

# DATA SHEET

## DEVECO 404-SL

Deveco 404-SL is a liquid dichromate used to make an inexpensive chromate dip for producing iridescent and golden chromate coatings on zinc plate, zinc-nickel plate, zinc die-castings and cadmium plate. The chromate conversion coating produced has excellent corrosion resistance and serves as a very good base for paint.

### **MAKE-UP AND CONTROL: Zinc, Zinc-Nickel and Cadmium plate:**

- ★ 1 - 1.5 % by volume Deveco 404-SL.
- ★ For Zinc and Cadmium, the solution is operated at 65 - 90°F.
- ★ For Zinc-Nickel, the solution is operated at 90 – 110 °F.
- ★ Immersion time varies from 15 - 60 seconds.
- ★ pH 1.5 to 2.0

### **Zinc die cast:**

- ★ 1 ½ - 2 % by volume Deveco 404-SL.
- ★ The solution is operated at a temperature of 65 – 90°F.
- ★ Immersion time varies from 15 – 60 seconds.
- ★ pH 1.5 to 2.0

To achieve the maximum salt spray performance and corrosion protection, parts finished with 404-SL should be dried at 120 – 150°F.

### **ANALYSIS PROCEDURE:**

pH     Analyze using pH meter.

- Recommended Range: (1.5 to 2.0)

% Deveco 404SL

- Recommended Range:           (1 to 2%)

- ★ Pipette 10 mls of sample into a 250 ml Erlenmeyer flask.
- ★ Add about 50 mls of DI water.
- ★ Add about 2 g of NH<sub>4</sub>FHF (Ammonium Bifluoride).
- ★ Add about 30 mls of 50% HCl (Hydrochloric Acid) and about 10 mls of 10% KI (Potassium Iodide). Solution will become dark.
- ★ Begin titrating with 0.1 N Na<sub>2</sub>S<sub>2</sub>O<sub>3</sub> (Sodium Thiosulfate) and continue until solution begins to lighten.
- ★ Add about 5 mls of starch indicator solution. Solution will again darken.
- ★ Resume titrating until solution becomes clear (all iodine color is gone).
- ★ Calculate % Deveco 404SL concentration:

$$\% \text{ Deveco 404SL} = 0.15 \times (\text{mls } 0.1N \text{ Na}_2\text{S}_2\text{O}_3)$$

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**Zinc**

Analyze by Atomic Absorption Spectrometer

- Recommended Range: (Maintain below 20,000 PPM by decanting or dumping)
- Above 30,000 PPM, zinc will inhibit the chromating reaction and reduce the corrosion protection of the chromate film.

**CAUTION:**

This product contains chromates and is acid in nature. Contact of salts or solution with skin or eyes should be avoided. In case of contact, flush contaminated area with a large amount of water. When handling this product, protective clothing, i.e. rubber apron, gloves, boots, and goggles should be worn.

**EQUIPMENT:**

Deveco 404-SL solutions require polyethylene, stainless steel, or koroseal lined tanks.

**Read Material Safety Sheet before using this product.**

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