



Pollution Prevention & Parts Washers

Information Sheet




Background

Parts washers are machines that use cleaning solutions to remove grit, grime, oil, paint, and other residues left on parts after production. Parts washers management can play a role in the overall cleanliness and safety in manufacturing. Best management practices (BMPs) can help reduce the air emissions, wastewater, and hazardous waste generated while increasing efficiency and equipment life.

Cleaner Options

There are two types of cleaning solutions used in parts washers:


- **Solvent cleaners** are composed of pure chemicals that dissolve any leftover residues or substances through a chemical process. Solvents often include mineral spirits, alcohol, chlorine, and other potentially hazardous chemicals.
- **Aqueous cleaners**, also called water-based cleaners, are composed primarily of water and utilize heat, pressurized water, soap, and agitation to break up any leftover residues or substances.

 Consider solvents with low Volatile Organic Compounds (VOCs) emissions.


Cleaning detergents and solvents are often hazardous and can be harmful to worker health and the environment because: they can emit volatile organic compounds (VOCs); can be combustible; and can threaten soil and water quality if not stored, managed and disposed of properly. Washers that use solvents may also require more frequent and costly services. Water- or semi-water-based cleaners:

- Are non-combustible;
- Reduce or eliminate a source of harmful chemicals and VOCs in the workplace;
- Are more cost effective and efficient;
- Are safer long-term choices;

- Reduce the cost of chemical purchases; and
- Make disposal of wastewater less costly and more straightforward.

 Always review SDS for VOC (Section 15), flash point (Section 9), PPE, and disposal instructions. Flash point <math><140^{\circ}\text{F}</math> may trigger ignitability under 40 CFR 261.21.



 While water-based solutions always offer a better P2 solution, there are instances when solvent-based solutions will be necessary, depending on factors such as part size, shape, material types and other considerations.

Best Management Practices

Before parts washing:


- **Only wash parts when necessary:** Some parts may not need to be washed as frequently as others. Avoiding unnecessary washing of parts reduces solution waste and decreases the amount of solution purchased and wastewater generated.
- **Only change cleaning solutions when necessary:** Don't change cleaning solution solely on a scheduled basis, or color. Rather, change it when the solution no longer adequately cleans parts. Constant changing of solutions can lead to excess waste, and wasted solution.



A commonly used drum-mounted parts washer.

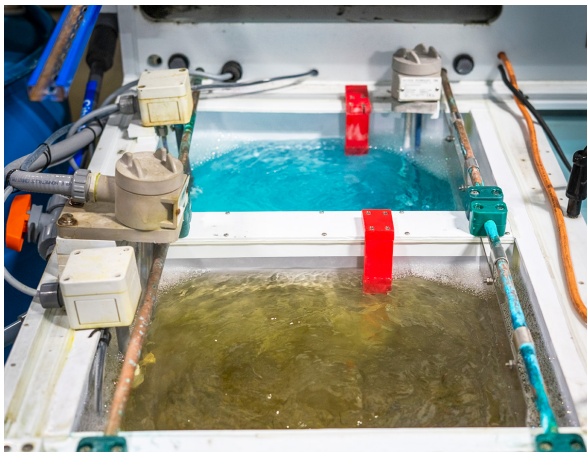
The actions outlined do not replace or ensure compliance with regulatory standards set by the Indiana Department of Environmental Management (IDEM). If regulatory or compliance assistance is needed, refer to IDEM's **Compliance and Technical Assistance Program (CTAP)**.

- **Batch parts to reduce cycles:** Instead of separate cleaning cycles for individual parts, combine parts that can be washed together into single batches to reduce the amount of solution used.
- **Avoid overloading tank:** Overloading the tank can lead to parts not properly getting clean and having to repeat cycles, which wastes water and solutions.
- **Pre-clean parts:** Use wire brushes, squeegees, scrapers, or wipes to clean dirty parts before they enter the parts washer to reduce surface impurities and contamination of cleaning solution.

 Reusable absorbents like rags, wipes and towels could be washed in-house or through a washing service to reduce waste from single use absorbents.

After parts washing:

- **Clean out sludge and solids from tank:** Sludge, oil and solids can build up in the tank of parts washers and need to be removed with skimmers or filters to help cleaning solutions last longer. Treat all sludge, and spent solvents as potentially hazardous waste, ensuring proper disposal.




Don't change cleaning solution based solely on discoloration – clear (top) and discolored (bottom) solutions both are still effectively cleaning parts.

- **Drain parts over washer:** After washing, drain parts over the washer so that excess or dripping cleaning

solution is collected back into the tank, reducing the amount of solution lost and purchased.

- **Keep washer lid closed and away from heat or drafts:** To minimize the amount of solution that is lost or evaporated, keep parts washer lids closed and away from heat and drafts when not in use. Covers can even be used during cleaning to further prevent evaporation of solutions.

 See Title 326 Indiana Administrative Code (IAC) 8-3-2 for information on the regulatory requirements for parts washing.



Parts washers should remain closed when not in use.

Maintenance:

Regular visual checks

- **Check for and repair leaks:** Routine inspection of equipment, cleaning stations, and containers can help locate and repair leaks.
- **Check for and replace faulty seals:** Routine inspections of equipment, cleaning stations, and containers should be performed to locate and repair faulty seals.
- **Oil, clarity and odor:** Look at cleaning solution for indications that the cleaner is oily, has reduced clarity, or odor.
- **pH test:** Use low-cost pH tests to monitor water-based cleaning solution effectiveness by evaluating acidity and alkalinity and prevent corrosion.

Resources

IDEM's Compliance and Technical Assistance Program (CTAP) is a free and confidential service available to all Indiana businesses and regulated entities for on-site and remote assistance. Contact **CTAP** at (317) 232-8172 or use the [CTAP Portal](#) to submit a request for confidential regulatory and technical assistance. For more information, visit idem.IN.gov/CTAP.

For more information on pollution prevention strategies, visit idem.IN.gov/prevention.

More cleaning solution alternative tools can be found at: www.turi.org/tools

