Organic                   | Copper               | 2      |
| Ecolink                         | Positron                     | Organic                   | Nickel               | 2      |
| Ensolve Biosystems, Inc.        | Grease Feast Plus            | Enzymatic/Microbial       | Copper               | 6      |
| Ensolve Biosystems, Inc.        | Grease Feast Plus            | Enzymatic/Microbial       | Nickel               | 6      |
| Ensolve Biosystems, Inc.        | Grease Feast Plus            | Neutral Aqueous           | Copper               | 6      |
| Ensolve Biosystems, Inc.        | Grease Feast Plus            | Neutral Aqueous           | Nickel               | 6      |
| Environmental Services          | TASC                         | Alkaline Aqueous          | Copper               | 2      |
| Envirosolutions, Inc.           | Bio T 200 A                  | Terpene                   | Copper               | 4      |
| Envirosolutions, Inc.           | Bio T 200 A                  | Terpene                   | Nickel               | 4      |

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|------------------------------|-------------------------|------------------|--------|----|
| Envirosolutions, Inc.        | Bio T 300 B             | Semi-Aqueous     | Copper | 2  |
| Envirosolutions, Inc.        | Bio T 300 B             | Semi-Aqueous     | Nickel | 2  |
| Envirosolutions, Inc.        | Bio T 300 B             | Terpene          | Copper | 2  |
| Envirosolutions, Inc.        | Bio T 300 B             | Terpene          | Nickel | 2  |
| Envirosolutions, Inc.        | Bio T Parts Washer NR   | Terpene          | Copper | 6  |
| Envirosolutions, Inc.        | Bio T Parts Washer NR   | Terpene          | Nickel | 6  |
| Envirosolutions, Inc.        | Green Stuff (6325)      | Alkaline Aqueous | Copper | 6  |
| Envirosolutions, Inc.        | Green Stuff (6325)      | Alkaline Aqueous | Nickel | 6  |
| Finger Lakes Chemicals       | Resineater              | Terpene          | Copper | 6  |
| Finger Lakes Chemicals       | Resineater              | Terpene          | Nickel | 6  |
| Gemtek Products              | SC Supersolve           | Organic          | Copper | 2  |
| General Chemical Corporation | Aluminex 5834           | Alkaline Aqueous | Copper | 2  |
| General Chemical Corporation | Aluminex 5834           | Alkaline Aqueous | Nickel | 2  |
| General Chemical Corporation | Aquaclean 4874          | Caustic          | Copper | 2  |
| Heatbath Corporation         | Power Wash Cleaner BCR  | Alkaline Aqueous | Copper | 12 |
| Heatbath Corporation         | Uni Kleen 10            | Powder Detergent | Copper | 4  |
| Hubbard Hall Inc             | Aquasonic 201           | Alkaline Aqueous | Copper | 2  |
| Hubbard Hall Inc             | Aquasonic 201           | Alkaline Aqueous | Nickel | 2  |
| Hubbard Hall Inc             | Ram Charger             | Alkaline Aqueous | Copper | 2  |
| Hubbard Hall Inc             | Ram Charger             | Alkaline Aqueous | Nickel | 2  |
| Hurri Safe                   | Hot Immersion Degreaser | Alkaline Aqueous | Copper | 2  |
| Hurri Safe                   | Hot Immersion Degreaser | Alkaline Aqueous | Nickel | 2  |
| Inland Technologies Inc      | Citrasafe               | Terpene          | Copper | 4  |
| Innovative Organics Inc      | Amber Clean SC 11       | Neutral Aqueous  | Copper | 2  |
| Innovative Organics Inc      | Amber Clean SC 11       | Neutral Aqueous  | Nickel | 2  |
| Innovative Organics Inc      | Amberclean L 12         | Alkaline Aqueous | Copper | 10 |
| Innovative Organics Inc      | Amberclean L 12         | Alkaline Aqueous | Nickel | 10 |
| International Products Corp  | LF 2100                 | Alkaline Aqueous | Copper | 1  |
| International Products Corp  | LF 2100                 | Alkaline Aqueous | Nickel | 1  |
| International Products Corp  | Micro 90                | Alkaline Aqueous | Copper | 2  |

