

January 2, 2007

Contact – George Fekete

Workgroup Recommendations and Other Potential Control Measures
VOC Workgroup

VOC011 – Adhesives and Sealants (SCC- 2440020000)

<p>Control Measure Summary: Enactment of VOC content limitations for industrial and commercial application of solvent-based adhesives and sealants. Potential control candidates are adhesives, sealants, adhesive primers, sealer primers, adhesive application to substrates, and aerosol adhesives.</p>	<p align="center">Emissions (tons/day) in New Jersey</p>	
<p>2002 existing measure:</p>	<p>VOC in 2002</p>	<p align="center">14.9</p>
	<p>SO2 in 2002</p>	<p align="center">0</p>
<p>No existing limitations for this specific category.</p>	<p>NO_x in 2002</p>	<p align="center">0</p>
<p>Candidate Measure 1: Approximately 75% of VOC emissions originate from solvent-based adhesives and sealants, the remaining 25% of VOC in this category are mixed with water-based materials. VOC content limits have been enacted by various Air Pollution Control Districts in California from 1998 to 2001.</p> <p>Emission Reductions: VOC content limits for the solvent-based materials will result in 64% reduction in total emissions from this category. (CARB RACT/BART for Adhesives/ Sealants, Dec 1998)</p> <p>Control Cost: Costs for control by reformulation are estimated by the CARB at less than \$2500 / ton (1999\$). Estimated costs for add-on control (carbon and thermal oxidizers) ranged from \$10,000 to \$100,000 per ton.</p> <p>Timing of Implementation: CARB utilized a phased approach for tightening VOC limits in some subcategories.</p> <p>Implementation Area: State-wide</p>	<p align="center">VOC</p> 2002 Base: 14.9 tpd 2009 Est: 15.2 tpd 2009 Remaining: <u>-9.7 tpd</u> 5.4 tpd	
	<p align="center">NO_x</p> 2002 Base: Reduction: 2009 Remaining:	<p align="center">N/A</p>
	<p align="center">SO2</p> 2002 Base: Reduction: 2009 Remaining:	<p align="center">N/A</p>

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Policy Recommendation of State/Workgroup Lead:

NOx: N/A

SO₂: N/A

VOC: Revise existing rules (N.J.A.C. 7:27-16 and N.J.A.C. 7:27-24) to establish new standards. The SCAQMD determined that water-based materials are currently available and are in use without reported problems in application or performance. The SCAQMD did acknowledge that some applications by consumers may have some problems and suggested consideration of an exemption for quart or gallon containers of retail contact cements that comply with the Federal Hazardous Substances Act. The SCAQMD Rule provides for specific exemptions for: Materials used for specific applications (like tire repairs, R&D, and solvent welding of medical devices), Low VOC materials (<20 grams/liter), Low usage application (<55 gallons per year), Small sources (<200 pounds per year) and Selected adhesives (cyanoacrylate)

Notes on Adhesive/ Sealant Consumer Products:

SCAQMD implemented a prohibition on sale of non-compliant adhesives. The Rule is based on a limit of 25% of VOC. The Rule covers 4 categories of adhesives – Aerosol adhesives, contact adhesives, construction and panel adhesives, and general-purpose adhesives. The Rule covers containers of product containing less than one pound or less than 16 fluid ounces.

Costs for change to water-based products would range from slight savings (\$0.53 per pound) to costs of \$1.16 per pound (in 1996\$). Reformulation also provides additional benefits of lower insurance premiums (due to safety concerns) and reduced cleanup costs.

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