

CLEAN TECHNOLOGY DEMONSTRATIONS FOR THE 33/50 CHEMICALS

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EPA's Risk Reduction Engineering Laboratory (RREL) has a research program to support the 33/50 Program. The 33/50 Program is a voluntary pollution prevention initiative to reduce national releases and off-site transfers to the environment of 17 toxic chemicals. The overall purpose of the 33/50 Program is to study and evaluate substitutes for the 33/50 chemicals to encourage reductions in use and releases of those chemicals. This specific evaluation conducted by the University of Tennessee's Center for Clean Products and Clean Technologies focuses on substitutes such as aqueous wash systems and no-clean technologies for solvent degreasing processes. Calsonic Manufacturing Corporation, located in Shelbyville, Tennessee is the industry partner for this evaluation. Calsonic manufactures automotive parts, including heaters, blowers, cooling units, motor fans, radiators, auxiliary oil coolers, and exhaust systems. Phase-out of 1,1,1-trichloroethane (TCA) degreasing processes at Calsonics is being accomplished through substitution of aqueous cleaning and no-clean technologies (use of a low-boiling-point oil combined with a flash-drying process) for the degreasing processes. The demonstration focused on three cleaning processes used in three of Calsonic's process lines: 1) the aqueous wash system in the radiator line, 2) the no-clean technology in the condenser line, and 3) the hot water wash system in the converter line. The results may be used by industry, state technical assistance programs, universities, EPA and others with an interest in solvent substitutes. The results will help the interested parties understand the overall technical, environmental and economic benefits and costs of switching from solvent degreasing to aqueous cleaning or the no-clean technology.

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