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| International Products Corp     | Micro 90                  | Alkaline Aqueous | Nickel | 2  |
| ITW Fluid Products Group        | Accu-Clean                | Alkaline Aqueous | Copper | 10 |
| ITW Fluid Products Group        | Accu-Clean                | Alkaline Aqueous | Nickel | 12 |
| JDI, Inc.                       | Mirachem 500 RTU          | Alkaline Aqueous | Copper | 8  |
| Kleer Flo Company               | Grease Off 2              | Alkaline Aqueous | Copper | 2  |
| Kleer Flo Company               | Grease Off 2              | Alkaline Aqueous | Nickel | 2  |
| Kyzen Corporation               | Ionox FCR                 | Semi-Aqueous     | Copper | 4  |
| Kyzen Corporation               | Ionox FCR                 | Semi-Aqueous     | Gold   | 2  |
| Kyzen Corporation               | Ionox FCR                 | Semi-Aqueous     | Nickel | 4  |
| MacDermid                       | ND LF Supreme             | Alkaline Aqueous | Nickel | 4  |
| Magnaflux                       | Zyglo Emulsifier ZR 10B   | Neutral Aqueous  | Nickel | 4  |
| Man Gill Chemical               | Gillite 0650 Cl           | Alkaline Aqueous | Copper | 2  |
| Man Gill Chemical               | Gillite 0650 Cl           | Alkaline Aqueous | Nickel | 2  |
| Man Gill Chemical               | Gillite 1156              | Powder Detergent | Copper | 2  |
| Mirachem Corporation            | Mirachem 500              | Alkaline Aqueous | Copper | 12 |
| Mirachem Corporation            | Mirachem 500              | Alkaline Aqueous | Nickel | 12 |
| New Pig Corporation             | New Pig Degreaser         | Semi-Aqueous     | Copper | 4  |
| New Pig Corporation             | New Pig Degreaser         | Semi-Aqueous     | Nickel | 4  |
| New Pig Corporation             | New Pig Degreaser         | Terpene          | Copper | 4  |
| New Pig Corporation             | New Pig Degreaser         | Terpene          | Nickel | 4  |
| North Atlantic Bio Industries   | NAB 9000                  | Neutral Aqueous  | Copper | 2  |
| North Atlantic Bio Industries   | NAB 9000                  | Neutral Aqueous  | Nickel | 2  |
| Oakite Products                 | Citradet                  | Semi-Aqueous     | Copper | 2  |
| Oakite Products                 | Inproclean 2000           | Alkaline Aqueous | Copper | 2  |
| Oakite Products                 | Inproclean 2500           | Powder Detergent | Copper | 6  |
| Oakite Products                 | Inproclean 3800           | Alkaline Aqueous | Copper | 6  |
| Oakite Products                 | Inproclean 4000 T         | Organic          | Copper | 2  |
| Oakite Products                 | Inproclean 4000 T         | Terpene          | Copper | 2  |
| Oakite Products                 | Oakite Low Heat Cleaner 1 | Powder Detergent | Copper | 4  |
| Oakite Products                 | Okemclean                 | Caustic          | Copper | 2  |
| Permatex Industrial Corporation | Natural Blue              | Alkaline Aqueous | Copper | 2  |
| Permatex Industrial Corporation | Natural Blue              | Alkaline Aqueous | Nickel | 2  |

