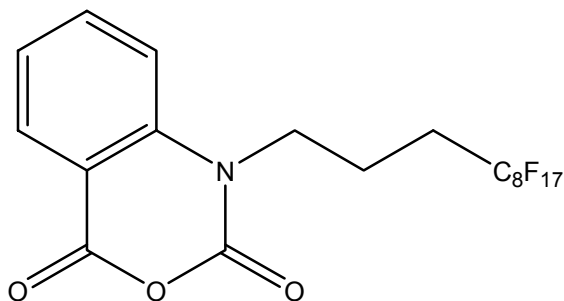


**F017028**


1-[3-Perfluorooctyl)propyl]-(1H-benzo[d][1,3]oxazine-2,4-dione

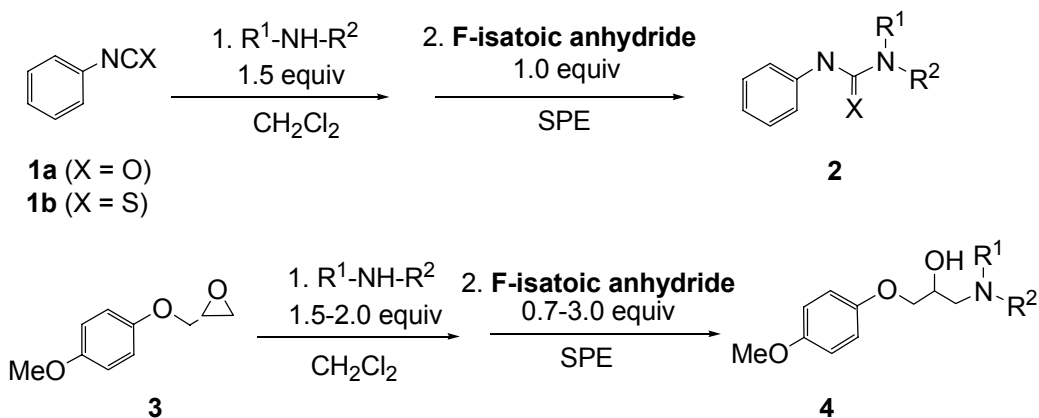
Chemical Formula:	C <sub>19</sub> H <sub>10</sub> F <sub>17</sub> NO <sub>3</sub>
Formula Weight:	623.27
Description:	Scavenger for nucleophiles
Appearance:	Off white solid
Soluble in:	Methanol, THF, dichloromethane, ethyl acetate, acetone
Stability:	Store in brown bottle at ambient temperature

**DESCRIPTION AND USES:**

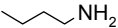
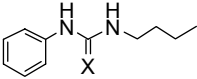
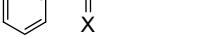
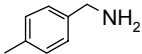
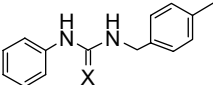
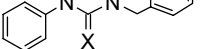
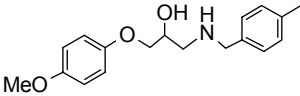
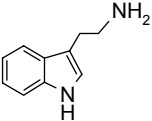
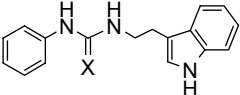
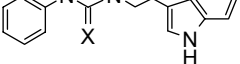
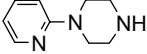
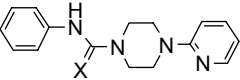
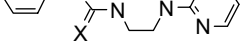
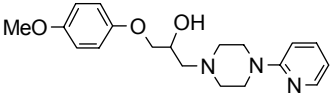
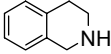
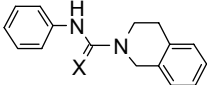
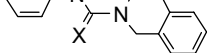
- Fluorous isatoic anhydride is a solution phase nucleophile scavenger.
- Used in solution-phase parallel synthesis of urea, thiourea and β-hydroxyamine analogs.<sup>1</sup> The resulting fluoros-quenched derivatives are readily separated from the desired product by fluoros solid-phase extractions (F-SPE) over FluoroFlash<sup>®</sup> cartridges (see application note for FluoroFlash<sup>®</sup> SPE) to give products with good purity.<sup>2,3,4</sup>

**TYPICAL PROCEDURE:**

Typical procedure for the reaction of **1a** with amines: To a solution of phenyl isocyanate **1a** (1.0 equiv, 0.2 mmol) in CH<sub>2</sub>Cl<sub>2</sub> (0.5-1.0 mL) was added an excess amount of amine (1.5 equiv, 0.3 mmol). The resulting solution was stirred at 60 °C for 6-12 h in a capped vial. Upon completion of the reaction, fluoros isatoic anhydride was added (1.0 equiv, 0.2 mmol) and the reaction mixture was stirred for 2.5 h at 60 °C. The reaction mixture was concentrated to 0.2-0.5 mL and loaded under vacuum onto a 5g FluoroFlash<sup>®</sup> SPE cartridge pre-conditioned with 80:20 MeOH-H<sub>2</sub>O on an SPE manifold. The cartridge was eluted with 10 mL of 80:20 MeOH-H<sub>2</sub>O. The MeOH-H<sub>2</sub>O fraction containing the desired product was evaporated in a Speedvac to give the corresponding urea **2** in quantitative yield. The F-SPE cartridge can be reconditioned by first washing with 100% MeOH followed by THF or acetone to remove the fluoros compounds from the cartridge and then re-equilibrated with 80:20 MeOH-H<sub>2</sub>O for the next round of SPE. The cartridge can typically be reused up to 10 times, depending on the nature of the substrate applied.



**Representative reaction results using fluorous isatoic anhydride as a scavenger for excess amines**

substrate	amine	product	X	yield	purity <sup>a</sup>
<b>1a</b>			O	100%	>95%
<b>1b</b>			S	75%	95%
<b>1a</b>			O	100%	>95%
<b>1b</b>			S	72%	>95%
<b>3</b>				67%	95%
<b>1a</b>			O	100%	>95%
<b>1b</b>			S	95%	>95%
<b>1a</b>			O	100%	>95%
<b>1b</b>			S	100%	95%
<b>3</b>				62%	>95%
<b>1a</b>			O	100%	>95%
<b>1b</b>			S	100%	95%

<sup>a</sup> purity was assessed by <sup>1</sup>H NMR.

**REFERENCES:**

- Zhang, W.; Chen, C. H.-T.; Nagashima, T. *Tetrahedron Lett.*, **2003**, 44, 2065.
- For related scavenger work, see: (a) Lindsley, C. W.; Zhao, Z.; Leister, W. H. *Tetrahedron Lett.* **2002**, 43, 4225; (b) Lindsley, C. W.; Zhao, Z.; Leister, W. H.; Strauss, K. A. *Tetrahedron Lett.* **2002**, 43, 6319 (c) Zhang, W.; Curran, D. P.; Chen, C. H.-T. *Tetrahedron*, **20023**, 58, 3871.
- Curran, D. P. *Synlett*, **2001**, 1488.
- Please refer to FTI Application Note "Fluorous Solid Phase Extraction"

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