

TEST RESULTS FOR GREENGUARD CHILDREN & SCHOOLS ASSESSMENT

Customer: Hewlett-Packard Espanola SL **AQS Project – Product:** 16579-010AA

Product Description: HP PVC Free Wallpaper + Latex Print Technologies

COMPLIANCE WITH GREENGUARD CHILDREN & SCHOOLS STANDARD

GREENGUARD Acceptable IAQ Criteria		Product Measurement*	Product Compliance for IAQ
TVOC	0.22 mg/m ³	0.10 mg/m ³	Yes
Formaldehyde	0.0135 ppm/13.5 ppb	0.002 ppm/ 2 ppb	Yes
Total Aldehydes	0.043 ppm/43 ppb	0.002 ppm/ 2 ppb	Yes
Individual VOCs	1/100 TLV and ½ chronic REL	See Below	Yes
Total Phthalates	0.01 mg/m ³	< 0.01 mg/m ³	Yes
Total Particles (10 µm)	0.02 mg/m ³	N/A	---

*Based on standard wall usage (94.6 m²) in a 231 m³ classroom with 0.9 ACH.

N/A = not applicable

CHEMICALS FOUND WITH EXISTING TLV AND CHRONIC REL

CAS Number	Chemical	1/100 TLV ^a (µg/m ³)	1/2 CA Chronic REL ^b (µg/m ³)	Product Measurement (µg/m ³)	Product Compliance for IAQ
128-37-0	2,6-Di-tert-butyl-4-methylphenol (BHT)	20	---	1	Yes

^a American Conference of Governmental Industrial Hygienists. Threshold Limit Values for Chemical Substances and Physical Agents. Cincinnati, OH: ACGIH, 2009.

^b <http://www.oehha.ca.gov/air/allrels.html> - Chronic Reference Exposure Levels (CRELs) Adopted by the State of California Office of Environmental Health Hazard Assessment (OEHHA), December 2008.

The complete data and details on the testing and analytical methodologies are available in AQS Report No. 16579-01.

ENVIRONMENTAL CHAMBER TEST REPORT FOR PHTHALATES

ELAPSED EXPOSURE HOUR	TOTAL PHTHALATES EMISSION FACTOR ($\mu\text{g}/\text{m}^2 \cdot \text{hr}$)
168.0	BQL

Customer: Hewlett-Packard Espanola SL

AQS Sample Identification: AQS 16579-010AA

Product Description: WALL FINISH; HP PVC Free Wallpaper + Latex Print Technologies
(one-sided area = 0.0853 m²)

Product Loading: 0.98 m²/m³

Test Period: 2/24/2010 - 3/3/2010

Test Conditions: 1.00 ± 0.05 ACH
50% RH ± 5% RH
23° C ± 2° C

Test Description:

The product was received by AQS on 02/22/10 as packaged and shipped by the customer. The package was visually inspected and stored in a controlled environment immediately following sample check-in. Just prior to loading, the product was unpackaged and prepared for the required loading to expose the top surface side only. The sample was placed inside the environmental chamber, and tested according to the specified protocol.

Environmental chamber test following ASTM D 5116 in a 0.09 ± 0.007 m³ or 1.0 ± 0.05 m³ chamber or ASTM D 6670 in a 5.7 ± 0.3 m³ or a 28.5 ± 3.0 m³ chamber.
Analysis based on OSHA Method 104 for phthalates.
BQL denotes below quantifiable level of 10 µg based on a standard 240 L air collection volume.

**EMISSION FACTORS OF SELECTED PHTHALATES
AT 168.0 ELAPSED EXPOSURE HOURS**

**PREPARED FOR: HEWLETT-PACKARD ESPANOLA SL
PRODUCT: 16579-010AA; HP PVC FREE WALLPAPER + LATEX PRINT
TECHNOLOGIES**

CAS NUMBER	COMPOUND IDENTIFIED	EMISSION FACTOR ($\mu\text{g}/\text{m}^2\cdot\text{hr}$)
117-81-7	Diethylhexyl phthalate	BQL
85-68-7	Butyl benzyl phthalate	BQL
117-84-0	Di-n-octyl phthalate	BQL
84-74-2	Dibutyl phthalate	BQL
84-66-2	Diethyl phthalate	BQL
131-11-3	Dimethyl phthalate	BQL

BQL = Chemical below quantifiable level of 10 μg based on a standard 240 L air collection volume.