



# 267,000 pounds of solid waste reduced

## APEX™ Sustainable Technology for Paint Detackification Outperforms the Competition at a New Automotive Assembly Facility

**NALCO** Water  
An Ecolab Company

CASE STUDY - MANUFACTURING

CH-979



### SITUATION

The paintshop at a major automobile assembly facility was faced with the dual challenge of reducing total cost of operations while improving overall process sustainability to meet their corporate goals. The customer's process used both advanced high solids waterborne basecoat and primers as well as solventborne clearcoats. A melamine formaldehyde detackification program was utilized on the conventional flotation units for paint solids removal. The customer was particularly concerned about the excessive frequency and cost associated with spray booth cleaning. Extensive cleaning was required every week with the existing melamine program to maintain system performance.

### PROGRAM

- NALCO Water's dedicated automotive industry technical consultants worked with the local NALCO Water team to provide a thorough mechanical, chemical and operational audit of the existing program to get a baseline of system performance.
- NALCO Water worked closely with plant operations, cleaning contractors, and paint shop engineers to implement the APEX program. This program included:
  - PK9513 advanced detackifier
  - Presidential Green Chemistry Challenge Award winning ULTIMER™ flocculants
  - Next-generation high performance, low VOC antifoams
  - Customized equipment solution to maximize automation and control

### CUSTOMER IMPACT

eROI™

### ECONOMIC RESULTS

Solid waste generation reduced by 267,000 lbs/yr



EARTH

\$90,000 Annual disposal savings

VOC reduced by over 3000 lbs/year



AIR

> 80% Program VOC reduction

Reduced booth cleaning frequency from weekly to quarterly savings



ASSETS

\$160,000 Annual savings

Above contributed to the total annual cost of operations savings of \$295,000 from APEX implementation.

*eROI is our exponential value: the combined outcomes of improved performance, operational efficiency and sustainable impact delivered through our services and programs.*

*(Continued on Reverse Side)*

The APEX program features PK9513, an advanced patent-pending detackifier composed of a reacted blend of over 40% naturally occurring cationic plant based material combined with inorganic polymeric materials. PK9513 contains no hazardous ingredients and is completely formaldehyde free. APEX provides superior operational performance, improved environmental benefits, and reduced total cost of operations compared to conventional programs.

### ENVIRONMENTAL RESULTS

The design of the customer's system allowed for a direct side-by-side comparison between the current melamine program and APEX at the exact same production conditions. The following documented benefits were realized with the APEX program:

- Reduced booth cleaning frequency from weekly to quarterly - saving over \$160,000 in annual labor costs
- Reduced VOCs from the existing program by over 80% by utilizing NALCO Water ULTIMER flocculants and advanced antifoams
- Significantly increased sludge solids content, subsequently reducing the volume of solid waste generation from the plant - providing \$90,000 of annual waste disposal savings

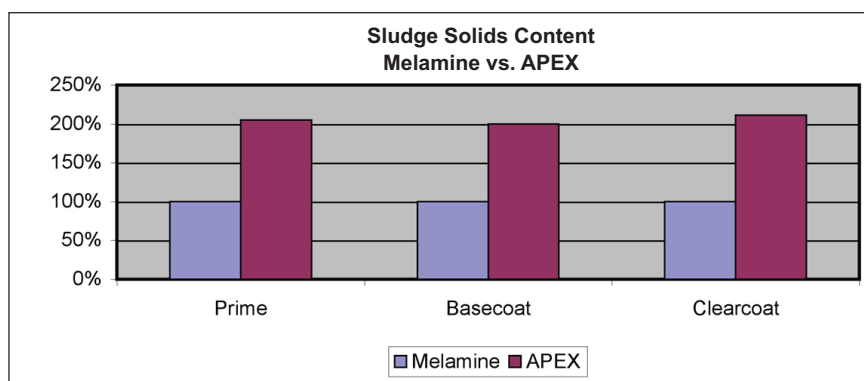
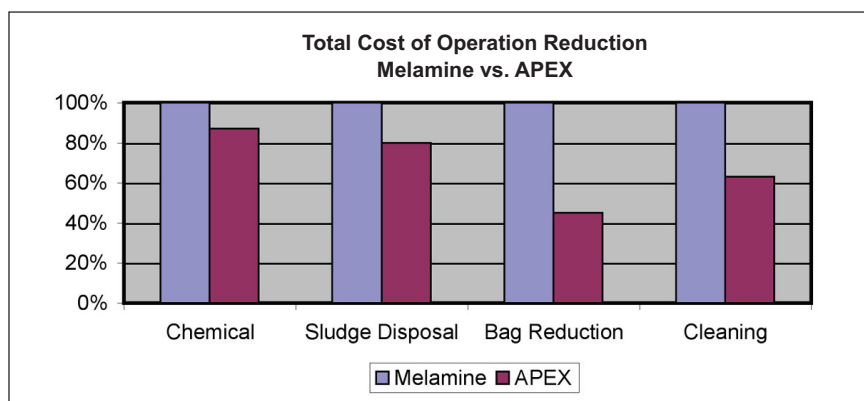
- Developed a more cost effective sludge disposal option with the customer and local waste management companies
- Improved employee safety with engineered feed system improvements to reduce chemical handling and minimize potential chemical exposure to personnel
- Automated chemical feeds and pH control to integrate with spray booth operations, providing more consistent and reliable system performance

### ECONOMIC RESULTS

A total annual reduction in total cost of operations of \$295,000 was achieved which included:

Sludge Disposal Savings .....	\$90,000
Reduction in Sludge Hauling Bags .....	\$ 6,000
Chemical Savings .....	\$ 39,000
Cleaning Savings .....	\$160,000

NALCO Water was recognized by senior site management for their innovation in a critical paintshop application, exceeded all of the customer's trial expectations, and helped the customer meet both their environmental goals as well as their total cost of operation reduction targets.



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