



SANODAL® GOLD 4N POWDER

Sanodal Gold 4N Powder is not a true organic dye but an iron compound that forms a colored complex with the aluminum oxide coating. It produces an attractive brass/gold color that has exceptional permanence and has been used for architectural applications throughout the world.

PROPERTIES:

Chemical description:	Ferri-oxalate compound
Light fastness:	8+
Weather fastness:	Outstanding
Heat fastness:	Excellent up to 600° F.

RECOMMENDED APPLICATION DETAILS:

Concentration:	10 - 25 g/l
pH range:	4.8 - 5.2
Buffering:	Self buffered
Temperature:	90° - 130° F.
Immersion time:	2 - 20 minutes

For architectural quality finishes, please refer to the processing requirements as described in the Reliant bulletin, the *Sanodal System*.

PREFERRED SEALING METHODS:

Hot:	Anodal ASL or Anodal AS
Medium:	Anodal MS-1 New , Anodal MTS Plus, or nickel-free Anodal ES-1
Cold:	Anodal CS-2, Anodal CS-2N or Anodal CS3

PRECAUTIONS:

Adjustments to pH should be made with Sulfuric acid. Excessive additions of acetic or oxalic acid will complex the iron and retard the coloring reaction. Solutions are sensitive to strong light therefore tanks should be covered when not in use. The most uniform results are obtained if the pH of the rinse preceding dyeing is approximately the same as that of the dye tank. When storing the dye, reduce the pH to 3.0 - 3.5 with sulfuric acid then restore it to the operating value just before use.

ENVIRONMENTAL CONSIDERATIONS:

The iron may be precipitated from the solution as ferric hydroxide by raising the pH after which it is removed by precipitation and filtration.

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CONTROL METHOD:

1. Filter about 40 ml of the bath
2. Pipette 20 ml of the filtrate into a 250 ml beaker
3. Add about 100 ml D/I water
4. Add about 10 ml 20% sulfuric acid
5. Heat solution to 50 - 60 C (122 - 140 F)
6. Titrate with 0.2N potassium permanganate to a pale pink color.
7. Add about 20 ml of buffer¹ solution and 1 ml indicator²
8. Titrate with 0.1M EDTA until the red color disappears. Record titer "A"

Calculate: **Sanodal Gold 4N (g/l) = A x 3.3**

¹ Buffer solution (2M sodium acetate + 100 g/l chloroacetic acid)

² Sulfosalicylic acid indicator (200g / liter).

Recommendations, notices or instructions as to handling, use, storage or disposal of this product, including its use alone or in combination with other products, or as to any apparatus or process for its use are based upon information believed to be reliable. No liability is taken with respect to any such recommendations or instructions. Sole and exclusive warranty is that products comply with published chemical and physical specifications as provided on the certificate of analysis. No other warranties, either express or implied are given.