



Auto Repair Sector

EPA Region 2

Pollution Prevention

Insights
Bulletin

The U.S. Environmental Protection Agency is working to reduce releases of toxics from small businesses during extreme weather events (e.g., flooding and storm surge events). This bulletin highlights pollution prevention opportunities for increasing the success, competitiveness, and overall resilience of your business. Pollution prevention strategies which include the use of environmentally friendly products and practices, can reduce the risk of improper chemical management, limit liability, save money, and increase worker and customer satisfaction.

Did You Know?

Volatile organic compounds (VOCs) contained in liquids and paints are a health and environmental concern in auto body repair shops and auto painting facilities. The amount of VOCs released is directly related to the amount of solvents used and precautions taken to avoid their losses.

VOCs may contribute to the formation of smog and the greenhouse effect. Liquids containing VOCs can also affect the surrounding environment when accidentally released; polluting groundwater, surface water, and the soil.

VOCs also have several health risks associated with their use:

- Eye, nose, and throat irritation
- Damage to liver, kidney, and central nervous system
- Headaches, loss of coordination, and nausea

Some examples of VOCs that may be found in auto repair shops are methylene chloride and benzene. Methylene chloride can be found in paint strippers and aerosol spray cans. This VOC has been known to cause cancer in animals; EPA has determined that methylene chloride is a probable cancer-causing agent in humans. Benzene can be found in paints and automobile emissions. This VOC is a known human carcinogen. The cumulative effect of these VOCs on employees can be significant.¹

1. EPA: VOC: <http://www.epa.gov/iaq/voc.html>

Additional Information:

[EPA Region 2 Pollution Prevention Toxics Mitigation Program](http://www.epa.gov/region02/p2/other_p2_prog_init_actv.html),
http://www.epa.gov/region02/p2/other_p2_prog_init_actv.html

[Illinois State EPA small business auto repair](http://www.epa.state.il.us/small-business/automotive-repair-shops/):
<http://www.epa.state.il.us/small-business/automotive-repair-shops/>

[Ephraim City in Utah](http://www.ephraimcity.org/images/forms/auto.pdf): <http://www.ephraimcity.org/images/forms/auto.pdf>

[EPA P2 Toolkit for Auto Repair](http://www.epa.gov/region10/pdf/owcm/The_P2_Toolkit_Best_Practices_for_Auto_Repair.pdf):
http://www.epa.gov/region10/pdf/owcm/The_P2_Toolkit_Best_Practices_for_Auto_Repair.pdf

[EPA Region 09 Autofleet](http://www.epa.gov/region9/waste/p2/autofleet/): <http://www.epa.gov/region9/waste/p2/autofleet/>

Success Stories

Glenmoor Auto Repair Freemont, California

Switch to aqueous-based cleaning

Glenmoor is a full-service auto repair shop that services about 15 cars per day. Owner, Gary Raver, used to lease a solvent sink-top unit for an hour a week. Glenmoor switched over to an EMC Jet-sink aqueous spray cabinet and an aqueous microbial sink-top unit that now do all the parts cleaning. The switch [reduced cleaning labor by 80%](#). The new cleaning equipment provides the company [annual savings of \\$1,638](#) with a payback period of 1.8 years.

Visor's Collision Center Chicago, Illinois

Switch to waterborne basecoats

The switch to waterborne basecoats increased productivity. The new basecoats require fewer coats which mean less time spent to complete a job. The owner, Larry, also believes that the new basecoats, which are less flammable and toxic, was part of the reason his shop's insurance premium went down. Larry also observed that waterborne basecoats provide a more durable finish than solvent-based basecoats which means the customers are more satisfied. He noticed that the switch to waterborne base coats was not difficult with the right amount of training and modification.

CREDITS

Special thanks to EPA's Design for the Environment Program and EPA Region 9 for the Success Stories content



Materials Usage and Storage

- Select appropriate containers to store liquids inside. Solvents should be placed in metal drums and acids and bases should be placed inside polyethylene drums.
- Avoid using coatings containing chromium, lead, cadmium or other toxic metals. Using safer coatings may mean that your air filters do not have to be designated as hazardous waste.
- Recycle spent antifreeze on-site, off-site, or through a mobile recycling service which can save your shop money.
- Use low volatile organic compound (VOC) paints and solvents to simplify your shop's compliance with pollution regulations. Try not to use methylene-chloride-based paint strippers.

Parts Cleaning and Sorting

- Minimize the use of solvents or use water-based solvents for cleaning.
- Use aqueous-based cleaners instead of petroleum-based solvents.
- Dry parts immediately after cleaning to minimize the risk of parts rusting.
- Use dirty solvent first as a precursor to cleaning with virgin solvent.
- Employ an oil-skimmer which can remove the free-floating oil from the aqueous cleaning solutions.
- Solvents can be recycled on-site with a still.
- If you mix waste paint thinner with secondary wash thinner, then this mixture can be used as a pre-wash.

Spills and Prevention

- Oleophilic mops can be employed to pick up oil and not water. Consider sealing your shop floor with epoxy which will not absorb spills and will make clean up easier.

Equipment and Technology

- Install a ventilation system that captures and removes all paint vapors in the paint apply area to protect your employees.

Invitation

You are invited to share your own success stories and additional insights with the EPA Pollution Prevention and Climate Change Section for consideration in our next bulletin!

Tell us what problem or challenge your small business faced, what steps you took to overcome it and how or why it resulted in a successful outcome. Provide details like the ones you see in this bulletin that explain how your actions resulted in cost savings, operating efficiency improvements, or other measurable successes.

Your story could be featured in our next bulletin to serve as an example for other small businesses.

For more information and to find out how YOU can submit your success story, send an e-mail to us at: Region2_PollutionPrevention@epa.gov or visit us at: <http://www.epa.gov/p2/comments.htm>

Special thanks to:

Washington State Department of Ecology for providing the "Insights" information ([link here](#)).

<http://www.ecy.wa.gov/programs/hwtr/p2/sectors/auto1.html>

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