

# DuPont™ 5874

## Silver/Silver Chloride Composition for Screen Printing

### Product Description

DuPont™ 5874 is solvent-based composition designed for screen-printing on polyester. The composition is suitable for use as a reference/counter electrode for electrochemical sensors, for iontophoretic anodes and cathodes, or for a wide variety of biomedical applications.

### Product Benefits

- Low electrode polarization
- High Stability reference potential
- High solids for printing thick electrodes
- Fast drying
- Equal electrode capacity for iontophoretic anode & cathode.

### Processing

#### Printing

DuPont™ 5874 should be mixed thoroughly with a plastic or stainless steel spatula before use. If severe settling is found after a long storage, mix and then jar-roll ink sample overnight before use. It is best to use a polyester screen when printing to minimize contact with reactive metals.

#### Drying

Allow drying times of 1-2 minutes for well ventilated ovens or conveyor dryers at 120°C. For box oven drying, allow 3-5 minutes at 120°C

#### Clean-up Solvent

Ethylene glycol diacetate or dipropylene glycol methyl ether work well.

#### Thinner

Only print-treated polyester film substrate should be used. DuPont™ 5874 can also be printed over silver (DuPont™ 5000 and DuPont™ 5025) or over carbon (DuPont™ 7102).

**Table 1 - Typical Physical Properties**

Test	Properties
Density (g/cc)	3.39
Cross Hatch Adhesion (B) [ASTM Norm D3359078]	5
Coverage (cm <sup>2</sup> /g)	53.1 @ 1 mil
Coat Weigh (mg/cm <sup>2</sup> ) [160-mesh screen]	11
Resistivity (mΩ/sq/mil)	70 - 90
Ag Depletion (Anode)	> 40 min
AgCl Depletion (Cathode)	> 40 min

**Table 2 - Composition Properties**

Test	Properties
Viscosity (Pa.S) [Brookfield 0.5 RVT, Utility cup & spindle SC4- 14/6R, 10 rpm, 25°C]	23 - 35
Solids (150°C) [%]	83.4 - 86.4
Thinner	DuPont™ 3610
Ag:AgCl ratio	65/35

Tables 1 and 2 show anticipated typical physical properties for DuPont™ 5874 based on specific controlled experiments in our labs and are not intended to represent the product specifications, details of which are available upon request.

### Equipment Consideration

Only print-treated polyester film substrate should be used. DuPont™ 5874 can also be printed over silver (DuPont™ 5000, DuPont™ 5025) or over carbon (DuPont™ 7102). Care should be taken to minimize contact of silver/silver chloride compositions with metals, especially reactive metals such as aluminum or brass, no contact should occur. Components made of these materials can be protected by taping or covering with an inert material.

## Storage and Shelf Life

Containers should be stored, tightly sealed, in a clean, stable environment at room temperature (<25°C). Shelf life of material in unopened containers is six months from date of shipment. Some settling of solids may occur and compositions should be thoroughly mixed prior to use.

## Safety and Handling

For Safety and Handling information pertaining to this product, read the Material Safety Data Sheet (MSDS).



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For more information on DuPont™ 5874 or other DuPont products, please visit our website.

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CAUTION: Do not use in medical applications involving permanent implantation in the human body. For other medical applications, see "DuPont Medical Caution Statement," H-50102-5 and "DuPont Policy Regarding Medical Applications" H-50103-5.

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