

United States Patent

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[54] METHOD OF CLEANING BATTERY TERMINALS AND THE LIKE

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[57] ABSTRACT

A method for cleaning corrosion off battery terminals and the like consisting of applying an aqueous solution having therein pure fruit dye, sucrose, sodium bicarbonate, benzoate of soda, and vitamin D³ to the terminal and then flushing with water.

1 Claim, No Drawings

METHOD OF CLEANING BATTERY TERMINALS AND THE LIKE

BACKGROUND OF THE INVENTION

A problem normally encountered with a conventional automobile battery is the accumulation of corrosive material around the battery terminals and clamps that results from the oxidizing of the materials associated with these parts. The acids normally associated with batteries further add to the accumulation of corrosion on the terminals and clamps thereof. This corrosion, if allowed to accumulate, may cause malfunction of the battery and the component parts thereof.

SUMMARY OF THE INVENTION

This invention is directed to a solution, and a method of making same, which when applied to battery terminals and clamps, as by being poured thereover, is effective to break down, dissolve, and remove any accumulated corrosion thereon, without the necessity of rubbing or scouring. Generally speaking, the cleaning solution of the present invention consists of an aqueous solution having therein pure fruit dye, sucrose, sodium bicarbonate, benzoate of soda, and vitamin D³. It has been found that when this solution is applied to the terminals and cables of a battery, a reaction takes place with the accumulated corrosion that is present at these areas, which results in a boiling action that quickly results in the disintegration of the accumulated corrosion, although it is sometimes desirable to employ a subsequent water rinse to help wash away the down corrosion particles.

It is therefore an object of the present invention to provide a cleaning solution that is adapted to readily clean battery terminals, clamps and the like by the simple application of the solution thereto and, in some cases, the rinsing of water after the application of the cleaning solution.

Another object of the present invention is to teach a method of cleaning battery terminals and the like by using a solution that includes a mixture of pure fruit dye, sucrose, sodium bicarbonate, benzoate of soda, and vitamin D³ with water.

DESCRIPTION OF THE INVENTION

It has been found in accordance with the present invention that when one part of a food color solution consisting of one part color additive and 128 parts water is mixed with a second solution comprising 42 parts sodium bicarbonate (baking soda) and 384 parts of water and then small quantities of benzoate of soda and vitamin D³ are added thereto a cleaning solution results that has remarkable advantages in the removal of corrosion from battery terminals, clamps, and the like so as to effect cleaning thereof. The mixing and blending of the materials comprised in the cleaning solution of the present invention is effectively carried out without the necessity of resorting to complicated mixing procedures or blending apparatus. Thus with the required ingredients available, a quantity of the cleaning solution may easily be formulated, as hereinafter set forth.

In making the cleaning solution of the instant invention, a color solution is first formulated by mixing one part of a color additive to 128 parts of water, said water being maintained at a temperature of approximately 130° F. The color additive consists of a mixture comprising 24 percent by weight of a pure fruit dye, which is derived from a coal tar derivative, and 76 percent sucrose. An example of a suitable color additive is Food and Drug certified shamrock green shade food coloring. A second aqueous solution is then blended consisting of 42 parts of sodium bicarbonate (baking soda), which is mixed in 384 parts of water, said water being maintained at approximately 95° F. One part of the aforesaid color solution is then

added to the 426 parts aqueous sodium bicarbonate solution and mixed well. To the resultant mixture a minute quantity of benzoate of soda and vitamin D³ is added and specifically it has been found that approximately 0.005 of 1 percent by weight of benzoate of soda and approximately 22 milligrams of vitamin D³ per 50 gallons of solution is sufficient. After the resultant mixture has been well blended, it is allowed to stand for approximately 12 hours at normal room temperatures.

SPECIFIC EXAMPLE

The following is a specific example of a cleaning solution formulated in accordance with the present invention:

One ounce of Food and Drug certified shamrock green shade food coloring is dissolved in one gallon of water that is maintained at approximately 130° F. and mixed thoroughly therein. A second solution is formulated by adding 14 ounces of sodium bicarbonate (NaHCO₃) to 1 gallon of water that is maintained at approximately 95° F. After this second solution has been well blended, approximately 8 cc. of the aforesaid color solution is added thereto and mixed therein. To this solution a small quantity of benzoate of soda is added, namely, 227 milligrams and additionally, a minute quantity of vitamin D³ is added, namely 0.0044 milligrams. After being thoroughly mixed, the solution was allowed to stand at ordinary room temperatures for approximately 12 hours.

In use, the above solution is brushed, sprayed or poured over the corrosive material appearing on a battery terminal, clamp or the like. In a short period of time, usually about 2 or 3 seconds, a boiling action commences that causes the corrosive material to start to disintegrate and dissolve. In approximately another 20 or 30 seconds clear water may be applied to wash away the solution and the corrosive material that has been dissolved, this latter step being desirable, but not absolutely essential. The battery terminal or clamp will then be substantially free and clear of any accumulation of corrosion, without the necessity of rubbing, scrubbing, or scouring, although in some cases it may be desirable to repeat the application of cleaning solution to the corrosive area. The aforesaid cleaning solution is in no way harmful to the battery, to any paint that it may come in contact with, or to the person who is handling it, even if it comes in direct contact with a person's skin.

As this invention may be embodied in several forms without departing from the spirit or essential characteristics thereof, the present embodiment is therefore illustrative and not restrictive, since the scope of the invention is defined by the appended claims rather than by the description preceding them, and all changes that fall within the metes and bounds of the claims or that form their functional as well as conjointly cooperative equivalents, are therefore intended to be embraced by these claims.

What is claimed is:

1. The method of cleaning corrosion off of battery terminals and the like consisting of the following steps:

A. applying a solution consisting of

1. one part of a color solution consisting of one part color additive to 128 parts of water, said color additive consisting of 24 percent pure fruit dye and 76 percent sucrose;
2. 42 parts of sodium bicarbonate;
3. 384 parts of water;
4. 0.005 of 1 percent by weight of the cleaning solution of benzoate of soda; and
5. 22 mg. of vitamin D³ for each 50 gallons of cleaning solution;

to the battery terminal; and

B. flushing the terminal with water.

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