

# POLLUTION PREVENTION

## IN RHODE ISLAND

Case studies of the Rhode Island On-Site Technical Assistance Program

### Jewelry Mfg. Acetone

#### **Costume jewelry manufacturer uses distillation technology to recycle acetone**

##### **Industry \ Contact**

SIC Code: 3961 Costume Jewelry Manufacturer, Rhode Island.

Contact: Company #50

##### **Technology Description**

The company manufactures souvenirs, religious jewelry, and advertising specialties. The average employment of the company is 30.

The company uses acetone to clean lacquer spray guns, strip lacquer from rejected jewelry pieces, and remove epoxy from epoxy applicators. The company originally disposed of 120 gallons/year of spent acetone from these operations. In 1989, the company invested in a small distillation unit, manufactured by Recyclene, to recycle their acetone. Since then, they have been successfully recovering and reusing 75% to 95% of their spent acetone.

##### **Feedstock Materials**

140 gallons/year virgin acetone purchased (\$560/yr)

##### **Wastes**

120 gallons/year spent acetone sent off-site for disposal (\$875/yr)

##### **Costs**

Purchase and installation of a 3-gallon-capacity distillation unit manufactured by Recyclene: \$2,300

##### **Operation \ Maintenance**

Annual operation/maintenance costs: less than \$100

**Savings**

Virgin acetone purchase reduced by 100 gal/yr: Savings of \$400 per year

Acetone disposal reduced by 120 gal/yr. Only acetone still bottoms are disposed: Savings of \$775 per year.

**Payback Period**

Estimated at two years

**Impact**

The company has found that, by installing a Recyclene distillation unit, the acetone used in various cleaning and stripping procedures can be recycled for on-site reuse. The company has eliminated the disposal of 120 gallons/year of spent acetone and significantly reduced its purchase of virgin acetone.