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|                        |                                 |                      |        |    |
|------------------------|---------------------------------|----------------------|--------|----|
| Quaker Chemical        | Formula 625 XL                  | Alkaline Aqueous     | Copper | 2  |
| Quaker Chemical        | Formula 625 XL                  | Alkaline Aqueous     | Nickel | 2  |
| Safe Science           | Safe Science Concrete/ Graffiti | Alkaline Aqueous     | Copper | 12 |
| Safe Science           | Safe Science Concrete/ Graffiti | Alkaline Aqueous     | Nickel | 12 |
| Savogran               | Dirtex Prepaint Cleaner         | Alkaline Aqueous     | Copper | 8  |
| Sky Products Co., Inc. | Cleaner #10                     | Alkaline Aqueous     | Copper | 4  |
| Smart Sonic            | 440-R SMT Detergent             | Alkaline Aqueous     | Copper | 2  |
| Smart Sonic            | 440-R SMT Detergent             | Alkaline Aqueous     | Nickel | 2  |
| Solvent Kleene, Inc.   | D-Greeze 1000                   | Petroleum Distillate | Copper | 4  |
| Texo Corporation       | Texolite 1734 XL                | Alkaline Aqueous     | Copper | 6  |
| Texo Corporation       | Texolite 1734 XL                | Alkaline Aqueous     | Nickel | 6  |
| Today & Beyond         | Beyond-2001                     | Alkaline Aqueous     | Copper | 6  |
| Today & Beyond         | Beyond-2001                     | Alkaline Aqueous     | Nickel | 6  |
| Today & Beyond         | Beyond-2002                     | Alkaline Aqueous     | Copper | 6  |
| Today & Beyond         | Beyond-2002                     | Alkaline Aqueous     | Nickel | 6  |
| Today & Beyond         | Beyond-2003                     | Alkaline Aqueous     | Copper | 6  |
| Today & Beyond         | Beyond-2003                     | Alkaline Aqueous     | Nickel | 6  |
| Today & Beyond         | Beyond-2004                     | Alkaline Aqueous     | Copper | 6  |
| Today & Beyond         | Beyond-2004                     | Alkaline Aqueous     | Nickel | 6  |
| Today & Beyond         | Beyond-2005                     | Alkaline Aqueous     | Copper | 6  |
| Today & Beyond         | Beyond-2005                     | Alkaline Aqueous     | Nickel | 6  |
| Tower Products, Inc    | Tower 270 Cleaner Concentrate   | Alkaline Aqueous     | Nickel | 2  |
| Turco Products Inc     | Turco 5948 DPM                  | Alkaline Aqueous     | Copper | 6  |
| U.S. Polychem Corp.    | Polyspray Jet 790 C             | Caustic              | Copper | 2  |
| U.S. Polychem Corp.    | Polyspray Jet 790 C             | Caustic              | Nickel | 2  |
| U.S. Polychem Corp.    | Polyspray Jet 790 P             | Alkaline Aqueous     | Nickel | 6  |
| Valtech Corporation    | Valtron SP 2275                 | Neutral Aqueous      | Nickel | 8  |
| W.R. Grace & Co.       | Daraclean 200                   | Alkaline Aqueous     | Copper | 2  |
| W.R. Grace & Co.       | Daraclean 200                   | Alkaline Aqueous     | Nickel | 2  |
| W.R. Grace & Co.       | Daraclean 212                   | Neutral Aqueous      | Copper | 4  |
| W.R. Grace & Co.       | Daraclean 212                   | Neutral Aqueous      | Nickel | 4  |
| W.R. Grace & Co.       | Daraclean 282                   | Alkaline Aqueous     | Copper | 6  |
| W.R. Grace & Co.       | Daraclean 282                   | Alkaline Aqueous     | Nickel | 6  |
| Warren Chemical Co     | Sea Wash 8                      | Neutral Aqueous      | Copper | 8  |

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|-------------------------------|---------------------|------------------|--------|----|
| Warren Chemical Co            | Sea Wash 8          | Neutral Aqueous  | Nickel | 8  |
| Watson Technical Associates   | Watson Formula 7300 | Alkaline Aqueous | Copper | 4  |
| Watson Technical Associates   | Watson Formula 9000 | Alkaline Aqueous | Copper | 4  |
| Westford Chemical Corporation | Biosolve            | Neutral Aqueous  | Copper | 12 |
| Westford Chemical Corporation | Biosolve            | Neutral Aqueous  | Nickel | 12 |

Summary:

Conclusion:

Cleaning projects vary from case-to-case. To identify a specific cleaning agent, testing with any of the above listed products should be performed. If you would like the SSL to perform this testing, please contact the lab at (978)934-3133 to arrange delivery of parts and samples of specific contaminants.