

CLEANING LABORATORY EVALUATION SUMMARY

SCL #: 36
 DateRun: 07/25/2025
 Experimenters: Alexander Symko
 ClientType: Textile Mfr
 ProjectNumber: Project #1
 Substrates: Aluminum
 PartType: Coupon
 Contaminants: Adhesive
 Cleaning Methods: Immersion/Soak
 Analytical Methods: HSPiP

Purpose: utilize HSPiP solvent screen to identify potential alternatives for Methyl Ethyl Ketone in the cleaning of leftover adhesive from process equipment.

Experimental Procedure: 24 scintillation vials were prepared with 15 mL of solvent in accordance with TURI's HSP screening panel. The crosslinker and adhesive provided by the client was then prepared in accordance with the client's instructions with 100 g of adhesive being mixed with approximately 4 g of crosslinker. This was then mixed vigorously and applied to a sheet of aluminum foil. This was allowed to dry for 24 hours and then cut into equal strips, approximately 1x2 inches in area. These strips were then completely immersed into each of the 24 scintillation vials. The vials were then allowed to sit with observations being taken every 30 minutes for the first hour, and then every hour up until 3 hours. Observations were also taken the following Monday after 72 hours had elapsed.

Results: Visual Observation Code: 0 - Dissolution less than or equal to 90%, 1 - Dissolution greater than or equal to 90%

Solvent	Appearance at T0	10 minutes	30	40	1 hr.	1.5 hrs.	2 hrs.	3 hrs.
1-Toluene	Clear, Colorless	No change	blue solution	No change	No change	No change	No change	No change, 0
2-Dimethyl Carbonate	Clear, Colorless	No change	No change	No change	No change	No change	No change	No change, 0
3-Xylene	Clear, Colorless	No change	No change	separation from substrate	No change	No change	No change	No change, 0
4-Benzyl Alcohol	Clear, Colorless	Solution slightly blue	blue solution	blue, separation from substrate	No change, 1	No change, 1	No change, 1	No change, 1
5-Ethylene Glycol	Clear, Colorless	No change	No change	No change	No change	No change	No change	No change, 0
6-Methyl Acetate	Clear, Colorless	No change	No change	partial separation from substrate	No change	No change	No change	No change, 0
7-Undecane	Clear, Colorless	No change	No change	No change	No change	No change	No change	No change, 0
8-Ethyl Lactate	Clear, Colorless	No change	No change	No change	No change	No change	No change	No change, 0
9-Acetone	Clear, Colorless	No change	solution slightly blue	partial separation from substrate, blue	No change	No change	No change	No change, 0
10-Ethyl Acetate	Clear, Colorless	No change	No change	partial separation from substrate	No change	No change	No change	No change, 0

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11-Methanol	Clear, Colorless	No change	solution slightly blue	No change	No change	No change	No change	No change, 0
12-Ethanol	Clear, Colorless	No change	No change	No change	No change	No change	No change	No change, 0
13-1,3-Dioxolane	Clear, Colorless	No change	No change	No change	No change	No change	No change	No change, 0
14-Diethyl Carbonate	Clear, Colorless	No change	No change	partial separation from substrate	No change	No change	No change	No change, 0
15-1-Propanol	Clear, Colorless	No change	No change	No change	No change	No change	No change	No change, 0
16-Isopropanol	Clear, Colorless	No change	No change	No change	No change	No change	No change	No change, 0
17-Propylene Carbonate	Clear, Colorless	No change	No change	No change	No change	No change	No change	No change, 0
18-Thiophene	Clear, Yellow	coating separated from substrate, 1	No change, 1	no change, 1	No change, 1	No change, 1	No change, 1	No change, 1
19-1-Methoxy-2-Propanol	Clear, Colorless	No change	No change	No change	No change	No change	No change	No change, 0
20-Dimethyl Sulfoxide	Clear, Colorless	solution blue	solution very blue	solution very blue, separation from substrate, 1	No change, 1	No change, 1	No change, 1	No change, 1
21-1-Butanol	Clear, Colorless	No change	No change	No change	No change	No change	No change	No change, 0
22-Dimethyl Glutarate	Clear, Colorless	No change	No change	No change	No change	No change	No change	No change, 0
23-Anisole	Clear, Colorless	solution blue	solution very blue	partial separation from substrate	full separation from substrate, 1	No change, 1	No change, 1	No change, 1
24-2-Butoxyethyl-Acetate	Clear, Colorless	No change	No change	No change	No change	No change	No change	No change, 0
25-Methyl Ethyl Ketone	Clear, Colorless	solution blue	coating partially separated from substrate	separation from substrate, 1	No change, 1	No change, 1	No change, 1	No change, 1

Summary:

Conclusion:

Based on the results of this HSP trial, Benzyl Alcohol, Thiophene, 1-Methoxy-2-Propanol, and Anisole are recommended as potential alternatives that will advance to the next stage of testing.