



Waste Reduction at Advance Corporation

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Driven to DiscoverSM

Company Background

- Founded in 1941
- Located in Cottage Grove
- 60 employees
- Corporate recognition products and braille signage



ADVANCE CORPORATION



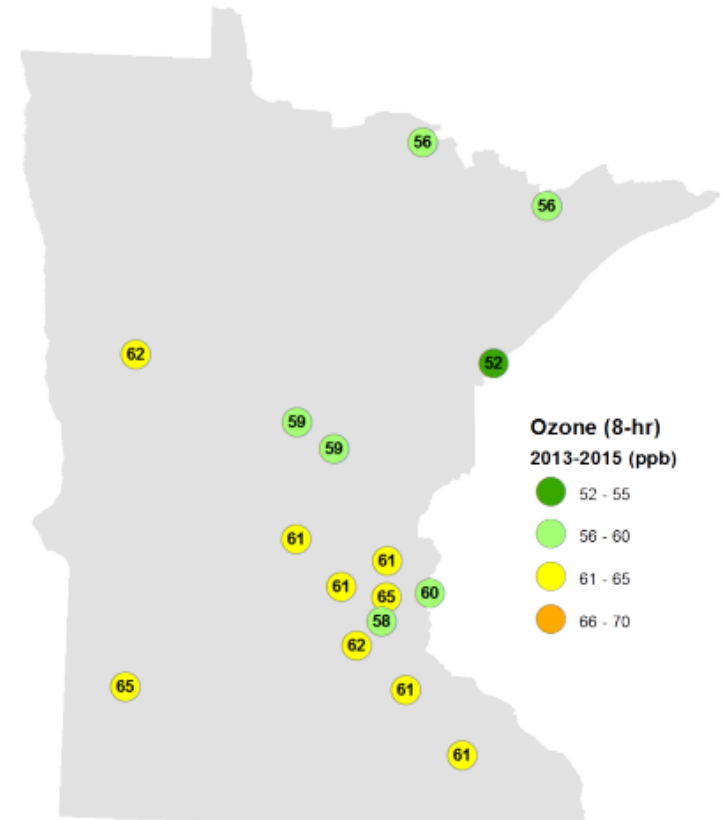
Incentives for Projects

- Improved air quality and worker safety
- Better availability of materials
- Increased efficiency with automation
- Lower costs for wastewater treatment



Improving Air Quality

- **Products containing Volatile Organic Compounds (VOCs)**
 - Good performance
 - Permitting requirements
 - Employee health risk
- **Products that are lower in VOCs**
 - Higher solids content
 - Water-based
 - Reduced absenteeism

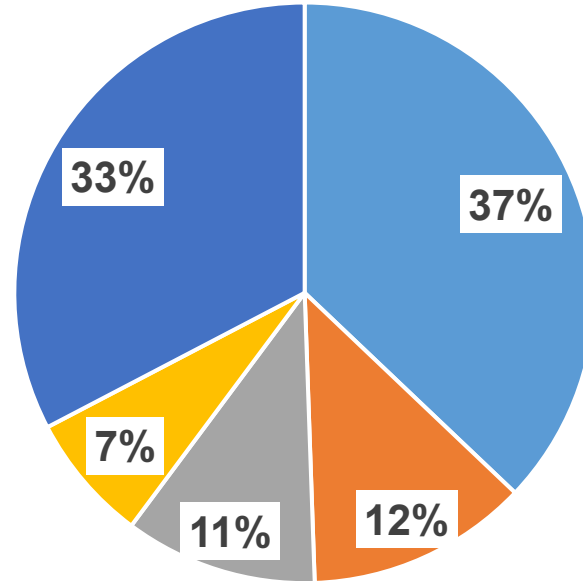


"The Air We Breathe, 2017" Minnesota Pollution Control Agency
<https://www.lrl.mn.gov/docs/2017/mandated/170071.pdf>

Prioritizing VOC Contributors

VOC Output by Coating 2021

- 1.) Wood Finish
- 2.) Thinner for Wood Finish
- 3.) Catalyst for Paint
- 4.) Reducer for Paint
- 5.) Other



Paint Recommendation

Category	Original product	Low VOC Alternative
Price		
VOCs		
Performance		
Color matching technology		

Recommendations for Lowering VOCs

- **Switch to low VOC paints**

- Identified alternative paint supplier
- Verified spray equipment compatibility
- Waiting on paint test results
- Implementation cost: \$6,500

- **Benefits**

- Annual reduction: 1,300 lbs VOC
- Savings: \$18,000



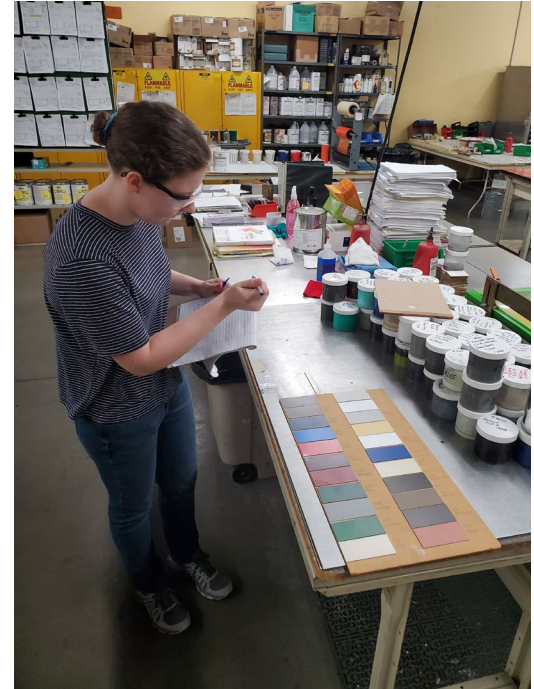
Recommendations for Lowering VOCs

- **Switch to water-based wood finishing system**

- Identified alternative wood finishes
- Determined spray booth equipment needed
- Testing with processes
- Implementation cost: \$1,200

- **Benefits**

- Annual reduction: 840 lbs VOC
- Savings: \$1,800



Solutions

Recommendation	Annual reduction	Total cost	Annual savings	Payback period	Status
Switch to low VOC paints	1,300 lbs VOC	\$6,500	\$18,000	5 months	Recommended
Switch to water-based wood finishing system	840 lbs VOC	\$1,200	\$1,800	8 months	Further investigation needed
Optimize sprinkler system	97,000 gal water	none	\$640	Immediate	Implemented
Reduce wastewater by removing of nitric etching process	96,000 gal water 106,800 lbs hazardous waste	\$530,000	\$132,000	4 years	Planned

Personal Benefits

- Spent time problem solving
- Worked with experts and learned a ton
- Discovered many fascinating chemical properties

