

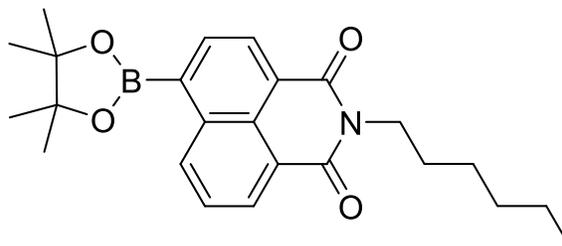
## C6NIB (H<sub>2</sub>O<sub>2</sub> detector)

Catalog number: D-0020

Molecular Formula: C<sub>24</sub>H<sub>30</sub>BNO<sub>4</sub>

MW: 407.31

CAS: 1493790-75-2



Alternate Name: 2-hexyl-6-(4,4,5,5-tetramethyl-1,3,2-dioxaborolan-2-yl)-1H-benzo[de]isoquinoline-1,3(2H)-dione

Solubility: CHCl<sub>3</sub>, CH<sub>2</sub>Cl<sub>2</sub>, DMF, DMSO (>1 mg/mL)

Storage and Handling: Store dry at room temperature. Stock solutions should be stored frozen (-20 °C or below).

**Background:** C6NIB is a fluorescence turn-on sensor that is suited for trace vapor detection of hydrogen peroxide (H<sub>2</sub>O<sub>2</sub>). The sensor mechanism is based on H<sub>2</sub>O<sub>2</sub>-mediated oxidation of the boronate fluorophore C6NIB, which is nonfluorescent in the ICT band but is strongly fluorescent upon conversion to the phenol (C6NIO). The fluorescence turn-on reaction is extremely sensitive towards H<sub>2</sub>O<sub>2</sub> with no sensor response to other common reagents. The negligible fluorescence background of C6NIB, combined with the high fluorescent emission of C6NIO makes it an ideal candidate for efficient sensing. Dispersing C6NIB with TBAH into a silica gel matrix produces a highly efficient sensor for vapor detection of H<sub>2</sub>O<sub>2</sub> in terms of detection limit (2.9 ppb) and response time (1 sec. under 1 ppm H<sub>2</sub>O<sub>2</sub>).

**References:** M. Xu, J-M. Han, *et al.* "A selective fluorescence turn-on sensor for trace vapor detection of hydrogen peroxide" *Chem. Commun.*, 2013, 49, 11779-11781.

**Hazardous Properties and Cautions:** The toxicological and pharmacological properties of this compound are not fully known. For further information see the MSDS on request. This product is manufactured and shipped only in small quantities, intended for research and development in a laboratory utilizing prudent procedures for handling chemicals of unknown toxicity, under the supervision of persons technically qualified to evaluate potential risks and authorized to enforce appropriate health and safety measures. As with all research chemicals, precautions should be taken to avoid unnecessary exposures or risks.

**Warranty and Disclaimer:** Echelon warrants the product conforms to the specifications stated herein. In the event of nonconformity, Echelon will replace products or refund purchase price, at its sole option, and Echelon shall not be responsible for any other loss or damage, whether known or foreseeable to Echelon. No other warranties apply, express or implied, including but not limited to warranty of fitness for any purpose or implied warranty of merchantability. Purchaser is solely responsible for all consequences of its use of the product and Echelon assumes no responsibility therefore, including success of purchaser's research and development, or health or safety of any uses of the product.

