CLEANING LABORATORY EVALUATION SUMMARY

SCL #: 2000

DateRun: 07/27/2000

Experimenters: Jason Marshall, John Brunelle

ClientType: State Agency

ProjectNumber: Project #1

Substrates: Steel

PartType: Coupon

Contaminants:

Cleaning Methods: Immersion/Soak

Analytical Methods: Photography

Purpose: To evaluate products for corrosion potential of steel drums.

Experimental Procedure: One product was selected based on environmental indicators for potential replacement cleaners in parts cleaning. Two dilutions, 100% and 5% were poured into 600 ml beakers. Three preweighed, prephotographed steel coupons were placed into each product. The coupons soaked at room temperature for five days. During the time period, observations were made about the surface condition of the coupons. At the end of the five days, coupons were removed from the beakers and photographs were taken using a Kodak digital science DC260 Zoom Camera and observations were recorded. Following the photograph, coupons were rinsed in tap water for 30 seconds and wiped dry with paper towel. A final picture was taken and final weights were measured.

SUBSTRATE MATERIAL: Steel 202 ZP (SAE-1020CR)
CONTAMINANTS: None

Results: Figure 1 displays the three stages of the corrosion testing.
Figure 1. Coupon Conditions
Presoak After Soak After Wash

Both cleaning solutions caused changes in the appearance of the coupons after soaking. As seen in Figure 1, the 100% solution made the coupons become very dark in color and only lightened slightly after it was rinsed in tap water. The 5% solution started forming white deposits on the coupons. Both solutions resulted in a slight weight loss. Table 2 lists the changes in weight before and after rinsing.

Table 2. Weight Changes

Hurrisafe 5%			Hurrisafe 100%		
Initial Wt	Final Wt	Wt loss	Initial Wt	Final Wt	Wt loss
32.079	32.0592	0.0198	32.0648	31.996	0.0688
32.0111	32.008	0.0031	32.0702	31.954	0.1162
31.8739	31.8727	0.0012	31.7082	31.6232	0.0850
32.0790	32.0540	0.0250	32.0648	31.9887	0.0761
32.0111	31.9874	0.0237	32.0702	31.9343	0.1359
31.8739	31.8509	0.0230	31.7082	31.6127	0.0955
white crust developed			coupons darkened		

Summary:

Substrates:	Steel				
Contaminants:					
Company Name:	**Product Name:**	**Conc.:**	**Efficiency:**	**Effective:**	**Observations:**
PCI of America	Hurrisafe 9450	100	0.00	☑	

Conclusion: Hurrisafe 9450 resulted in an effective compatibility with the steel coupons.