# CLEANING LABORATORY EVALUATION SUMMARY

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|---|---|
| SCL #: | 1999 |
| DateRun: | 07/11/1999 |
| Experimenters: | Jason Marshall |
| ClientType: | Metal Working |
| ProjectNumber: | Project #1 |
| Substrates: | Aluminum |
| PartType: | Part |
| Contaminants: | Cutting/Tapping Fluids, Lubricating/Lapping Oils, Oil |
| Cleaning Methods: | Immersion/Soak |
| Analytical Methods: | Gravimetric |
| Purpose: | To evaluate vendor recommended cleaner for all three contaminants. |
| Experimental Procedure: | The client supplied cleaner was made into a 5% solution by volume using DI water in 400 mL Pyrex beakers and heated to 130 F on a hot plate.<br>Three preweighed coupons were contaminated with the each of the three contaminants and weighed again. Coupons were cleaned using the client supplied cleaner using stir-bar-agitation for five minutes. Coupons were rinsed in 120 F tap water for 30 seconds and dried using a Master Appliance Corp, Hot-air gun model HG-301A for one minute at 500 F. After cooling to room temperature, final weights were recorded and cleaning efficiencies were calculated.<br>SUBSTRATE MATERIAL: Aluminum Coupons (5052)<br>CONTAMINANTS: Tuf Draw Vanishing Film 2889 (CAS #: 64741-65-7); Lubricant Mix [Hydroil AW-3 9petroleum hydrocarbon), Express Gear Lubricant F]; Tower Oil & Technology Company LS-H-213 (CAS #: 8052-41-3) |
| Results: | The Ultra Blue 100 cleaning solution was effective in removing the two drawing compounds, yet it could not clean the lubricant mix very well. Table 2 lists the calculated cleaning efficiencies for the three contaminants. |

Table 2. Cleaning Results

| | Tuff Draw | Lub Mix | Tower |
|---|---|---|---|
| Coupon 1 | 100.06 | 74.77 | 100.11 |
| Coupon 2 | 100.1 | 73.37 | 100.09 |
| Coupon 3 | 100 | 72.9 | 100.04 |
| Average | 100.05 | 73.68 | 100.08 |

Summary:

| **Substrates:** | Aluminum | | | | |
|---|---|---|---|---|---|
| **Contaminants:** | Cutting/Tapping Fluids, Lubricating/Lapping Oils, Oil | | | | |
| **Company Name:** | **Product Name:** | **Conc.:** | **Efficiency:** | **Effective:** | **Observations:** |
| BCS Company | Ultra Blue 100 | 5 | 100.05 | ☑ | |

Conclusion: The Ultra Blue 100 cleaning solution was effective.