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NiCOL™ D-IRON 1

ADDITIVE FOR BRIGHT NICKEL PLATING BATHS TECHNICAL DATA

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NiCOL D-IRON 1 ADDITIVE FOR BRIGHT NICKEL PLATING BATHS

NiCOL D-IRON 1	is an additive to correct deposit defects from iron contamination.
NiCOL D-IRON 1	helps to eliminate shelf roughness, graying deposits, plugged anode bags, and frequent filter changes.
NiCOL D-IRON 1	renders the iron soluble allowing it to plate out.
NiCOL D-IRON 1	does not reduce the effectiveness of high pH treatments.

Solution Composition

	<u>Optimum</u>	<u>Range</u>
NiCOL D-IRON 1	0.1%/vol	0.05 - 3.0%/vol (0.5 - 3.0 ml/Liter)*

*-Excessive additions can reduce leveling

NiCOL D-IRON 1- Under ideal conditions little or none is required, however NiCOL D-IRON 1 helps to insure a defect free deposit when iron contamination. Filter solution prior to use to maximize effectiveness of the additive. Add 0.1%/vol (1 ml/Liter) initially then wait 72 hours to see if signs of iron contamination are reduced. Then add another 0.1%/vol (1 ml/Liter) of product and again repeat to see if signs of iron contamination are reduced.

HANDLING & STORAGE

NiCOL additives can produce temporary irritation when they come into contact with the skin. Therefore, care should be taken to prevent accidental eye and skin contact. Rubber gloves, a rubber apron, and protective goggles should be worn when handling NiCOL additives. In case of contact, immediately flush with copious amounts of water and scrub well with soap and water. NiCOL additives are stable on standing and have a shelf life in excess of two years.

FREEZABILITY: As with most chemical products, it is preferable that freezing be avoided. However, if freezing should occur during transportation or storage, directions for handling the products covered in this technical data sheet are as follows:

If NiCOL D-IRON 1 freezes, simply allow the container to completely thaw and bring to room temperature of 70° - 75°F/ 21° - 24°C. Thoroughly mix to bring back to original condition.

NON-WARRANTY

The data in this bulletin is believed by Columbia Chemical Corp. to be accurate, true and complete. Since, however final methods of use of this product are in the hands of the end-user and beyond our control, we cannot guarantee that the end-user will obtain the results described in this bulletin, nor can we assume any responsibility of the use of this product by the end-user in any process which may infringe the patents of third parties.