



# The Truth About Your Battery Wash Water

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## Why does the wash water need to be contained?

The water used for washing batteries is hazardous because it is contaminated by the sulfuric acid, corroded metals and other materials it washes off. Allowing contaminated wash water to enter sewers and streams is a serious EPA violation, resulting in civil and criminal penalties up to \$500,000.



IBP's Wash Water Treatment (WWT) System

## What does IBP do differently from other scheduled maintenance suppliers?

IBP uses an exclusive process which completely neutralizes and cleans acid and corrosion from your batteries. Wash water is safety treated to remove and safely dispose of hazardous contaminants to meet EPA and DOT requirements. This wash water treatment system was designed and patented (#5,590,671) by East Penn Manufacturing Co., Inc. maker of Deka batteries.

## Can't you just haul away my wash water?

No - Some scheduled maintenance contractors agree to place wash water in a 55 gallon barrel and haul it away from your facility. Transporting hazardous materials is an EPA violation, for which the generator is held responsible. YOU are the generator.

## What is my risk of exposure?

The EPA is no longer 100% government funded. It relies on 50% of its revenue from penalties and fines paid by companies like yours. We often hear of our customers being visited by EPA agents. Again, EPA civil and criminal penalties can be imposed on you and your business up to \$500,000.



If your system looks like this, YOU are responsible!

Chicago 630.243.4828  
Kansas City 913.236.6500  
Omaha 402.932.9035

Des Moines 515.289.1325  
Minneapolis 952.657.7563  
St. Louis 314.266.5700



# Wash Water Treatment (WWT) for Industrial Batteries

## Overview

Proper cleaning and maintenance of industrial batteries is important to reduce corrosion, electrical shorts, electrical grounds, and create a safer working environment.

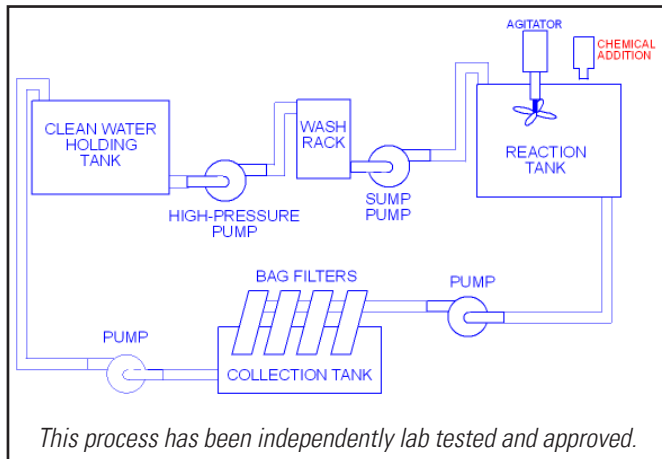
Our Wash Water Treatment (WWT) is a state-of-the-art process that completely cleans batteries while safely processing the wash water to meet EPA and DOT requirements. No contaminants are discharged into sewers, storm water drains, or soil.



## Benefits

- Provides for safe, legal processing of wash water.
- Helps eliminate battery electrical shorting & grounding.
- Ensures safe battery operation for your personnel.
- All materials in the treated wash water are removed from your facility.

## Treatment Cycle



After the batteries are cleaned, the wash water is reclaimed in an oil separation/absorption process. A powder chemical is added to remove emulsified oil and metals from the water. The oil residue, sulfates, and corrosion are completely encapsulated into a non-hazardous 'floc'. This material is removed from your facility for safe and legal disposal, as the EPA imposes penalties for those that do not comply.

All Industrial Storage Batteries contain hazardous materials in the form of heavy metals and sulfuric acid. The following list of questions and answers will attempt to simplify a very complex issue associated with battery washing as part of scheduled maintenance procedures for customers of IBP.

## SOME BASIC QUESTIONS YOU PROBABLY ALREADY KNOW:

### Why do my batteries need washing?

Regularly scheduled cleaning removes corrosive materials from the industrial storage batteries in your facility.

## **What causes corrosion?**

Generally, two things:

- Over time, and repeated charging cycles, acid spray accumulates on top of the battery and is exposed to the lead inter-cell connectors. Corrosion is formed as a result of the reaction of lead to acid.
- Additionally, overwatering may cause the electrolyte to spill on top of the battery and down the tray. Although the water in the electrolyte will evaporate, the highly concentrated acid solution remains. If the acid is not removed, corrosion will occur.

## **Why is it so important to remove corrosion?**

If not regularly removed, the corrosion causes voltage grounds to the tray, reducing the effectiveness of the battery, providing improper voltage to the truck, which can reduce running time and damage expensive controls and electrical components on the forklift. Improper maintenance of batteries can void the manufacturers' warranty for your battery and forklift.

## **THE GOVERNMENT GETS INVOLVED:**

### **Why does the wash water need to be contained?**

The water used for washing batteries is hazardous because it becomes contaminated by the sulfuric acid, corroded metals and other materials it washes off. Allowing contaminated wash water to enter sewers and streams is a serious EPA violation, resulting in civil and criminal penalties up to \$500,000.

