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Bay Area Air Quality Management District
May 18, 2009 - 2:00 pm

Rule Amendments Workshop

BAAQMD Regulation 8, Rule 32: Wood Products Coatings

Bay Area 2005 Ozone Strategy
Control Measure SS-5

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Workshop Overview

- **Background**
- **Proposed Amendments**
- **Emissions Impact**
- **Estimated costs**
- **Next Steps**



Background

- **2005 Ozone Strategy Control Measure SS-5**
- **Regulation 8, Rule 32 was last amended in 1996**
- **Estimate ~ 600+ wood products businesses in the Bay Area**
 - **300 millwork and kitchen cabinet manufacturers**
 - **200 household, office and public building furniture; and cabinetry for electronics, books and displays**
 - **100 refinishers**
- **Wide variety of coatings and application techniques used**

Background - 2

- **8-32 adopted in 1983, focused primarily on transfer efficient application**
- **Amendments in 1991 – 1996 established VOC limits for three categories of wood products:**
 - **General wood products;**
 - **Furniture, custom cabinetry, and custom architectural millwork, and**
 - **Custom and contract furniture (with extra time to comply)**
- **Control of emissions is an option**
- **VOC averaging allowed**
- **Limited exemptions for special applications**



Proposed Amendments - 1

Reduce VOC Limits on remaining high VOC coatings

Provide Alternate Compliance Option – based on Solids Content

- Alternative VOC limits for high solids coatings
- Limit expressed in grams VOC/gram of coating solids

Revise Categories of Coating Types

Driven by proposed alternate VOC limits (grams per gram solids)

- Differentiate sanding sealers into clear and pigmented sealers
- Differentiate pigmented coatings into pigmented topcoats; and pigmented primers, sealers, and undercoats

Conversion Varnish

Multi-colored coating

Toner added to the low solids coatings category



Proposed Amendments – 2

More Stringent VOC limits

<u>Category:</u> <u>General Wood Products</u>	<u>7/1/1995</u> <u>VOC Limits</u> <u>Grams/liter</u>	<u>Effective 7/1/2010</u> <u>VOC Limits</u>	
		<u>Grams/liter</u>	<u>Grams/gram solids</u>
Clear Sealers	Considered a sanding sealer	275	0.36
Clear Topcoats	275	275	0.35
Conversion Varnish	Considered a clear topcoat	275	0.60
Sanding Sealer	550	No Longer Applies	No Longer Applies
Pigmented Coating	275	No Longer Applies	No Longer Applies
Pigmented Primer, Sealer and Undercoat	Considered a sanding sealer	275	0.21
High Solids Stains	700	350	0.42
Filler	500	275	0.18
Low Solids Stains	480	120	
Low Solids Toner & Washcoat	480	120	



Proposed Amendments – 3

More Stringent VOC limits

<u>Category:</u> <u>Furniture, Custom Cabinetry and Custom Millwork</u>	<u>9/1/1996 VOC Limits Grams/liter</u>	<u>Effective 7/1/2010 VOC Limits</u>	
		<u>Grams/liter</u>	<u>Grams/gram solids</u>
Clear Sealers	Considered a sanding sealer	275	0.36
Clear Topcoats	550	275	0.35
Conversion Varnish*	Considered a clear topcoat	550	1.20
Sanding Sealer	550	No Longer Applies	No Longer Applies
Pigmented Coating	275	No Longer Applies	No Longer Applies
Pigmented Primer, Sealer and Undercoat	Considered a sanding sealer	275	0.21
High Solids Stains	700	350	0.42
Filler	500	275	0.18
Low Solids Stains	480	120	
Low Solids Toner & Washcoat	480	120	



Proposed Amendments – 4

More Stringent VOC limits

<u>Category:</u> <u>Custom Furniture</u>	<u>7/1/1997</u> <u>VOC Limits</u> <u>Grams/liter</u>	<u>Effective 7/1/2010</u> <u>VOC Limits</u>	
		<u>Grams/liter</u>	<u>Grams/gram solids</u>
Clear Sealers	Considered a sanding sealer	275	0.36
Clear Topcoats	550	550	0.70
Conversion Varnish	Considered a clear topcoat	550	1.20
Sanding Sealer	550	No Longer Applies	No Longer Applies
Pigmented Coating	275	No Longer Applies	No Longer Applies
Pigmented Primer, Sealer and Undercoat	Considered a sanding sealer	275	0.21
High Solids Stains	700	350	0.42
Filler	500	275	0.18
Low Solids Stains	480	120	
Low Solids Toner & Washcoat	480	120	

Proposed Amendments - 5

Labeling Requirements – effective July 1, 2010

- Coatings manufactured after June 30, 2010 must have VOC content included on the container label
- Each manufacturer must also provide product data sheets (or equivalent) with sufficient information to determine compliance
 - VOC content in grams/liter (or pounds/gallon)
 - VOC content in grams/gram solids for high solids coatings
 - Thinning recommendations, and VOC content after thinning

Cleanup of spray equipment

- Use solvent with less than 50 grams VOC/liter, or
- Existing requirements of spray gun washer (complies with 8-16), or practices that minimize solvent evaporation

Emissions Averaging

- Retained as an alternate means of compliance



Emissions Impact

Current Emissions

- **Estimated 1.26 tons/day from wood coating operations**
- **Estimated 0.22 tons/day from surface preparation and cleanup**
- **Total: 1.48 tons/day**

Expected Emissions reductions

- **Estimated reductions = 0.46 tons/day – 31%**
 - **Largest reduction in sealers and high solids stains – cutting VOC emissions in half**
 - **Reduce low solids coatings emissions by 75%**



Estimated Costs

Higher Coating Costs

- **Costs for individual coatings estimated to increase 30 – 100%**
- **Some offsetting cost reductions: water cleanup, reduced hazardous waste, and reduced insurance premiums**

New Spray Application Equipment

- **May be required for water based coatings**

Adjustments to Manufacturing Process

- **May require more ventilation, or heat**



Emerging Issue

Formaldehyde Emissions during Curing

- **Primarily from conversion varnishes and pre-catalyzed lacquers – others?**
- **Concern about Hazardous Air Pollutants (HAP's)**

Anticipate including an administrative requirement:

- **Report sales of pertinent coatings, estimates of formaldehyde emissions, and basis for the estimated emissions**
- **Report 2011 sales, by July 1, 2012**



Next Steps

- **Written comments are requested no later than May 29, 2009**
 - **Especially seek input regarding our cost estimates, any adjustments to your manufacturing process, or any detailed comments on specific elements of the proposed rule amendments**
- **Consider input, and modify as required**
- **Complete California Environmental Quality Act Analysis and Socio-Economic Analysis**
- **Propose final amendments at Public Hearing before the Board of Directors ~ July, 2009**



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