ANODAL® COLOR S-2 LIQUID

Anodal Color S-2 Liquid is an aqueous concentrate of stabilizer/enhancer for improving the stability and throwing power of tin sulfate based electrolytic coloring baths. The addition of *Anodal Color S-2* to the coloring solution insures good electrolyte stability, color reproducibility as well as increased throwing power and color uniformity. This product can be found in the fully blended products: *Anodal Color TS-2 and Anodal Color TSN*.

PROPERTIES:

Appearance:	Straw colored liquid
Specific gravity:	9.1 lb/gallon

APPLICATION CONDITIONS:

When converting an existing tin based electrolytic coloring bath an effective addition is 5 g/l *Anodal Color S-2*. For existing baths of *Anodal Color TS-2 or TSN*, a boost in the performance is generally achieved with an addition of 2 g/l *Anodal Color S-2 Liquid*.

Stannous sulfate levels are best maintained at 15-20 g/l, and acid concentration from 15 - 25 g/l (titrations are provided below). Coloring time can range from 20 seconds to 15 minutes depending upon color chosen and the bath composition. The temperature of the bath should be held at 68-75 F, otherwise uniformity issues and off-color hues may be experienced. Stainless steel counter electrodes may need to be periodically cleaned to promote improved coloring uniformity. For more information on electrolytic coloring, contact Reliant Aluminum Products.

To prepare a new bath:

1. Fill tank to 3/4 full with de-ionized water.
2. Add 1% v/v 66 Be sulfuric acid.
3. Add 10 g/l Anodal Color S-2.
4. Add 15-20 g/l stannous sulfate.

CONTROL METHOD:

Anodal Color S-2 additions depend upon the stannous sulfate consumption rate. To achieve consistent results, regular monitoring and replenishment of the tin is necessary. One gallon of *Anodal Color S-2* should be added for every 25 lb of stannous sulfate.

Stannous Sulfate Concentration:

1. Pipette 25 ml of tin bath into a 500 ml flask
2. Add about 5 ml of concentrated HCl
3. Pipette 50 ml of the N/10 iodine solution
4. Add about 2 ml of soluble starch indicator.
5. Titrate with N/10 sodium thiosulfate solution to a permanent colorless end point.

Calculate: **Stannous sulfate (g/l) = (50-A) x 0.43**

RELIANT ALUMINUM PRODUCTS, LLC **RELIANTALUMINUMPRODUCTS.COM**
520 Townsend Ave. · High Point, NC 27263 | Post Office Box 2364 · High Point, NC 27261 | 866-574-0790

Addition Guide: If 1g/l stannous sulfate needs to be added to a 1000 gal tank, add 8.4 lb stannous sulfate and 1/3 gal Anodal Color S-2

ANODAL® COLOR S-2 LIQUID

CONTROL METHOD (CONT'D):

Sulfuric Acid Concentration:

1. Pipette a 50 ml bath sample into a 500 ml beaker
2. Add 200 ml of DI water
3. Titrate using 1N NaOH until a pH of 2.1 is reached.

Calculate: **Sulfuric acid (g/L) = ml NaOH x 0.98**

Addition Guide: If 1g/l sulfuric acid needs to be added to a 1000 gal tank, carefully add 0.6 gal of 66 Be acid.

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.

RELIANT ALUMINUM PRODUCTS, LLC **RELIANTALUMINUMPRODUCTS.COM**
520 Townsend Ave. · High Point, NC 27263 | Post Office Box 2364 · High Point, NC 27261 | 866-574-0790