# CLEANING LABORATORY EVALUATION SUMMARY

SCL #: 2016

DateRun: 03/04/2016

Experimenters: Russell Curtis, Rhoda Gindi, Alicia McCarthy

ClientType:

ProjectNumber: Project #1

Substrates: Stainless Steel

PartType: Coupon

Contaminants: Greases

Cleaning Methods: Immersion/Soak

Analytical Methods: Gravimetric

Purpose: To evaluate the efficiency of various heated drop in solvent replacement in removing Momentive Grease from Stainless Steel .

Experimental Procedure: Stainless steel coupons were weighed to get their initial weights. The bottom third of each coupon was coated in the Momentive Grease. The coupons were re- weighed. The weights were recorded. The coupons were placed in the heated drop-in solvent replacement for 5 minutes. The coupons were removed out of the cleaning solution and placed to dry on a rack for 15 minutes. Then the final weights were taken and recorded.

Results:

| Cleaner | Initial wt | Final wt | % Removal |
|---|---|---|---|
| Ethyl 408 | 0.2458 | 0.2605 | -5.98 |
| | 0.2095 | 0.2170 | -3.58 |
| | 0.1481 | 0.1671 | -12.83 |
| | | | |
| Methyl 408 | 0.1141 | 0.1132 | 0.79 |
| | 0.1298 | 0.1323 | -1.93 |
| | 0.1071 | 0.1059 | 1.12 |
| | | | |
| FluoSolv CX | 0.1209 | 0.0700 | 2.10 |
| | 0.1269 | 0.0501 | 0.60 |
| | 0.1509 | 0.1000 | 33.73 |
| | | | |
| FluoSolv NC | 0.0981 | 0.0261 | 73.94 |
| | 0.1151 | 0.0447 | 61.16 |
| | 0.1020 | 0.0295 | 71.08 |
| | | | |
| Honeywell PF | 0.2921 | 0.2482 | 15.03 |
| | 0.2131 | 0.1560 | 26.79 |
| | 0.2353 | 0.1711 | 27.28 |
| | | | |
| Honeywell PF 2A | 0.2094 | 0.1483 | 29.18 |
| | 0.2195 | 0.1284 | 41.50 |
| | 0.1477 | 0.0788 | 46.65 |
| | | | |
| Vertrel Sion | 0.1717 | 0.0588 | 65.75 |
| | 0.1450 | 0.0366 | 74.76 |
| | 0.1832 | 0.0341 | 81.39 |
| | | | |
| Fluosolv CX-500 | 0.7259 | 0.7089 | 2.34 |
| | 0.6435 | 0.6205 | 3.57 |
| | 0.5512 | 0.5302 | 3.81 |
| | | | |
| Fluosolv FR-110 | 0.3911 | 0.3690 | 5.65 |
| | 0.2871 | 0.2694 | 6.17 |
| | 0.3120 | 0.2791 | 10.54 |

Summary:

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| | |
|---|---|
| **Substrates:** | Stainless Steel |
| **Contaminants:** | Greases |

| Company Name: | Product Name: | Conc.: | Efficiency: | Effective: | Observations: |
|---|---|---|---|---|---|
| Xf Technologies | Ethyl 408 | 100 | -7.46 | ☐ | |
| Xf Technologies | Methyl 408 | 100 | -0.01 | ☐ | |
| NuGeneration Technologies, LLC | FluoSolv CX | 100 | 84.78 | ☑ | |
| NuGeneration Technologies, LLC | FluoSolv NC 786 | 100 | 86.18 | ☑ | |
| NuGeneration Technologies, LLC | Fluosolv FR-100 | 100 | 7.45 | ☐ | |
| DuPont | Vertrel Sion | 100 | 73.97 | ☐ | |
| Honeywell | Solstice PF with N2 | 100 | 23.04 | ☐ | |
| Honeywell | Solstice PF-2A with N2 | 100 | 39.11 | ☐ | |
| NuGeneration Technologies, LLC | FluoSolv CX-500 | 100 | 3.24 | ☐ | |

Conclusion: Fluosolv CX and FluoSolv NC were most effective in removing the Momentive grease.