

CLEANING LABORATORY EVALUATION SUMMARY

SCL #: 2011
 DateRun: 07/25/2011
 Experimenters: Heidi Wilcox, Johnny Le, Mahima Tank
 ClientType:
 ProjectNumber: Project #1
 Substrates: Plastic
 PartType: Coupon
 Contaminants: Resins/Rosins
 Cleaning Methods: Immersion/Soak
 Analytical Methods: Scrape Test, Visual

Purpose: To evaluate cleaners for their effectiveness in removing resin from plastic pallets or trays

Experimental Procedure: Six cleaning products were chosen from the labs database, www.cleansolutions.org to be used in the trial. Testing was done in two sets of three cleaners. Each set of three cleaners were tried at five minutes cleaner residence time to start. Any cleaner that seemed to need more time to clean or loosen the resin drops were then tried at a ten-minute residence time. Each product in both sets of cleaners was tested in duplicate.

Using a cotton swab, the first three test products were applied to the resin and surrounding areas. After 5 minutes, the resin was attempted to be scraped off with a metal or plastic scraper. This process was repeated at a 10-minute interval also to allow the cleaner to sit on the resin longer. After 10 minutes the resin was attempted to be scraped off with a metal or plastic scraper. The second set of three products were used in the same cleaning procedure.

Results: All six products loosened the drops to a varying degree. The time taken to soften the resin drops is less for the second set of products compared to the first set. Among the first set, product 1 and 2 required minimal effort to scrape off the resin compared to product 3. Among the second set, products 2 and 3 required minimal effort to scrape off the resin drop compared to product 1.

| SETS | PRODUCT | TRIAL 1 (5 MIN) | RANK |
|------|--------------|--|------|
| | | TRIAL 2 (10 min) | |
| | | TRIAL3 (10 min) | |
| 1 | Bio Solv | Difficult to remove, try 10 min | 1 |
| | | Minimal pressure required | |
| | | Slight pressure required | |
| | SC Soyester | Difficult to remove, try 10 min | 1 |
| | | Minimal pressure required | |
| | | Slight pressure required | |
| | Soygold 2000 | Difficult to remove, try 10 min | 3 |
| | | More pressure required | |
| | | More pressure required | |
| SETS | PRODUCT | TRIAL 1 (5 MIN) | RANK |
| | | TRIAL 2 (5 min) | |
| 2 | BioTmax | Effective at 5 min, some pressure | 3 |
| | | Effective at 5 minutes, some pressure | |
| | Solsafe 245 | Effective at 5 minutes with minimal effort | 1 |
| | | Effective at 5 minutes with minimal effort | |
| | EZ Solv | Effective at 5 minutes with minimal effort | 1 |

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|--|--|---|--|
| | | Effective at 5 minutes with minimal effort | |
|--|--|---|--|

Summary:

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|---------------------------|---------------------------|---------------|--------------------|-------------------------------------|----------------------|--|
| Substrates: | | Plastic | | | | |
| Contaminants: | | Resins/Rosins | | | | |
| Company Name: | Product Name: | Conc.: | Efficiency: | Effective: | Observations: | |
| Phoenix Resins Inc | BioSolv | 100 | | <input checked="" type="checkbox"/> | | |
| Gemtek Products | SC Soyester | 100 | | <input checked="" type="checkbox"/> | | |
| AG Environmental Products | Soy Gold 2000 | 100 | | <input type="checkbox"/> | | |
| Bio Chem Systems | Bio T Max | 100 | | <input type="checkbox"/> | | |
| Bio Chem Systems | Solsafe 245 | 100 | | <input checked="" type="checkbox"/> | | |
| Gemtek Products | SC EZ Solv Safety Solvent | 100 | | <input checked="" type="checkbox"/> | | |

Conclusion:

Among the first set Bio Solv and SC Soyester were top performers at ten minutes. Among the second set, Solsafe 245 and EZ Solv performed best at five minutes. Taking into account the time taken and effort required, it can be concluded that Solsafe 245 and EZ Solv worked best at five minutes