PRODUCT INFORMATION

MARTRON INC.® P O BOX 309, MONROE, NC 28111 PH: (704) 289-1934 FAX: (704) 283-7400

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EMERGENCY - MARTRON 704-289-1934
CHEMTREC 800-424-9300

REF # - RES-010524

MARTRON NICKEL ACTIVATOR AT

SECTION 1. PROCESS INFORMATION

Martron Nickel Activator AT is a liquid material used in an acid solution to activate passive nickel deposits prior to chromium plating. It prepares surfaces for better chromium acceptance and is particularly helpful in difficult recessed areas. It also eliminates streaks and clouds due to passivation from poor rinsing or longer transfer times between nickel and chromic acid tanks. Thorough rinsing should be provided after the activator solution to minimize build-up in the chrome plating solution.

Cathodic activation of passive nickel in the **Martron Nickel Activator AT** solution can also improve nickel-to-nickel adhesion in re-plating operations.

SECTION 2. OPERATING CONDITIONS

Immersion Only

Sulfuric Acid	5 – 10% by vol. (50 – 100 ml/l)
Martron Nickel Activator AT	1 – 5% by vol. (10 - 50 ml/l)
Temperature	Room temperature to 120°F (49°C)
Time	30 secs – 5 min

Electrolytic

Sulfuric Acid	1 - 5% by vol. (10-50 ml/l)
Martron Nickel Activator AT	0.5 - 2.0% by vol. (5-20 ml/l)
Temperature	Room temperature to 120°F (49°C)
Time	30 secs – 5 min
Current Density	Cathodic, 5-20 Amps/ft^2 (0.54-2.15 Amps/dm^2)
Anodes	Lead or carbon

Parts will exhibit water break coming out of the **Martron Nickel Activator AT** solution.

SECTION 3. SOLUTION CONTROL

The operating solution can be maintained by adding **Martron Nickel Activator AT** and sulfuric acid in the same ratio as that used during the original make-up. More precise control is possible when the concentration of **Martron Nickel Activator AT** is determined using the following procedure:

SOLUTION ANALYSIS

Reagents Required

- 1:1 Nitric acid
- Sulfurous acid, reagent grade
- Normal silver nitrate solution ($AgNO_3$)
- Saturated ferric ammonium sulfate indicator
- 0.1 Normal ammonium thiocyanate solution (NH_4CNS)

Procedure

A blank composed of 100 ml of deionized water should also be run through the following steps:

1. Weigh out 10.xxx grams of bath sample into a 250 ml Erlenmeyer flask. Record the weight.
2. Add sulfurous acid dropwise until the brown color disappears.
3. Add 20 ml of 1:1 nitric acid.
4. Add by pipette 25.00 ml of 0.1 Normal silver nitrate solution.
5. Add 1 ml of ferric ammonium sulfate indicator.
6. Immediately titrate with 0.1 Normal ammonium thiocyanate solution to an orange-colored end point.
7. Calculate the concentration of **Martron Nickel Activator AT**:

$$\textbf{Martron Nickel Activator AT}\ (\%\ \text{by vol.}) = \frac{[(A - B) \times C \times 126.9 \times D]}{(3 \times E)}$$

where: A = ml of NH_4CNS used for the blank
B = ml of NH_4CNS used for the sample
C = Normality of the NH_4CNS solution
D = Specific gravity of the sample
E = Weight of the sample

SECTION 4. WASTE DISPOSAL

This material must be disposed of in accordance with all applicable federal, state, and local regulations and permits. Consult the Safety Data Sheet (SDS) for additional regulatory information. The information contained herein is general in nature and may not apply to each application.

SECTION 5. GENERAL SAFETY PRECAUTIONS

When working with this product(s), ensure that all health, environmental, and safety regulations and standards are met. Avoid direct contact with this material. Do not inhale associated mist, vapors, and/or dust. Maintain and limit exposure as recommended by OSHA, ACGIH, and other state and local regulations. Wash contaminated clothing before reuse. Always comply with the Hazard Communication Standard, 29 CFR 1910.1200. Emergency showers and eyewashes must be readily available. It is recommended that the plating chemistry product(s) referred to in this Technical Information Sheet be used: (a) in accordance with the information provided in product specific Safety Data Sheet (SDS); and (b) in compliance with all applicable requirements and guidelines established by OSHA, NIOSH, ACGIH, NFPA, and others.

NOTE: A Safety Data Sheet (SDS) for this product(s) is available upon request from ***Martron Inc.,*** *1394A Walkup Ave., Monroe, NC 28110.*

Review Safety Data Sheet (SDS) before using this plating chemistry and for specific information. A precautionary approach should be used when there is potential for chemical exposure -- this includes minimizing exposure potential, rapid decontamination, and medical follow-up.

IMPORTANT NOTICE REGARDING THIS INFORMATION

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