

## 25I-NBOMe, 25C-NBOMe, and 25B-NBOMe (Street names: N-bomb, Smiles, 25I, 25C, 25B)

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DEA/OD/ODE

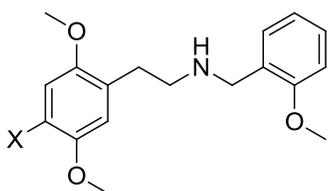
### Introduction:

25I-NBOMe, 25C-NBOMe, and 25B-NBOMe are three synthetic substances recently encountered on the designer drug market. These substances are sold online and through illicit channels, commonly purported to be illicit hallucinogens such as LSD. 25I-NBOMe, 25C-NBOMe, and 25B-NBOMe target the same 5-HT<sub>2A</sub> (serotonin) receptor as many other hallucinogens, including Schedule I hallucinogens like LSD, 2C-I, 2C-C, and 2C-B.

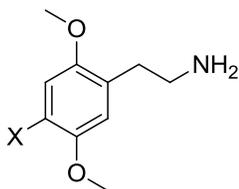
These substances have been encountered as powders, liquid solutions, laced on edible items, and soaked onto blotter papers.

### Chemistry:

The chemical structures for 25I-NBOMe<sup>1</sup>, 25C-NBOMe<sup>2</sup>, and 25B-NBOMe<sup>3</sup> and the Schedule I substances 2C-I, 2C-C, and 2C-B are shown below. The two set of substances differ by the addition of a 2-methoxybenzyl group on the nitrogen (NBOMe).



X=I; 25I-NBOMe  
X=Cl; 25C-NBOMe  
X=Br; 25B-NBOMe



X=I; 2C-I  
X=Cl; 2C-C  
X=Br; 2C-B

These six compounds belong to a structural class of substances sharing a core phenethylamine structure. When the phenyl of the phenethylamine is substituted with methoxy (-OCH<sub>3</sub>) groups at the 2- and 5-positions, they are known as 2C compounds, denoting the presence of two carbon group between the phenyl and amine.

### Pharmacology:

25I-NBOMe, 25C-NBOMe, and 25B-NBOMe, like 2C-I, 2C-C, and 2C-B, selectively bind and show activity at the 5-HT<sub>2A</sub> (serotonin) receptor in the central nervous system. The addition of the NBOMe group has been shown to substantially enhance the potency of these compounds.

There are no published studies on the safety of 25I-NBOMe, 25C-NBOMe, and 25B-NBOMe for human use.

Available data suggests that extremely small amounts of these substances can cause seizures, cardiac and respiratory arrest, and death.

### Licit Uses:

25I-NBOMe, 25C-NBOMe, and 25B-NBOMe were previously investigated as research tools to probe the location of 5-HT<sub>2A</sub> receptors in the central nervous system of nonhuman mammals.

### Illicit Uses:

25I-NBOMe, 25C-NBOMe, and 25B-NBOMe are abused by a variety of delivery methods for their hallucinogenic properties. Some suppliers may purport or mistake these substances to be LSD or other Schedule I hallucinogens.

### User Population:

Information on user population in the U.S. is limited, and includes information from law enforcement encounters, emergency departments, medical examiners, and drug user internet forums. Emergency departments continue to publish cases of severe toxicity due to these substances. Reports from medical examiners and toxicology labs link some combination of 25I-NBOMe, 25C-NBOMe, and 25B-NBOMe to the death of at least 19 individuals, aged 15 to 29 years, in the U.S. between March 2012 and August 2013.

### Illicit Distribution:

The System to Retrieve Information from Drug Evidence (STRIDE), a federal database for the seized drugs analyzed by DEA forensic laboratories, and the National Forensic Laboratory Information System (NFLIS), a system that collects drug analysis information from state and local forensic laboratories contain 849 reports for 25I-NBOMe, 171 reports for 25C-NBOMe, and 24 reports for 25B-NBOMe between June 2011 and June 2013. Bulk quantities of powdered material and blotter paper laced with some combination of 25I-NBOMe, 25C-NBOMe, and 25B-NBOMe have been encountered.

### Control Status:

25I-NBOMe, 25C-NBOMe, and 25B-NBOMe are Schedule I controlled substances under the Federal Controlled Substances Act.

Comments and additional information are welcomed by the Drug and Chemical Evaluation Section; Fax 202-353-1263, telephone 202-307-7183, or E-mail ODE@usdoj.gov.

<sup>1</sup> Name: 2-(4-iodo-2,5-dimethoxyphenyl)-N-(2-methoxybenzyl)ethanamine

<sup>2</sup> Name: 2-(4-chloro-2,5-dimethoxyphenyl)-N-(2-methoxybenzyl)ethanamine

<sup>3</sup> Name: 2-(4-bromo-2,5-dimethoxyphenyl)-N-(2-methoxybenzyl)ethanamine