



Project Summary

Technology Evaluation Report: Support for MACT Determination for Degreasing

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The project was conducted by the U.S. Environmental Protection Agency (EPA) to provide technical data to support Maximum Achievable Control Technology (MACT) rule-making efforts. It quantifies emissions from innovative alternative vapor degreasing systems, permitting comparisons of emissions to conventional vapor degreasing systems. Tests were performed at two locations, primarily using gravimetric analysis.

This Project Summary was developed by EPA's Air and Energy Engineering Research Laboratory, Research Triangle Park, NC, to announce key findings of the research project that is fully documented in a separate report of the same title (see Project Report ordering information at back).

Background

The U.S. EPA must establish an emissions standard with limits reflecting MACT for each major source category emitting hazardous air pollutants (HAPs). These standards would be developed as National Emissions Standards for Hazardous Air Pollutants. New developments in vapor degreaser design have the potential for totally eliminating HAP emissions during surface cleaning. A number of companies have advertised systems that are claimed to be representative of MACT—that is, very low-emitting, well-controlled vapor degreasing systems. These systems use vapor confinement techniques other than traditional freeboard extensions, freeboard chillers, and automatic covers. MACT-capable systems are advantageous to existing industries, since they can make possible the continued use of traditional vapor degreasing solvents or new but simi-

lar compounds while significantly reducing emissions.

Project Objective

The primary objective of this project was to collect quantitative emissions data from low-emitting vapor degreasing systems. The criteria for the systems tested included available sizes, solvents that can be used in the degreaser operating parameters, and available features that can be used by a wide range of industries. The emissions data are to be used as background information for the MACT legislation being developed by EPA's Office of Air Quality Planning and Standards.

Approach

Two vapor degreasing systems were selected as representative of the generic designs of the MACT systems. The selected systems were tested using gravimetric analysis. The tests were conducted at the vendor's test facility. Emissions rates were determined by observing weight loss from the system during testing. The testing was conducted during both operating and non-operating test periods.

Results

Results of the gravimetric analysis showed that emission levels using MACT technology are less than 0.5 lb/day (0.23 kg/day), or 0.06 lb/hr (0.027 kg/hr), for both systems. Based on an emissions rate of 1.6 lb/hr (0.73 kg/hr), the MACT vapor degreasing systems indicate a 96% improvement over conventional vapor degreasers. Thus, the test results indicate that the use of the defined MACT systems of the type tested will significantly reduce solvent emissions during degreasing.

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Charles H. Darwin is the EPA Project Officer (see below).

The complete report, entitled "Technology Evaluation Report: Support for MACT Determination for Degreasing," (Order No. PB95-215992; Cost: \$19.50, subject to change) will be available only from

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