

# ActivInk™ N3000



## Materials Properties

<b>Chemical Structure:</b>	Confidential
<b>Physical Form:</b>	Red solid
<b>Purity:</b>	> 99.5%
<b>Melting Point:</b>	Confidential
<b>Solubility:</b>	Soluble in a variety of solvents (chlorinated & non-chlorinated)

Structure  
Confidential

**Can Publish Results:** No

## Electronic Properties

<b>Optical Absorption (<math>\lambda</math> max.):</b>	Confidential
<b>HOMO / LUMO (by CV.):</b>	Confidential
<b>Abs. Coefficient:</b>	Confidential
<b>Bandgap:</b>	Confidential

## Typical Device Data

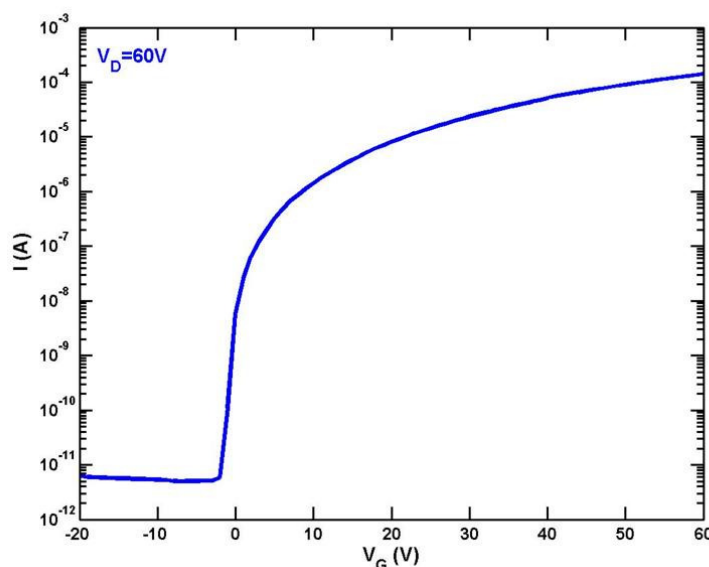
### Carrier Mobility:

Deposition Method	Mobility	Device Stack
Vapor	1.0 $\text{cm}^2/\text{Vs}$	TCBG Si / SiO <sub>2</sub> -OTS / Au / L=50 $\mu\text{m}$
Spin-Coat	2.0 – 2.5 $\text{cm}^2/\text{Vs}$	BCTG Glass(PET) / Au / dielec. / Au / L=50 $\mu\text{m}$
Inkjet	2.0 – 2.5 $\text{cm}^2/\text{Vs}$	BCTG Glass(PET) / Au / dielec. / Au / L=50 $\mu\text{m}$

<b>Turn-on Voltage:</b>	$\sim 0$ V
<b>On/Off Ratio:</b>	$1.0 \times 10^{5-7}$
<b>Device Shelf Life:</b>	Excellent
<b>Est. Operating Lifetime:</b>	Exceptional stress stability*
<b>Recommended Contact Type(s):</b>	Au, but will work with others.
<b>Recommended Dielectric(s):</b>	ActivInk™ D2400

## FET Transfer Characteristic

Inkjet



\* Pulse bias stress is measured by holding  $V_{sd} = 40$  V, and cycle  $V_{gs}$  from -40V to +40V at 1Hz. After 500,000 cycles, the devices exhibit less than a 2% shift in  $I_{on}$ , and less than a 2V shift in  $V_{on}$ .