

# Purification of tin solutions using Flocculant F M N Concentrate and Phosphoric Acid

In acid tin and tin lead plating solutions, the tin is normally found in the stannous ( $\text{Sn}^{2+}$ ) form. However, in operation it is impossible to prevent the oxidation of stannous into stannic ( $\text{Sn}^{4+}$ ) form. In Schlötter products, the oxidation process is retarded by the use of special additives but cannot be prevented completely. In sulphate based solutions e.g. CULMO, tin (IV) hydroxide is formed as a fine colloidal suspension. The suspension does not completely settle out and the solution remains turbid. Filtration of the solution causes problems as the filter media soon block and in practise it is not possible to completely filter out the suspension. Usually this turbidity does not have any negative effect on the operation of the bath but sometimes it is advisable to clarify these solutions. Addition of the Flocculant FMN Concentrate (product no. 109405) coagulates the precipitate to a state which settles fast and can be easily filtered.

The information in this data sheet is based on laboratory as well as practical experience. Figures quoted for operating limits and replenishment quantities are for guidance. Actual values necessary will depend on the components being plated (material and geometry), their application and plating plant conditions.

#### Important:

Please read these instructions carefully and follow recommendations given.

We reserve the right to make technical changes as necessary.

In the interests of safety, please pay attention to the R- and S- phrases on the drum label.

The shelf life of the additives is generally 18 months.

The date of production is taken from the first 3 figures of the batch number.

Figure 1 = year; figures 2-3 = month; figures 4-7 = batch number; (UK labels use a 4 digit year code).

For the storage of chemical products only the Hazardous Substances Regulation must be followed.

The Hazardous Goods Regulation (ADR/GGVS) are only valid for transportation and must not be applied to storage.