



# PRODUCT INFORMATION

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EMERGENCY - MARTRON 704-289-1934  
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## MARTRON BLK3ZN PROCESS

- Martron BLK3ZN** is a totally trivalent conversion (hex-free) process that will produce a JET BLACK conversion coating on electroplated chloride zinc deposits.
- Martron BLK3ZN** process is an easy to prepare and use solution, that when correctly applied with **Martron BLK3ZN Sealer** will produce a deep black, lustrous coating that will withstand up to 120 hours to white corrosion products in 5% neutral salt-spray solution.
- Martron BLK3ZN** has excellent shelf-life and bath stability.

### Section 1: Operating Parameters

<b>Martron BLK3ZN-1</b>	10.0 % by/vol.
<b>Martron BLK3ZN-2</b>	10.0 % by/vol.
Temperature	70 – 90°F
pH	1.6–1.9
Immersion Time	30 – 60 Seconds
Agitation	Gentle, rolling circulating pump

### Section 2: Solution Make Up

1. Fill the tank approximately ½ full with DI water.
2. Slowly add 10.0% of **Martron BLK3ZN-1** and 10.0% **Martron BLK3ZN-2** with agitation as described above.
3. Mix thoroughly
4. Adjust to operating volume with water
5. Adjust pH of operating solution as required:  
To lower pH, use dilute Phosphoric Acid 75% or 85%  
To raise pH, use **Martron pH Adjuster**

### Section 3: Recommended Operating Cycle (Prior to Martron BLK3ZN)

1. Zinc plate
2. Cold water rinse (X2)
3. 0.25 to 0.5% by volume Nitric Acid dip 10-15 seconds
4. Water rinse
5. Follow directions as shown above for **Martron BLK3ZN**
6. Warm water rinse
7. Follow instructions for individual seal product as chosen

#### Section 4: Operating Notes

While operating the **Martron BLK3ZN** process, zinc plating bath brightener additions should be kept to optimum for enhanced overall appearance. **Martron BLK3ZN** solutions can be controlled by analysis of **Martron BLK3ZN-1** with **BLK3ZN-2** being added based on a 1:1 Ratio with **Martron BLK3ZN-1**

#### Section 5: Analysis Method

##### Chromium Concentration:

1. Pipette a 20 ml sample of the operating solution into a 250 ml Erlenmeyer flask and add approximately 100 ml of DI water.
2. Adjust pH of the solution with dilute caustic soda to a pH of 10.0-11.0
3. Add 5 mls of 35% Hydrogen Peroxide
4. Boil the solution for approximately 20-30 minutes so all of the peroxide is dissipated.
5. Cool the solution to Room Temperature and add 25-50 mls of DI water.
6. Add 10 mls of 50 % HCl
7. Add 10 mls of 10% Potassium Iodide solution
8. Titrate the brown solution to a straw yellow color with 0.1N Sodium Thiosulfate solution.
9. Add 1-2 mls of freshly prepared 1% starch solution and continue titrating with the Thiosulfate until the blue-black color disappears back to the inherent pale blue-green

##### Calculation:

ml 0.1 N Sodium Thiosulfate Solution X 0.610 = % by/vol **Martron BLK3ZN-1**

##### Martron BLK3ZN-2:

1. Pipette a 1 ml of the operating solution into a 1 L measuring flask, add a few ml of conc. Nitric acid and make the total volume to 1 L by adding DI water.
2. Analyze the concentration of Cobalt by AA analysis method.

##### Calculation:

The number from AA analysis : ( mg/liter divided by 1000) X 8.33 = % by/vol **Martron BLK3ZN-2**.

#### Section 6: Safety Information

Additives may cause skin irritation. Use chemical goggles and rubber gloves when handling. Always read the Safety Data Sheet (SDS) for any chemical product to ensure familiarity with the methods of safe handling and the health hazards associated with the product.

#### Section 7: Storage

**Martron BLK3ZN** proprietary additives can freeze if exposed to below freezing temperatures for prolonged periods of time. Store at temperatures above freezing. If freezing should occur, the container should be warmed and mixed thoroughly before using. Samples should be sent to **Martron Inc.** for analysis.

#### Section 8: Waste Disposal

Wastes must be tested using methods described in 40 CFR Part 261. It is the generator's responsibility to determine if the waste meets applicable definitions of hazardous wastes.

Dispose of waste material according to Local, State, Federal, and Provincial Environmental Regulations. When empty, containers may still be hazardous because of product residue. All labeled hazard precautions must be observed.

Consult Safety Data Sheet (SDS) for additional safety and waste treatment information.

**Section 9: Non-Warranty**

The data contained in this bulletin is believed by **Martron Inc.** to be true, accurate and complete. However, since final methods of use for this product are in the hands of the customer and beyond our control, we cannot guarantee that the customer will obtain the results described in this bulletin. **Martron Inc.** cannot assume any responsibility for the use of this product by the customer in any process that may infringe the patents of third parties.