

DIRECT ASSISTANCE PROGRAM



CASE STUDY

Major Industrial Manufacturer Seeks Alternatives for Solvent Cleaning of Parts

Challenge

The New York State Department of Environmental Conservation (NYSDEC) has proposed a regulatory update that addresses volatile organic compound (VOC) emissions produced by [industrial solvent cleaning processes](#). Commonly used cleaning solvents such as mineral spirits contain VOC's and are subject to the proposed regulation.

The manufacturer utilizes industrial cleaning solvents for cleaning part surfaces to remove debris, processing liquids and water. Many of the components manufactured have specific high-precision requirements that cannot be addressed through common aqueous-based cleaning methods. Under the proposed rule, current solvents used by the manufacturer would be considered non-compliant.

With a potential change in cleaning operations from the proposed VOC emissions regulations, the manufacturer was concerned that its use of solvents for cleaning parts may be impacted.

Solution

To prepare for potential restrictions on the use of certain cleaning solvents, the manufacturer partnered with the New York State Pollution Prevention Institute (NYSP21) to explore solvent cleaners that would be in compliance with the proposed regulations. Additionally, NYSP21 assisted with exploring potential reduction opportunities for the usage of non-compliant solvent cleaners. To achieve these tasks, a technical evaluation of the solvents was performed by NYSP21, the Toxics Use Reduction Institute (TURI) at the University of Massachusetts Lowell, and an independent environmental engineering consultant.

Results

After considering the environmental, health, and safety hazard profiles, VOC profiles, and cleaning compatibility of the solvent alternatives, four products were determined to be feasible options for potential replacement of the current solvents used in a limited number of the manufacturer's cleaning operations. Additionally, NYSP21 identified solvent cleaning best practices within the manufacturer's spot, immersion (rinse/dip), and flush cleaning operations.

At this time, no practical replacement has been identified for the use of certain solvents in the manufacture and rework of certain high-precision products for which contamination must be minimized in accordance with customer or other specifications.

CHALLENGE

- The client wanted to assess options for its use of solvents for cleaning of parts

SOLUTION

- NYSP21 explored alternative solvent cleaners and potential reduction opportunities for the usage of non-compliant solvent cleaners

RESULTS

- Four products were determined to be feasible options in a limited number of solvent applications
- NYSP21 identified solvent cleaning best practices within the manufacturer's spot, immersion (rinse/dip), and flush cleaning operations

NYSP21 PARTNERS



New York Manufacturing Extension Partnership

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