

California's Rule 1122 On VOCs from Cleaners Could Be a Model for the Nation

South Coast Basin Leads the Way in Compliance with Clean Air Act

California's South Coast Air Quality Management District (SCAQMD) recently approved Rule 1122, establishing limits of 50 g/L for cleaning materials used in cold cleaners; or alternatively, requiring the use of airless or air-tight cleaning systems. Surface finishers throughout the nation should become familiar with this rule, because it could serve as a model for similar regulations in other areas of California and the country.

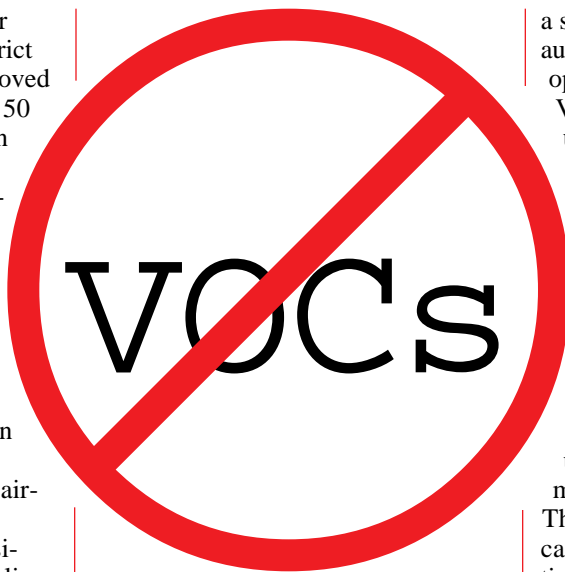
Workplace practices and design requirements for cold cleaners, vapor degreasers and airless and air-tight cleaning systems are also outlined in the rule. Affected businesses are required to be in compliance on January 1, 1999.

In California, Rule 1122 is closely tied to Rule 1171, which controls VOC emissions from general cleaning, repair and maintenance cleaning and other cleaning operations at auto repair shops, garages and service stations, printing shops and other manufacturing facilities.

Solvent cleaning and degreasing are carried out at machine shops, metal forming/manufacturing/finishing shops, electronics/electrical industries, optical, medical, precision equipment manufacturers, plastic fabricators, the aerospace industry and others. According to Dr. Anupom Ganguli, a senior staff member of the SCAQMD, Rules 1122 and 1171 are essentially the same in terms of potential environmental impacts.

Why Have the Rule?

It's mandated by the Clean Air Act of 1990. Louis Yuhas, a supervisor with the AQMD, said the California Health and Safety Code requires the AQMD to adopt an Air Quality Management Program (AQMP) demonstrating



compliance with all state and federal ambient air quality standards for the South Coast Basin. In short, the AQMD is required to adopt rules and regulations that implement the AQMP. Rule 1122 represents the implementation of Control Measure 97CTS-02N of the 1997 AQMP. Depending on air quality needs, other states or regions may eventually adopt similar rules.

What Does It Require?

Effective January 1, 1999, VOC content of cleaning materials in cold cleaners will be limited to 50 g/L, as used. Yuhas said 50 g/L is the smallest amount measurable with current technology. Options are provided for high-VOC material in very tightly controlled systems, such as air-tight or airless batch cleaning machines. The current practice of controlling VOC emissions from vapor degreasers through condensers, freeboard heights, and freeboard chillers will continue. The requirements are further augmented, however, by a superheated vapor zone (or

a secondary freeboard chiller), and an automated parts-handling system operated at limited speeds. High-VOC solvents may continue to be used in vapor degreasers with these very stringent controls. Vapor degreasers are controlled as hazardous air pollutants by the National Emission Standards for Hazardous Air Pollutants (NESHAP) for certain chlorinated solvent cleaners.

The rule exempts small batch-loaded cold cleaners with open-top areas under one ft² and solvent usage of less than five gal/calendar month for any high-VOC solvent. The exemption is limited to electrical or electronic degreasing applications and certain other specified aerospace and military applications. This exemption will "sunset" on January 1, 2003.

How Will the Rule Be Enforced?

It will largely be left to the industry to accomplish the goals of Rule 1122. The rule contains simplified recordkeeping and reporting requirements for demonstrating compliance. Minimum records are required to be kept at monthly intervals by business operators to report monthly VOC emissions from degreasing operations. Forms will be provided to businesses using solvent cleaners for that purpose.

Cleaning materials containing less than 50 g/L of VOCs, as used, are conditionally exempt from the requirements. All clean air solvents (defined in Rule 102) are exempt from the rule, as long as they continue to meet the clean air solvent criteria.

Ganguli said that, while the recordkeeping requirements are simplified, solvent users are still subject to requirements of the U.S.

Environmental Protection Agency. The rule is focused on encouraging businesses to convert to low- and non-VOC products, such as aqueous cleaners, by eliminating recordkeeping burdens for using them.

An extensive educational outreach program is being implemented by the AQMD staff to introduce low- and non-VOC cleaning systems at affected businesses, with the help of equipment manufacturers, solvent suppliers, trade and commerce associations and local government agencies. Ganguli said the AQMD staff will assist small business owners to find an acceptable solution for their degreasing needs.

Yuhas said there will be an enforcement program in place by the time

affected businesses have to be in compliance.

"Surface finishers should become familiar with 1122, because it could serve as a model for other regions."

What Are the Costs/Benefits?

Yuhas said the average cost-effectiveness of the rule is expected to be \$1,400 per ton of VOCs reduced. That

would make it one of the most cost-effective rules, considering that the 1997 AQMP estimates for cost-effectiveness of VOC rules range up to \$12,000 per ton. The AQMD Board recently adopted rules costing in excess of \$8,000 per ton of VOCs reduced, he said.

AQMD's inventory indicates that 42.3 tons/day of VOCs were emitted from degreasing operations in the Basin in 1993, excluding perc. Rule 1122 is expected to reduce 32.3 ton/day by 1999. Assuming an annual growth rate of emissions of two percent from 1999 to 2010, emission reduction is expected to be 40.2 tons/day in California's South Coast Air Basin by 2010, resulting in cleaner air for the heavily populated area. **P&SF**

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Exhibit Opportunities

A small exhibit will be organized. Interested companies should contact CRITT ADTS Rhône Alps, ASTEC, 38054 Grenoble Cedex 9, France.

Abstracts due December 1

Individuals who are interested in presenting a paper should submit abstracts by December 1 to: (U.S. contact) Steve Schachameyer, Eaton Corp., P.O. Box 463, Milwaukee, WI 53201; Phone 414/449-6917; FAX 414/449-7519; e-mail: sschacha@vines.etn.com. (Contact for other countries) Patrick Benaben, École des Mines, 158, cours Fauriel, 42023 Saint-Etienne Cedex, France; Phone 04-77-42-00-36; FAX 04-77-42-00-00; e-mail: benaben@emse.fr.

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