



Technical Data Sheet

ACS Material LumioTech™ BTB

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1. Overview

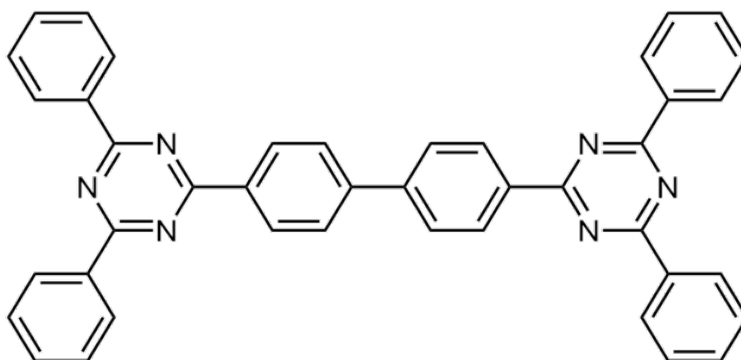
The rapidly growing field of organic light-emitting diodes (OLEDs) is driven by a diverse array of materials and compounds. Among these, BTB (C₃₄H₂₈N₆), formally named 4,4'-Bis(4,6-diphenyl-1,3,5-triazin-2-yl)biphenyl, has established itself as a foundational component in OLED technology.

BTB is mainly used as an electron-transport material in organic light-emitting devices (OLEDs), and as a phosphorescent host material for green and red light-emitting diodes

BTB as the electron transport layer (ETL) exhibit lower driving voltages and higher efficiencies - relative to those incorporating Alq₃

2. Specifications

Product Name	BTB
CAS no.	266349-83-1
Chemical Formula:	C ₃₄ H ₂₈ N ₆
Full name:	4,4'-Bis-[2-(4,6-diphenyl-1,3,5-triazinyl)]-1,10-biphenyl
Molecular weight (g/mol):	520.62 g/mol
Purity:	Sublimed: >99.0%
Physical state:	Solid
Color:	White
Absorption (nm):	n/a
Emission (nm):	n/a
HOMO/LUMO (eV):	HOMO = 6.2 / LUMO = 2.1
Melting Point (°C):	362



Chemical Structure of 4,4'-bis(4,6-diphenyl-1,3,5-triazin-2-yl)biphenyl

3. Features

- **Electron Transport Layer (ETL) Functionality:** With its dual triazine units, BTB is highly effective as an electron transport layer material (ETL), contributing to efficient OLED operation and longer device lifetimes.
- **Hole Blocking Layer (HBL) Application:** BTB also functions as a hole blocking layer, ensuring a balanced flow of electrons and holes within OLED devices, which is essential for their stable performance.
- **Role in TADF Technology:** As a critical component in Thermally Activated Delayed Fluorescence (TADF) OLEDs, BTB enhances both efficiency and longevity in these advanced devices.
- **Host Material Utility:** Beyond its other applications, BTB serves as a host material in various OLED setups, improving overall device performance. It is particularly effective as a phosphorescent host for red and green LEDs.

4. Application

Function in OLEDs

- Phosphorescent host material
- Electron transport layer (ETL)
- Hole Blocking Layer (HBL)

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