

North American Bioindustries'

# 1-2-3 Step Approach to Neutralize and Clean Batteries

## Why Keep Batteries Free of Dirt, Oil and Electrolytes?

It is important to keep batteries clean to maintain their designed performance level. Performance damage to the battery begins once dirt, oil or electrolytes have accumulated on a battery's surface. A power trickle will result, passing the current through alternate modes. This will slowly exhaust the battery before optimal length of charge is met. Dirt, oil and electrolytes also hold a conductive surface charge, which have the potential to shock or burn. Under extreme conditions, a strong enough surface charge can buildup heat and cause a battery to ignite or explode.

Establishing a routine maintenance program will assure that the battery's surface is free and clear of any battery acid, dirt or oil. The result will help to achieve optimal performance from the battery.

Oil and dirt will redevelop after maintenance more quickly if traces remain on a battery's surface. NAB has developed a product that releases dirt, oil and corrosion, which can then be completely rinsed away. Perform the white glove test and notice the NAB difference!



## Step 1

### Battery Acid Cleaning and Neutralizing

To clean and remove dirt, oil and electrolytes on a battery's surface, use **NAB Battery Acid Cleaner & Neutralizer**. Liberally spray the entire battery allowing adequate dwell time to complete neutralization. The product will change color indicating that the product has been neutralized.

Then rinse with a hose or pressure washer. Allow battery to completely dry before using.

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### What to Do in Case of a Leak or Spill

Battery acid is a major health hazard according to Occupational Safety & Health Administration (OSHA) because of its highly corrosive characteristics. Spills and leaks are never planned but do happen even when all the necessary precautions are taken. To minimize leaks and spills, always handle batteries with care and have documentation of the preventative maintenance records. Use proper personal protective equipment (PPE), set batteries down gently and use a battery gripper to transport batteries. Keep all battery features and accessories in proper working condition.

## Step 2

### Battery Acid Neutralizing

On an acid spill, leak or any "tough to neutralize application," slowly pour or spray **NAB Battery Acid Neutralizer** onto the acid. Continually check the pH and add the product until desired pH is met. (Check with your local municipality before disposing any byproduct down the drain.)

**NAB Battery Acid Neutralizer** contains 100% active neutralizing ingredients and serves as a multifunctional product for floor spills, battery leaks, tough to neutralize areas and situations and battery wash systems. A pH of 2:12 is generally the standard municipal water discharge range. **NAB Battery Acid Neutralizer** is a buffered source of alkalinity with a pH of approximately 9:12. (Caustic soda is frequently used in battery wash systems and may cause physical damage to the plastic/rubber casing of the battery. When overused, caustic soda may create a byproduct with a pH of greater than 12.)

When a spill occurs, the general industry practice is to use an absorbent product to neutralize and absorb battery acid.

For a large acid spill, form a dike to prevent acid from spreading and fill in toward the middle with an absorbent product to prevent spreading. Allow five minutes for product to absorb and contain the battery acid. (Properly dispose of materials according to local regulations.)

Absorbent products leave behind active battery acid in the pores and cracks of a floor. The white chalky marks that remain after an absorbing product is used indicate active battery acid. Battery acid left behind can start etching small holes in the cement and, in time, the floor will need to be replaced.

To remove the white chalky marks, apply **NAB Battery Acid Cleaner & Neutralizer**. Because **NAB Battery Acid Cleaner & Neutralizer** is a liquid, it will seep into the pores and cracks of the cement and neutralize the remainder of the battery acid that absorbents leave behind.



### The Final Step to Cleaning a Floor after a Battery Cleaning or a Battery Acid Spill

The final step is to properly clean the floor. When floor scrubbers are used in a Battery Room, they often pick up battery acid, which causes serious problems with the internal workings of a floor scrubber.

## Step 3

### Cleaning Up after All Battery Acid is Neutralized

Once the battery acid is completely neutralized, use **NAB Citrus Cleaner** in a floor scrubber or bucket with a mop to clean the floor. Add about 6 oz. of regular concentrate per gallon of water. Use a mop, power washer or floor scrubber to clean up neutralized battery acid on floors.

**NAB Citrus Cleaner** is a neutral pH product that is safe to use on industrial flooring.

### What Cleaning Products to Avoid

There are still companies which use “makeshift” products for their neutralizing needs. The most common “makeshift” products and the reasons why they do not work are listed below:

- **Baking Soda** - A common product that is frequently used in Industry is baking soda. Neutralizing acid on batteries with baking soda forms a conductive paste that won't rinse free. After repetitive use, the paste can harden between the cells of the battery. Once dry, the hardened paste is another “alternate mode” for electric current to create a short, shock, fire or explosion.
- **Water** - A common misconception is that enough water will neutralize battery acid. In order for neutralization to occur, an acid and a base must react together.
- **Caustic Soda** - Many of the neutralizers and cleaners on the market contain caustic soda. When caustic soda is applied to battery acid, an exothermic reaction “spit” will occur.
- **Alcohol and Petroleum** - The physical properties that perform the cleaning function in many of the neutralizing cleaners consist of glycol ethers, alcohol or petroleum-based products. Products with these cleaning agents often warp and crack the battery casing, especially on Poly and SAN plastic jars. In addition, alcohol and petroleum based products can be flammable and potentially increase worker exposure issues.

*North American Bioindustries (NAB) is a leading manufacturer of environmentally safe industrial cleaners and degreasers which have been proven to be highly effective. NAB products have passed rigorous testing required by industry standards.*



**Environmentally Responsible Chemistry**



(414) 778.1490 / Toll Free (888) 760.8649 / Fax (414) 778.1492  
746 N. 109th Street / Milwaukee, WI 53226

[www.NorthAmericanBio.com](http://www.NorthAmericanBio.com)

E-mail us at [sales@northamericanbio.com](mailto:sales@northamericanbio.com) for more information