Mi-Tique® 1792 Replenisher

Mi-Tique 1792 Replenisher is a liquid concentrate designed for additions to a long running large working bath of Mi-Tique 1792 to prevent copper build up in the working bath.

Features & Benefits

No copper in formulation	Brings Copper: Selenium Ratio in Balance
Replenishes All Components Except Copper	Increased bath longevity

Operating Conditions

Equipment
Acid resistant tanks, tumbling barrels, baskets and racks must be used with Mi-Tique solutions. Plastic, plastic lined, rubber lined, glass or stoneware are suitable. Mild steel may be used for the cleaning, rinsing and sealant tanks.

Sealants make up and color development
Prior to charging a production tank, some experimentation should be done with properly prepared sample parts, using various dilutions and immersion times to determine the conditions required to produce the desired color. After a bath matures it starts to build up the copper which comes from the part exposure to the slightly acidic solution. Over time the copper builds up and the Selenium portion of the formulation becomes depleted or out of balance.

Immersion times and concentrations and temperatures are critical, and the colors can be consistently reproduced in production. Antique finishes should be protected with an oil, wax, or lacquer topcoat and the ultimate color will be influenced and enhanced by the topcoat and, therefore, the topcoat must be applied before judging the depth of color or before comparing with other antique finishes. The natural color of the alloy and the mechanical finish on the surface will also affect the final color of "highlighted" or burnished finishes.

Solution replenishment and maintenance
The solution is gradually depleted through use but may be replenished with periodic additions of Mi-Tique 1792 or indefinitely with Mi-Tique 1792 Replenisher. The strength of the solution and the amount of concentrate to be added can be determined by titrating

with sodium thiosulfate as outlined in Control Procedure or the strength can be maintained by recording the time of immersion. The titration measures both metals at the same time and when out of balance need more advanced analysis such as Atomic Absorption for Cu and Se levels. When the time required to produce the desired color increases, add enough Mi-Tique 1792 Replenisher to reduce the time to your established standard.

The frequency of additions will depend upon the volume of work processed. For optimum results, the solution should be maintained at 85% of its original strength or greater, and frequent small additions are recommended.

Titration Method

EQUIPMENT REQUIRED
25 mL pipette
50 mL Burette
Burette Stand
Ring Stand
250 mL Erlenmeyer Flask

CHEMICALS REQUIRED
6 N Hydrochloric Acid
15 %w/w Potassium Iodide Solution
0.1 N Sodium Thiosulfate Solution
20 %w/w Thyodene Starch Solution

A sample of a freshly prepared production bath should always be taken as a control solution prior to running any parts through the bath. If a sample was not taken, a laboratory prepared solution at the same concentration may be used as the control solution.

1. Transfer a 5 mL sample of the production bath into the 250 ml flask.
2. Dilute with water to approximately 75 mL.
3. Add 10 mL 6N Hydrochloric Acid to the flask.
4. Add 15 mL of the 15% by weight Potassium Iodide solution.
5. Add 10 mL of Starch Solution. The solution will become a dark blue to almost black color.
6. Add the 0.1N Sodium Thiosulfate solution from the burette while swirling the flask.
7. The end point is marked by a sudden change in color from dark black to light brown.
8. Calculate the %v/v Mi-Tique 1792 as follows:

Calculation

Mi-Tique 1792 (%v/v) = mL 0.1N Sodium Thiosulfate Solution X 0.357

Waste Disposal

The Aquapure team will be able to recommend the proper disposal method.

Caution

The Mi-Tique solution is mildly acidic. Avoid contact with eyes, skin and clothing. Wear eye shields, protective gloves and aprons. The solution is toxic if taken internally. Read and understand OSHA safety data sheet and drum warning labels prior to working with or handling this product.

WARRANTY: HUBBARD-HALL INC. IS NOT RESPONSIBLE FOR THE MISUSE, MISAPPLICATION, OR MISHANDLING OF THIS PRODUCT. SEE THE TERMS AND CONDITIONS OF SALE ON OUR WEBSITE FOR ADDITIONAL TERMS AND CONDITIONS CONCERNING OUR PRODUCTS, INCLUDING BUT NOT LIMITED TO, LIMITATIONS AND DISCLAIMERS OF WARRANTIES AND LIABILITIES.

Our People. Your Problem Solvers.

For more information on this process,
please call us at 203.756.5521 or email: techservice@hubbardhall.com

Hubbard-Hall holds certifications for **ISO 9001:2015**, Responsible Distribution, as accredited by the **ACD** (Alliance for Chemical Distributors) and as a **Women-Owned Small Business**, as well as maintaining an association with **Omni-Chem**[136]