

# CLEANING LABORATORY EVALUATION SUMMARY

SCL #: 2025

DateRun: 03/06/2025

Experimenters: Amelia Wagner

ClientType: Department of Public Works

ProjectNumber: Project #2

Substrates: Stainless Steel

PartType: Coupon

Contaminants: Asphalt

Cleaning Methods: Immersion/Soak

Analytical Methods: Gravimetric

Purpose: To find an effective alternative cleaner to remove asphalt, tar, and staining from road maintenance tools and work truck beds.

Experimental Procedure: Three pre-weighed stainless steel coupons were assigned to each cleaner. A tablespoon of EZ Street Premium Cold Asphalt was placed on each coupon before sandwiching the contaminated coupon between two steel plates. A mid-size compact car (curb weight: 3,186lbs-3,559lbs) rolled over the steel plates five times in a forward motion to compress the asphalt to the coupons which released the oil and grease to allow the gravel to adhere to the substrate. Dirty weights of the coupons were recorded before testing the cleaners using unheated immersion for 20 minutes with a stir bar set to 200rpm. Once removed, each coupon was wiped with a paper towel to remove the dissolved soil and assess efficacy visually before taking final weights.

| Cleaner        | Initial wt of cont. | Final wt of cont. | %Cont Removed | % AVG   |
|----------------|---------------------|-------------------|---------------|---------|
| Anisole        | 0.9001              | 0.0132            | 98.5335       | 98.5345 |
|                | 0.8742              | 0.0125            | 98.5701       |         |
|                | 1.0400              | 0.0156            | 98.5000       |         |
| Ethyl Benzoate | 0.9311              | 0.0157            | 98.3138       | 98.4092 |
|                | 0.9896              | 0.0174            | 98.2417       |         |
|                | 1.4309              | 0.0190            | 98.6722       |         |

Summary:

Conclusion: Anisole and Ethyl Benzoate are both highly effective in removing asphalt from stainless steel.