

## Solvent-Based Clevios™

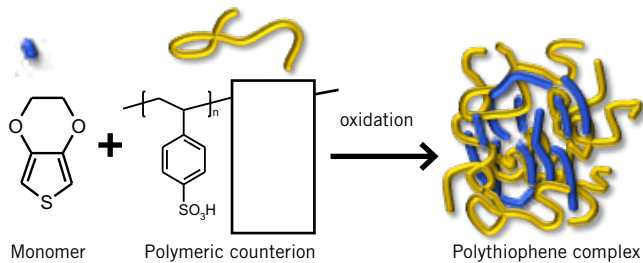


Polythiophene  
(RD Clevios™ P SB 12)  
dispersed in anisole/butanol

### Waterless Conductive Polymer for Solvent-Based Polymer Systems

New polythiophene-based systems from Heraeus Epurio:

- Waterless, non-aqueous, intrinsically conductive, transparent polymers
- Antistatic / dissipative effect (< 10 E9 Ohm/sq) at low dosage (< 3%)
- Compatible with many polymer systems such as polyacrylates

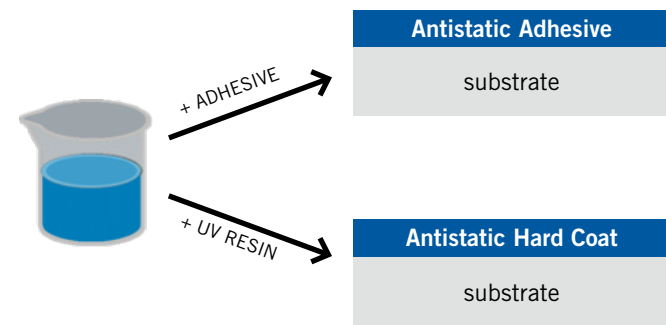


Solvent compatibility	RD Clevios™ P SB 6	RD Clevios™ P SB 12
Sheet resistance (Ohm/sq) of undiluted polythiophene	1 x 10 <sup>4</sup>	2 x 10 <sup>5</sup>
PGME	No	Yes
Butylbenzoate	Yes	Yes
Isopropanol	No	Yes
PGMEA	Yes	Yes
Ethanol	No	Yes
Toluene	Yes	Yes
Butylacetate	Yes	Yes
Ethylacetate	No	Yes

Solvent compatibility of water-free polythiophene dispersions

### Solvent-Based Clevios™ Formulations

Antistatic properties of solvent-borne hard coat and adhesive formulation



< 10<sup>9</sup> Ohm/sq

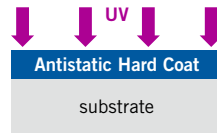
- Electronic conductivity
- High optical transmission

New solvent-based Clevios™ can add antistatic functions to adhesive and hard-coating formulations

## Application Scope of Solvent-Based RD Clevios™

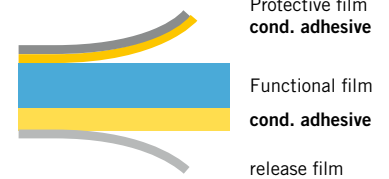
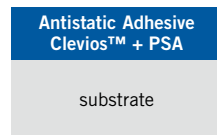
### Antistatic UV-Curable Hard Coatings

Solvent-based RD Clevios™ P SB for display protective films, e.g. for smartphones, automotive display, etc.



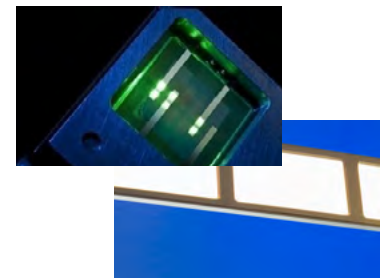
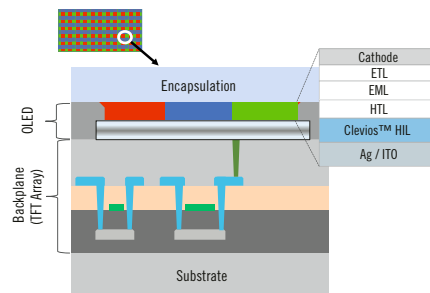
### Transparent Conductive Adhesives (PSA)

High conductivity makes solvent-based RD Clevios™ P SB the ideal material to combine with PSA as fluorine-free alternative to ionic liquids



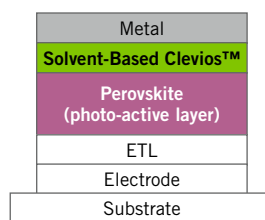
### Printed OLEDs

RD Clevios™ HIL Jet 8 is a solvent-based PEDOT dispersion optimized as OLED hole-injection layer (HIL) material for inkjet



### Perovskite Solar Cells

Solvent-based Clevios™ HTL Solar 3 and 4 are optimized as hole-transport layers and can be directly coated on perovskite layers



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### Heraeus Epurio GmbH

Heraeusstrasse 12-14  
63450 Hanau, Germany  
clevios@heraeus.com  
www.clevios.com | www.heraeus-epurio.com



# Clevios™