

## **Essilor of America, Inc.**

### **Background**

Essilor of America, Inc. (Essilor), has been manufacturing plastic optical lenses in St. Petersburg, Florida, since 1971. The facility began operations as a 20,000 square foot facility 25 years ago and today operations encompass a 250,000 square foot facility. Their manufacturing process includes mold making, lens casting, lens washing and solvent reclaim. Essilor places a high premium on maximizing product quality and minimizing waste. Waste reduction efforts have included chemical substitution, process elimination and recycling. In 1993, Pinellas County's Recycling Committee recognized Essilor's efforts by presenting the company with an Honorable Mention Award for Business Recycling. In 1996, Essilor assisted Pinellas County with on-site pollution prevention training for air quality inspectors. Inspectors were provided a tour of the facility which included a review of current waste reduction efforts.

### **Waste Reduction Efforts**

Essilor established a Waste Minimization Committee to evaluate, organize and implement waste reduction. New ideas to reduce waste are submitted to the committee and the company president for review on a quarterly basis. Essilor has been recycling various materials since 1972. This has included sulfuric acid, isopropyl alcohol, n-methyl Pyrolidine (NMP), acetone, methylene chloride, freon 113, 141B, lenses, fluorescent lamp tubes, gasket rubber, wood pallets, drums, computer paper, paper, metal products, and aluminum cans.

Essilor's waste minimization policies include purchasing recycled materials whenever feasible, using recycled packaging materials for shipping, shipping surplus equipment to their plants in other countries and recycling chromium tank metals. Specific waste minimization efforts have included replacement of trichloroethylene (TCE) and freon in lens washing operations with 1,1-dichloro-1-fluoroethane (141B); 90% reduction in the use of methylene chloride by 1995; elimination of 1,4 Dioxane and Ethylene Glycol in 1995; and replacement of sulfuric acid with a 1% potassium hydroxide solution in 1996.

I talked with our engineers about the methylene chloride project. We eliminated the use of methylene chloride in our epoxy spraying application in favor of a water-based solvent. This occurred a couple of months ago. This eliminated about 1 lb per day use of methylene chloride. As for dip cleaning racks and tools contaminated with epoxy, we could not eliminate the blend we are using which contains methylene chloride. This operation is conducted in three small tabletop dip tanks and we regulate this activity under NESHAP rules and our Title V Air permit. These tanks have closed covers, and have one inch layer of water on the solvent blend to suppress vapor emissions. By drastically eliminating 90% of our use of methylene chloride to clean racks years ago under EPA's 33/50 program, and now further eliminating the use of methylene chloride in our epoxy spray application which is more volatile and by following strict NESHAP standards for solvent dip tank cold cleaning, we feel we have done all we can do that is economically practicable to prevent pollution caused by methylene chloride.

### **Cost Savings**

Since 1993, 361 tons of paper products have been recycled at a savings of \$10,894; 5,228 tons of used sulfuric acid were sold for \$135,000; 3 tons of scrap lenses were sold for \$1,000; redistilling 87 tons of NMP

saved \$252,000; and recycling 34 tons of 141B saved \$271,000. As a result of facility-wide waste reduction efforts, Essilor has experienced improved product quality and a decrease in operational costs.

### **Additional Activities**

Waste minimization techniques and practices are promoted at quality assurance meetings, the company newsletter features articles that describe pollution prevention successes at the plants and each department manager is now responsible for controlling waste disposal costs.

Essilor hosts a Kid's Day Event to emphasize the facilities Prevent Blindness Campaign along with fire safety, protecting sea turtles and other wildlife. Kids' Day is becoming an annual event where kids accompany their parents to work and learn about community stewardship. Activities in recent years included a nature hike and painting giant turtles to pay tribute to the public safety people who risk their lives protecting the public, and to those who struggle with blindness, and to respecting our environment.