### **What determines contamination levels in wash water?**

The EPA uses the Resource Conservation and Recovery Act (RCRA) of 1976 to define limits of contamination in water. The act lists four contributing factors that can cause water to be hazardous:

- Ignitability
- Reactivity
- Toxicity
- Corrosivity

At issue in our industry is the fourth item on this list. The act restricts pH levels and concentrations of metals in parts per million (ppm) that can be allowed in any wash water sample.

### **How do you measure hazardous material levels?**

The method used to analyze wash water, determining whether or not it is hazardous is known as Toxicity Characteristic Leaching Procedure (TCLP), also known as a profile.

### **How hazardous is my battery wash water?**

In a basic study, an independent lab sampled wash water from washing two mildly corroded batteries. The lead (Pb) concentration was more than 5 ppm and corrosivity level was 1.94 pH. These results are classified by the EPA as hazardous for corrosivity (D002) and lead (D008)

### **How is my business responsible for hazardous wash water?**

The handling of hazardous materials requires that specific EPA guidelines be followed. Any business that collects, stores or handles more than 26.5 gallons of hazardous wash water or 220 lbs. of hazardous solid waste in a calendar month, is classified by the EPA as a small generator, requiring the application for a Generator EPA ID# from its state. This amount of hazardous wash water is produced from washing approximately 26 batteries at your facility.

## **OTHER SCHEDULED MAINTENANCE CONTRACTORS:**

### **Can't you just haul away my wash water?**

No - Some scheduled maintenance contractors agree to place wash water in a 55 gallon barrel drum and haul it away from your facility. Transporting hazardous materials is an EPA and DOT violation, if not performed in compliance with these regulations. The generator is held responsible for the EPA rule of "cradle to grave". YOU are the generator.

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## What are the regulatory requirements to haul hazardous wash water?

According to the EPA website, "A transporter of hazardous wash is subject to several regulations under RCRA and must:

- Obtain an EPA identification (ID) number
- Comply with the manifest system
- Properly handle hazardous wash discharges

One way that EPA keeps track of hazardous wash transporters is by requiring each transportation company to obtain an EPA ID number. Without this ID number, the transporter is forbidden from transporting hazardous wash." For more information, go to [www.epa.gov](http://www.epa.gov).

## What is my risk of exposure if I dispose of my battery wash water improperly?

The EPA is no longer 100% government funded. It relies on 50% of its revenue from penalties paid by companies like yours. We often hear of our customers being visited by EPA agents. EPA civil and criminal penalties can be imposed on you and your business up to \$500,000.

## What should I ask my current scheduled maintenance contractor?

Ask them if they have a clean TCLP or profile of your wash water in the barrel they are planning to haul. Understand that this is not attainable as TCLP testing results take a minimum of one week. Any profile presented to you immediately after a battery washing session is likely not a true sample of your water and should not be allowed to be hauled from your facility as non-hazardous wash. If the water is admittedly hazardous, and you have generated more than 26.5 gallons stored, you, the generator, must possess an EPA ID number before allowing the water to be hauled from your facility.

## What if my scheduled maintenance contractor uses filters to clean the water?

Filtering wash water does not guarantee that it becomes non-hazardous, because filters can be over-used, becoming ineffective. More importantly, even if the water does become non-hazardous, the filters used in the process still remain hazardous and your scheduled maintenance contractor cannot transport them without proper DOT and EPA licensing.

## **INDUSTRIAL BATTERY PRODUCTS:**

### What does IBP do differently from other scheduled maintenance suppliers?

IBP has an exclusive process for containing and treating wash water, which completely cleans and neutralizes batteries, while safely processing the wash water to meet EPA and DOT requirements. This battery cleaning system was designed and patented (#5,590,671) by East- Penn Manufacturing Co., Inc. (the manufacturer of Deka batteries). IBP assumes the responsibility for the cleaned and processed wash water, while taking the customer out of the "waste stream".

### How does this process work?

The water treatment unit is designed to be mobile and is easily brought into your facility and set up in the work area assigned. Your batteries are washed in our specially designed tray where your wash water is contained. It is then pumped from the tray to the treatment machine.

### What does the water treatment machine do with my wash water?

First, the water is PH adjusted. Then, powdered bentonite clay with polyelectrolyte and a chemical agent are added while the mixture is agitated. The bentonite powder encapsulates the hazardous contaminants (such as lead, copper, zinc and other sulfates) in a non-hazardous clay "floc" that is non-leaching and landfill-approved. The remaining water is then pumped through a series of filter bags, separating the "floc" from the water.

### What is the end result of this process?

The water has now been treated to a totally non-hazardous condition and can be recycled and used in additional battery washing or transported from your facility without the risk of hazardous spills. The "floc", which is also non-hazardous is dried and disposed of by IBP.

### Does the size of my battery fleet affect the outcome of the treatment process?

No matter how many batteries we wash or how dirty those batteries have become, IBP's wash system will consistently clean each one and the remaining wash water will meet RCRA standards.

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