

WEATHER THE STORM—SAVE YOUR BUSINESS

PREVENT CHEMICAL RELEASES DURING FLOODS AND STORM SURGES



Shade Tree Garage, Morristown, NJ

In 2012, Hurricane Irene flooded Shade Tree Garage with 40 inches of water causing extensive damage, rupturing 55 gallon oil drums and ruining expensive equipment. It took owner John O’Conner six weeks to re-open and years to recover from the financial and physical damage. One of the lessons learned was the importance of moving vehicles and securing oil drums to keep them out of the flood waters. Shade Tree Garage is a member of the NJ Sustainable Business Registry.

AUTO REPAIR SHOPS

SAVE MONEY—SAVE YOUR BUSINESS

Here’s how:

- Get your business up and running again sooner.
- Prevent expensive chemicals from being washed away.
- Prevent spills instead of paying clean-up costs.
- Lower clean-up costs by switching to safer chemicals.
- Reduce or eliminate monitoring, tracking, and reporting costs.
- Reduce permitting and disposal costs with safer chemicals.¹
- Retain property value by not contaminating it with toxic chemicals.
- Market business as environmentally friendly.
- Potentially lower workers’ comp and liability insurance costs.

¹ Permits cost for auto repair shops: Hazardous Waste Fee \$30 to \$835 annually

New Jersey’s almost 2,500 auto repair shops play an important role in keeping the community mobile! But these essential businesses use hazardous chemicals that can potentially endanger people and the environment if released during floods and storm surges including:

- Fuels: gasoline and diesel
- Mechanical fluids: motor oil, grease, anti-freeze, transmission fluid, brake fluid and battery acid
- Refrigerants for air-conditioning systems
- Solvents used in cleaning, including petroleum distillates, chlorinated solvents like 1,1,1 trichloroethylene or methylene chloride
- Asbestos in brakes and clutches

AS EASY AS 1, 2, 3...

Three steps to reduce toxic exposures during a flood or storm surge.

1. SUBSTITUTE



Switch to safer chemicals or processes when feasible.

2. REDUCE



Keep chemical inventory to a minimum.

3. SECURE



Store chemicals properly and securely above the base flood elevation.

PREVENTION STRATEGIES

By using EPA's Best Management Practices (BMPs) guide together with energy, water and solid waste management strategies, businesses can prevent pollution and save money on chemical and compliance costs. Elements of a comprehensive strategy include: safe storage, spill preparedness, safer chemicals, smart handling, proper disposal, record keeping and training.



1. Substitute and Reduce the Hazard of a Chemical Spill

The most effective way to minimize a toxic release is to eliminate the hazard. This can be done by switching to safer chemicals and processes. Some examples for an auto repair shop include:

General Parts Washing

- Water based cleaners for brake parts rely on heat, agitation, and soap action to break dirt into smaller particles.
- Microbial cleaners use microorganisms to break down grease, oil and other carbon-based contaminants into harmless carbon dioxide and water.
- Citrus based cleaner removes dirt and grime on interior and exterior car parts.

Brake Washing

- Replace solvent based spray cans with water base solutions.

Anti-freeze

- Anti-freeze can be re-used when treated, reducing cost and environmental hazard.



2. Reduce Your Chemical Inventory

- Review your chemical inventory and ordering practices to ensure it is appropriate with your business needs.
- Schedule hazardous waste-pick up to minimize the amount of time materials are on-site.
- Recycle spent antifreeze on-site, off-site, or through a mobile recycling service which can save your shop money.



3. Safe Chemical Storage

Unsecured fuel tanks can become a major hazard during a flood event. FEMA has produced a factsheet, Anchor Fuel Tanks, which includes tips on how to properly secure fuel tanks including:

- Attach fuel tanks to a large concrete slab whose weight is heavy enough to resist the force of flood waters.
- Install four ground anchors connected across the top with metal straps to horizontal outside propane tanks.
- Extend all filling and ventilation tubes for outside oil tanks to above the 100-year flood level to ensure flood waters do not enter the tank.

Housekeeping Tips

- Use oleophilic mops which can pick up oil and not water.
- Keep floors as dry as possible to avoid contamination and worker injury.
- Seal your shop floor with epoxy which will not absorb spills and make clean up easier.
- At the end of each work shift, be sure chemical containers are tightly closed and returned to their designated storage space.



KNOW YOUR FLOOD RISK

It is critical to develop a flood plan to minimize releases that can lead to both property loss and chemical exposures to humans and the environment.

Determine the flood risk of your building and develop a flood management preparedness plan. See the factsheet, Weather the Storm—Save Your Business: Flood-Proof Your Business, for more information on how to determine your flood risk and develop an emergency flood plan.

Resources

- EPA Region 2 Insight Bulletin: [Auto Repair Sector](#)
- EPA's Safer Choice: www.epa.gov/saferchoice
- EPA P2 What You Can Do About Pollution Prevention—Business Resources: www.epa.gov/p2/p2-resources-business

This factsheet is not an exhaustive list.

For additional information and resources, please go to www.njwec.org/p2resources.

This factsheet is a work product of a collaboration between NJ Work Environment Council and Sustainable Jersey and funded in part by the US Environmental Protection Agency.

