New Jersey Program for Manufacturing Excellence

NJME is a technical assistance program for NJ industries that is operated through the Center for Advanced Energy Systems (CAES) at Rutgers, The State University of New Jersey.

Funded by the New Jersey Department of Environmental Protection's Office of Pollution Prevention and Right to Know, the purpose of the program is to improve the competitiveness and efficiency of New Jersey companies, while also reducing the impact on the environment. NJME accomplishes this by promoting energy efficiency and pollution prevention.

For more information:

New Jersey Program for Manufacturing Excellence
640 Bartholomew Road
Piscataway, NJ 08854
732-445-5540
njme@caes.rutgers.edu
www.njme.rutgers.edu/

NJME Team Helps Lithographic Company Reduce On-Site VOC Generation:

Overview:

A lithographic printing company in New Jersey asked our Pollution Prevention team to research methods for reducing volatile organic compounds (VOC's) on site wherever possible. Being an environmentally friendly company they are proactive in keeping their manufacturing process as clean as possible. They recycle almost all of their paper, generating almost zero-percent waste at their New Jersey facility.

Background:

Since the company prides itself on being environmentally friendly, they wanted to further improve the quality of their manufacturing by reducing the amount of Volatile Organic Compounds (VOC's) generated on-site. The Pollution Prevention team investigated VOC reduction in a solvent based all-purpose blanket wash that the company uses in their process. From the Material Safety Data Sheet (MSDS) supplied by the company, the VOC content for the wash was 6.65 pounds per gallon.

Recommendation:

The NJME team investigated several alternatives for solvent reduction in the manufacturing process. While reviewing the MSDS of the current solvent based wash, the Pollution Prevention team found that replacing the nonylphenol ethoxylate with an alcohol ethoxylate would lead to VOC reduction without compromising the properties of the wash. After the substitution, the new blanket wash will contain 6.50 pounds of VOC per gallon. This new blanket wash does not only reduce the on-site VOC emission but also the raw material cost because it is cheaper than the original wash.

Savings:

Approximately 148.5 pounds of VOC per year was reduced by switching to the new recommended blanket wash and lead to annual cost savings of $810 for the facility. Another benefit of switching to the new wash is that this initiative adds to the environmentally friendly image of the company.

Implementation Cost:

After analyzing the MSDS for chemical and physical properties, it was soon realized that no additional cost would be incurred by the company. The similarities between the two blanket washes were so great that nothing had to be changed from the current system the company had been using. The specific gravity differed by a negligible margin. The team analyzed its findings and realized this was the best option for the company.