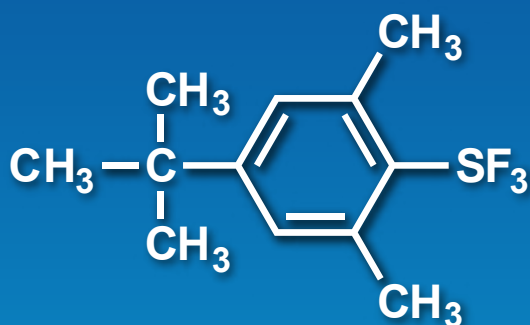


# Stable Fluorinating Reagent with Ease of Handling (FLUOLEAD™)



FLUOLEAD™

1g / 5g

[B3664]

## Advantages

- Thermally Stable
- Easy to Handle
- Widely Applicable to Various Substrates

4-*tert*-Butyl-2,6-dimethylphenylsulfur Trifluoride (FLUOLEAD™) (B3664), which was first reported by Umemoto, is a novel nucleophilic fluorinating reagent. Differing from other existing fluorinating reagents, such as DAST, B3664 is a crystalline solid with high thermal stability, which makes it easier to handle. B3664 fluorinates a variety of substrates to afford the corresponding fluorinated compounds in good yields.

Reference 1) T. Umemoto, R. P. Singh, Y. Xu, N. Saito, *J. Am. Chem. Soc.* **2010**, 132, 18199.

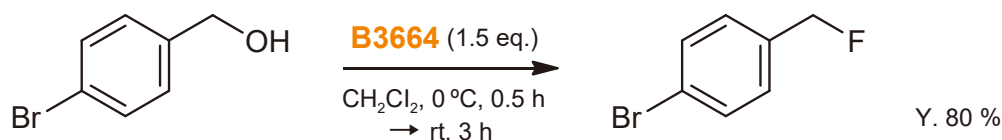
## Application

### Nucleophilic Fluorinating Reagent

- R-OH  $\longrightarrow$  R-F
- R-CHO  $\longrightarrow$  R-CF<sub>2</sub>H
- R-COOH  $\longrightarrow$  R-CF<sub>3</sub>
- R<sup>1</sup>-C(=S)-R<sup>2</sup>  $\longrightarrow$  R<sup>1</sup>-CF<sub>2</sub>-R<sup>2</sup>

## Example 1

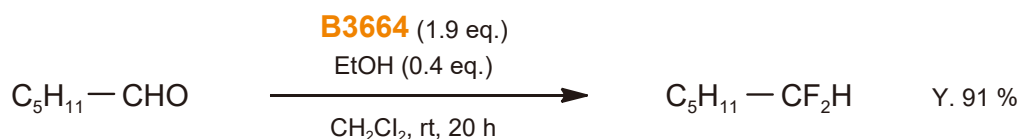
### Fluorination of Alcohols<sup>1)</sup>



# Stable Fluorinating Reagent with Ease of Handling (FLUOLEAD™)

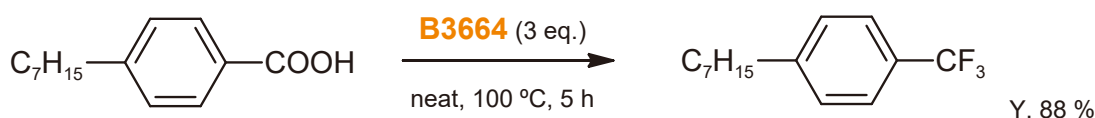
## Example 2

### Fluorination of Aldehydes<sup>1)</sup>



## Example 3

### Direct Conversion of Carboxyl Group to Trifluoromethyl Group<sup>1)</sup>



## Application Example

### Fluorination of *p*-Bromobenzyl Alcohol<sup>1)</sup>

Into a solution of 7.51 g (30 mmol) of **B3664** in dry dichloromethane (20 mL) cooled on an ice bath, is slowly added a solution of 3.74 g (20 mmol) of *p*-bromobenzyl alcohol in 15 mL of dry dichloromethane. After 0.5 hour, the ice bath is removed and the reaction mixture is stirred at room temperature for 3 hours. The reaction mixture is poured into cooled 100 mL of 5% NaOH aqueous solution and the mixture is stirred for 1 hour at room temperature (note: the byproduct, ArS(O)F can be removed by this alkaline treatment). The product is extracted with dichloromethane and washed with water. The removal of the solvent gives the crude product, which is further purified by chromatography to give 3.0 g of pure *p*-bromobenzyl fluoride (yield: 80%).

For further information please refer to our website at [www.TCIchemicals.com](http://www.TCIchemicals.com).

fluorination



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