

# Bright Tin CULMO AT 1

Bright Tin CULMO AT 1 is a sulphuric acid based electrolyte for the deposition of bright pure tin layers. It can be operated with a brightening additive on aqueous- or on methanolic basis. If alkali soluble photoresists are used, the variant free form methanol may attack the photoresist.

The solderability of the coatings deposited from Bright Tin CULMO AT 1 is excellent and will remain even after heat ageing tests (e.g. 16 h/155 °C). In this case, it is important to operate the electrolyte at low temperatures. The normal turbidity of sulphuric acid based tin solutions caused by Sn(IV) is slowed down in CULMO AT 1. The electrolyte can be used for both rack- and barrel application.

The additives supplied by us for electrolyte make-up and operation don't contain any alkylphenol ethoxylates (nonylphenol ethoxylates).

The layers deposited from this electrolyte meet the requirements of the RoHS (Restriction of *(the use of certain)* Hazardous Substances) EU Directive 2011/65/EC relating to the limit of lead, mercury, cadmium, Cr(VI), polybrominated Biphenyls and polybrominated Diphenyl Ethers.

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 this instruction carefully prior to the use of the process and carefully follow all the parameters that have a direct influence on the operation. We reserve the right to make technical changes. In the interest of safety, please pay attention to the hazard warnings on the labels of the containers. The minimum shelf life of the products is included on the labels and is also available in the appropriate Quality Assurance (QA03).

The current IMDS number of the layer deposited from the process is available on the internet at [www.schloetter.com/downloads](http://www.schloetter.com/downloads).

For the storage of chemical products the TRGS 510 must be followed.

**If the additives used in this process contain a SVHC-substance, then this will be specified in the corresponding Material Safety Data Sheet, section 15.**

