CLEANING LABORATORY EVALUATION SUMMARY

SCL #:	2002
DateRun:	07/11/2002
Experimenters:	Jason Marshall, Heidi Wilcox, Fred Youngs
ClientType:	General
ProjectNumber:	Project #1
Substrates:	Other
PartType:	Coupon
Contaminants:	Paints, Solvent
Cleaning Methods:	Low Pressure Spray
Analytical Methods:	Drager Tubes
Purpose:	To compare exposure levels for Enviro Caddie and traditional spray paint.
Experimental Procedure:	A 12" x 12" x 12" Acrylic Spray Chamber lined with paper towels was used to contain paint sprayed. Background levels for organic vapor were measured using an OVM, Thermo Environmental Instruments,Inc - Model 580 B. Dragger tubes were used to measure for Acetone, Ethyl Benzene, Toulene & Xylene. Paint was sprayed for 10 seconds into the acrylic chamber. A reading was taken with the OVM at T = 0, at T = 10 seconds and then when level (T ~ 2 minutes). The OVM reading was repeated for each of the 4 Dragger tube measurements. Paper towels were changed between spraying in order to reduce residual vapors. Temperature and humidity were recorded to be 78.2 F and 38%.
Results:	The Enviro Caddie measurements for the Drager tubes for the four compounds resulted in levels exceeding the capabilities of the tubes. The results are listed in the table below.

Background Readings

Temperature 78.2	
Humidity 38%	
Date: July 12, 2002	
Exposure Evaluation 1	
Measurement Location:	Spray Chamber 12" x 12" x 12"
	Acrylic lined with paper towels
	3.5" x 4.5" opening in top of chamber for spraying
	(2) 1/4 " holes for tubing and Dragger tubes, 1" from opening
Time: 10 sec EC	
Analysis Method	OVM, Thermo Environmental Instruments,Inc - Model 580 B
	Dragger tubes for Acetone, Ethyl Benzene, Toulene & Xylene
	Background
OVM	0.9 ppm
Acetone	No Color Change
Ethyle Benzene	No Color Change
Toulene	No Color Change
Xylene	No Color Change
	Enviro Caddie
OVM	
initial (max)	508 ppm
10 sec	300 ppm

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level	265 ppm
Acetone 10 pumps	> 1200 ppm
OVM	
initial (max)	1064 ppm
10 sec	272 ppm
level	255 ppm
Ethyl Benzene 6 pumps	> 600 ppm
OVM	
initial (max)	1096 ppm
10 sec	309 ppm
level	309 ppm
Toulene 5 pumps	> 400 ppm
OVM	
initial (max)	1063 ppm
10 sec	242 ppm
level	232 ppm
Xylene 5 pumps	> 400 ppm
1 pump over max	
Process	Paint was sprayed for 10 seconds into the acrylic chamber
	A reading was taken with the OVM initially (max reading), at 10 seconds and then when level
	This was done for each of the 4 Dragger tubes
	Paper towels were changed between spraying in order to get a fresh reading

Summary:

Conclusion: Due to the levels recorded for the Enviro Caddie exposure at 10 seconds, the testing was stopped and rescheduled for a latter date using a lower spray delivery time (Reduced from 10 to 2 seconds). The traditional spray system will also be evaluated at the 2 second spray time.