



ALPHA CHEMICALS PTY LTD

Manufacturers and Importers of Industrial Chemicals

ABN 29 001 174 741

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TECHNICAL DATA SHEET

STABILISER AC 812

FOR

ELECTROLYTIC COLOUR PROCESS



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STABILISER AC 812

COMPOSITION AND APPLICATION

The stabiliser AC 812 is a modern, liquid additive for electrolytical colour processes based on tin (2) sulphate.

AC 812 produces excellent results due to the improvement of the throwing power and to the inhibition of the oxidation of Sn(2⁺).

AC 812 does not contain cresols or phenols.

When using AC 812, the electrolyte remains clear without Sn(4⁺)-deposits. This saves the normally necessary cleaning of the electrodes and regular bath renewals. A deposit of Sn(4⁺) on the products does not occur.

Because of the improvement of the colouring characteristics particularly throwing power and colour intensity, about 30 - 50% higher charges are possible.

PREPARATION AND OPERATION CONDITIONS

Preparation : 25 - 35 kg to 1000 L water

According to their quality, city or well water can be used for preparation. To avoid impurities, the preparation with demineralized water is recommended if water quality is in doubt.

Fill the bath container to 3/4 with water. Add the calculated quantities of:

Sulphuric acid
AC 812
tin-II-sulphate

in this sequence.

To accelerate the mixture, a little circulation may be used during dosing. After a short, thorough mixing, switch off the circulation.

Adjust the bath level to the necessary volume. The bath is now ready for operation.

Temperature : ambient temperature, recommended 18-20 °C

Dosage : in practise, the following procedure has proven reliable.
1 kg tin-II-sulphate and 1 – 1 1/2 L of AC 812



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CONTROL OF THE AC 812 BATH - ANALYSIS

Analysis for stannous sulphate and total acidity:

Equipment : pH meter (readability, at least 0.1)
Magnetic Stirrer
25ml and 50ml pipettes
250ml Erlenmeyer flasks
50ml Burettes
50ml Graduated cylinder

Chemicals: 0.1N (3.567 g/l) Potassium Iodate Soln.
1N Sodium Hydroxide Soln.
Hydrochloric Acid conc. A.R.
Starch soln. (2g/l)

Method:

a) Stannous Sulphate Determination

1. Pipette 20ml bath electrolyte into an Erlenmeyer flask.
2. Add 10ml conc. Hydrochloric Acid.
3. Add 100ml Distilled Water and a small amount of starch indicator
4. Titrate against 0.1N Potassium Iodate Soln. until colour changes to blue.
(Note: This titre will be used as X in the AC 812 determination under c) below
5. Multiply number of mls Potassium Iodate Soln. by a factor of 0.536 to obtain value in g/l Stannous Sulphate.

$$\text{Stannous Sulfate (g/L)} = 0.536 \times X$$



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b) Total Acidity Determination

1. Pipette 50ml bath electrolyte into an Erlenmeyer flask, dilute with 50ml water.
2. Place flask onto a magnetic stirrer and dip the measuring electrode of the pH meter into the solution.
3. Titrate against 1N Sodium Hydroxide solution until a pH value of 1.9 is reached. Titrate at a rapid uniform rate. Result = **Y**
4. Multiply number of mls Sodium Hydroxide solution by a factor of 0.98 to obtain value in g/l Total Acidity.

$$\text{Total Acid (g/L)} = 0.98 \times Y$$

c) Stabilizer AC 812:

Chemicals:

1. Acid Solution (see * at bottom of this page)
2. 0.1N Potassium Permanganate Solution
3. 0.1N Oxalic Acid Solution

Method:

1. In a 250 ml conical flask, mix approx 50 ml of water with 20 ml of Acid Solution* and heat to 70°C.
2. Pipette 50.0 ml of 0.1N Potassium Permanganate Solution into the acid mixture followed by 2.0 ml of colour bath sample. Maintain the temperature at 70°C for 20 mins while stirring.
3. Add 30.0 mls 0.1N Oxalic Acid Solution to obtain a clear solution (may take several seconds. If more Oxalic acid is required for a clear solution, deduct **the additional** amount used from 20 in the equation below.)
4. Titrate with 0.1N Potassium Permanganate until the pink colour persists.
5. Let this titre be **b**

$$\text{Stabiliser (g/l)} = \left(20 + b - \frac{X}{10} \right) \times 1.4$$

(X is the titration obtained from the Stannous Sulfate analysis)

* Acid solution made up as follows:

Distilled water	400 mls
Phosphoric acid 85%	42 mls
Sulphuric acid 98%	270 mls



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APPLICATION METHOD

Analyse regularly.

Avoid high bath temperatures.

After the colouring process, take the products out of the electrolyte and rinse quickly to avoid the acid solution from stripping the colour from the load.

WASTE WATER TREATMENT

Adjust the used colour bath by alkaline solution (NaOH or lime milk) to pH = 6 - 8 and press it off.

PACKING

in canisters of 25 kgs

in canisters of 200 kgs

in canisters of 1000 kgs

For all further specific questions, our experienced application engineers are at your disposal.

The above information is based on the experience gained in our laboratories and the practical applications by our customers. Because of the changing standards, the date given can only be a guideline and should therefore be regarded as non-obligatory.

Technical changes for a further development of the product are reserved.