



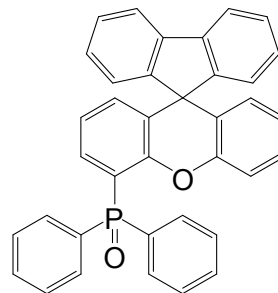
## A Significantly Twisted Spirocyclic Phosphine Oxide as a Universal Host for High-Efficiency Full-Color TADF Diodes

### Product Specifications

#### LT-N4123 SFXSPO Diphenylspiro[9H-fluorene-9,9'-[9H]xanthen]-4'-ylphosphine oxide

<b>CAS No.</b>	1508022-28-3
<b>Grade</b>	Sublimed, >99 % (HPLC)
<b>Formula</b>	C <sub>37</sub> H <sub>25</sub> O <sub>2</sub> P
<b>Molecular Weight</b>	532.57 g/mole
<b>UV absorption</b>	228, 279, 308 nm (in CH <sub>2</sub> Cl <sub>2</sub> )
<b>HOMO/LUMO</b>	-6.52 eV/-2.47 eV
<b>Tg</b>	180 °C

Reference : *Adv. Mater.* 2016, 28, 3122-3130



### Features

- SFXSPO successfully provided state-of-the-art performance to its full-color devices, e.g., the record  $\eta_{\text{ext}}$  of 22.5% and 19.1% and  $\eta_{\text{int}}$  almost of 100% for its yellow TADF diodes and single-host full-TADF complementary nearly white devices, respectively, manifesting SFXSPO as the best universal TADF host, the efficiency stability of its blue and nearly white TADF diodes, as well as spectral stability of its WOLEDs, can be further improved when more efficient and stable blue TADF dyes are available.

### Device Application

#### The Blue Device:

ITO/ MoO<sub>3</sub>(6 nm)/ NPB(70 nm)/ MCP(5 nm)/ SFXSPO:DMAC-DPS(20 nm, 10 %wt.)/ SFXSPO(5 nm)/ Bphen(30 nm)/ LiF(1 nm)/ Al

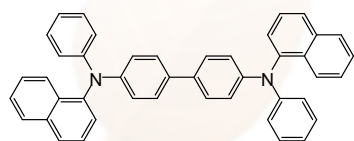
#### The Green, Yellowish Green, Yellow and Orange Devices:

ITO/ MoO<sub>3</sub>(6 nm)/ NPB(70 nm)/ MCP(5 nm)/ SFXSPO:4CzCNPY, 4CzTPN, 4CzPNPh or 4CzPNTPh(20 nm, 5 %wt.)/ SFXSPO(5 nm)/ TPBi (30 nm)/ LiF(1 nm)/ Al.

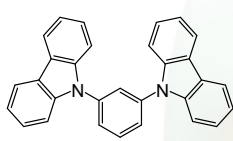
#### The Nearly-White Device:

ITO/ MoO<sub>3</sub>(6 nm)/ NPB(70 nm)/ MCP(5 nm)/ SFXSPO:4CzPNPh(20 nm, 5 %wt.)/ SFXSPO:DMAC-DPS(20 nm, 10 %wt.)/ SFXSPO(5 nm)/ Bphen(30 nm)/ LiF(1 nm)/ Al.

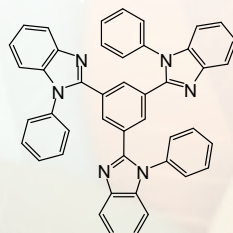
Related products from Lumtec :



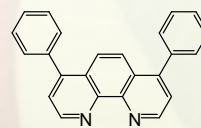
LT-E101 NPB



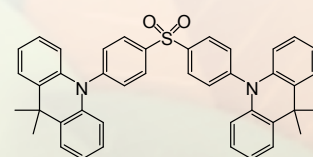
LT-E107 MCP



LT-E302 TPBi



LT-E305 BPhen



LT-N685 DMAC-DPS