

MEMORANDUM

TO: Board of Environmental Protection
FROM: Andrea Lani, Bureau of Air Quality
DATE: February 5, 2009
RE: Proposed Rule: Chapter 159 Control of Volatile Organic Compounds from Adhesives and Sealants

Statutory and Regulatory Reference:

A. Statutory authority.

38 MRSA Section 585-A provides that the Board of Environmental Protection “may establish and amend regulations to implement ambient air quality standards and emission standards. These regulations shall be designed to achieve and maintain ambient air quality standards and emission standards within any region and prevent air pollution.”

B. Specific legal mandates requiring adoption.

No specific legal mandates require the adoption of this rule.

Location/Applicability:

The proposed amendments will apply in all areas of the state.

Description:

Adhesives, sealants, adhesive primer, and sealant primer are used in product manufacturing, packaging, construction, and installation of metal, wood, rubber, plastic, ceramics, or fiberglass materials. In general, an adhesive is any material used to bond two surfaces together. In general, a sealant is a material with adhesive properties that is used primarily to fill, seal, waterproof or weatherproof gaps or joints between two surfaces.

VOC emissions from this category result from evaporation of solvents during transfer, drying, surface preparation and cleanup operations. VOC emissions in this category are primarily from industrial and commercial operations such as wood product manufacturers, upholstery shops,

adhesives retailers and architectural trades, such as building construction, floor covering installation and roof repair.

The proposed rule is based on a model rule developed by the Ozone Transport Commission, which in turn is based on the reasonably available control technology (RACT) and best available retrofit control technology (BARCT) determined by the California Air Resources Board (CARB) in 1989. The Department's proposed rule includes the following provisions:

- Regulates the application of adhesives, sealants, adhesive primers and sealant primers by providing options for applicators to either to use a product with a VOC content equal to or less than a specified limit or to use add-on controls;
- Limits the VOC content of aerosol adhesives to 25 percent by weight;
- Requirements for cleanup solvents;
- A VOC limit for surface preparation solvents;
- An alternative add-on control system requirement of at least 85 percent overall control efficiency (capture and destruction efficiency), by weight;
- VOC containing materials must be stored or disposed of in closed containers;
- Prohibits the sale of any adhesive, sealant, adhesive primer or sealant primer which exceeds the VOC content limits listed in the model rule;
- Manufacturers must label containers with the maximum VOC content as supplied, as well as the maximum VOC content on an as-applied basis when used in accordance with the manufacturer's recommendations regarding thinning, reducing, or mixing with any other VOC containing material; and
- Prohibits the specification of any adhesive, primer, or sealant that violates the provisions of the model rule.

Several adhesive and sealant applications and products are exempt from the proposed rule: tire repair, assembly and manufacturing of undersea-based weapon systems, testing and evaluation associated with research and development, solvent welding operations for medical devices, plaque laminating operations, products or processes subject to other state rules, low-VOC products (less than 20 g/l), and adhesives subject to the state rules based on the OTC 2001 consumer products model rule. Additionally, the proposed rule provides an exemption for adhesive application operations at stationary sources that use less than 55 gallons per calendar year of noncomplying adhesives and for stationary sources that emit not more than 200 pounds of VOCs per year from adhesives operations.

Environmental Issues:

The proposed rule is designed to reduce VOC emissions from adhesives, sealants, adhesive primer and sealant primers. Volatile organic compounds react with nitrogen oxides in the presence of sunlight to form ground level ozone, which is responsible for exacerbating a variety of respiratory ailments, such as asthma. Although children, the elderly and those with respiratory problems are most at risk, even healthy individuals may experience increased respiratory ailments and other symptoms when they are exposed to ambient ozone while engaged in activity that involves physical exertion. Although these symptoms are often temporary, repeated exposure can result in permanent lung damage.

Adhesives, sealants, adhesive primers and sealant primers in Maine are responsible for approximately 3.1 tons of VOC emissions per day. The proposed rule is estimated to reduce VOC emissions by approximately 2.5 tons per day.

Departmental Recommendation:

The Department recommends that the Board schedule a public hearing for this proposal on March 19, 2009 and proposes a public comment period deadline of March 30, 2009.

Estimated Time of Presentation:

30 minutes.