Product Specification

Product:	Thinner/Diluent
Part Number:	ST1001

Application Scope :
This product is suitable for diluting electronic pastes including silver paste, silver-palladium paste, resistor paste, gold paste, palladium paste, and solder paste. It can also be used to dilute other oil-based inks and materials in the electroforming industry.

Product Introduction :
Electronic Paste Thinner is a component of the paste itself. By adding a specific amount of thinner, the viscosity of the paste can be adjusted. It is characterized by its water-clear appearance, subtle pleasant odor, and low viscosity. It exhibits excellent wetting properties with the paste, as it is a component of the paste system itself.

Usage Conditions :

I. Is Thinner Always Necessary?

1. Generally, pastes are supplied with a viscosity that is suitable or slightly higher than optimal for the intended printing process. These can typically be used directly without adding thinner. However, some users may prefer a lower viscosity and will choose to add thinner accordingly.
2. During use, solvent evaporation from the paste can cause it to thicken and become drier. In this case, adding a small amount of thinner is necessary to reduce viscosity and improve printability.
3. Some processes, such as spray coating, are special cases. They require a significant amount of thinner to be added prior to use to ensure proper material flow, control surface smoothness, and regulate film thickness.

II. Will Adding Thinner Affect Paste Performance?

For silver paste, adding an appropriate proportion of thinner will not significantly impact its performance. The thinner will **volatilize completely during the sintering process, leaving zero residue**. It has no effect on the conversion efficiency of photovoltaic silver paste.

III. How To Add Thinner

1. **The method of addition is critical.** Thinner should be added **gradually in small increments**. After each addition, stir thoroughly to ensure homogeneity before assessing if the viscosity is suitable. **Avoid adding too much at once**, as excessive thinner will make the paste too thin for application. While high viscosity can be adjusted downward, **low viscosity cannot be corrected upward**; paste that becomes too thin is essentially **unusable and must be scrapped**.

2. As a general rule, the **total mass of thinner added should not exceed 3% of the paste's mass**.

3. For **resistive pastes**, the amount added requires even greater caution. Excessive thinner will not only affect printability but, more importantly, **alter the sheet resistance** of the paste. This leads to poor consistency and deviation of the fired film's resistance value from the target.

4. For **die-attach conductive adhesives**, excessive thinner increases solvent emission during the drying/curing phase. This can **compromise the density of the cured layer**, resulting in reduced adhesion, poor bonding strength for chips and wires, and ultimately, device reliability issues.

Save Conditions And Validity Period :
The product shall be stored in a sealed container at an ambient temperature of 5-25°C, with a shelf life of 1 year from the date of shipment.

Packaging Method :
According to requirement.