1. GENERAL INFORMATION

**IUPAC Name:** N-(1-benzylpiperidin-4-yl)-N-phenylbenzamide

**CAS#:** NA

**Synonyms:** NA

**Source:** DEA Reference Material Collection

**Appearance:** off-white powder

**UV$_{max}$(nm):** NA

2. CHEMICAL AND PHYSICAL DATA

2.1 CHEMICAL DATA

<table>
<thead>
<tr>
<th>Form</th>
<th>Chemical Formula</th>
<th>Molecular Weight</th>
<th>Melting Point (°C)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Base</td>
<td>C$<em>{25}$H$</em>{26}$N$_2$O</td>
<td>370.49</td>
<td>NA</td>
</tr>
<tr>
<td>HCl</td>
<td>C$<em>{25}$H$</em>{26}$N$_2$O HCl</td>
<td>406.95</td>
<td>NA</td>
</tr>
</tbody>
</table>
3. QUALITATIVE DATA

3.1 NUCLEAR MAGNETIC RESONANCE

Sample Preparation: Dilute analyte to ~9mg/mL in CD$_3$OD containing TMS for 0 ppm reference and dimethylfumarate as quantitative internal standard.

Instrument: 400 MHz NMR spectrometer
Parameters:
- Spectral width: at least containing -3 ppm through 13 ppm
- Pulse angle: 90°
- Delay between pulses: 45 seconds

$^1$HNMR: Benzoylbenzyl fentanyl HCl; lot# N18-P66A; CD3OD; 400MHz
Benzoylbenzyl fentanyl

The Drug Enforcement Administration's Special Testing and Research Laboratory generated this monograph using structurally confirmed reference material.

3.2 GAS CHROMATOGRAPHY/MASS SPECTROMETRY

Sample Preparation: Dilute analyte ~4 mg/mL into methanol.

Instrument: Agilent gas chromatograph operated in split mode with MS detector

Column: HP-5; 30m x 0.25 mm x 0.25 m

Carrier Gas: Helium at 1.5 mL/min

Temperatures: Injector: 280°C
MSD transfer line: 280°C
MS Source: 230°C
MS Quad: 150°C

Oven program:
1) 100°C initial temperature for 1.0 min
2) Ramp to 280°C at 12 °C/min
3) Hold final temperature for 9.0 min

Injection Parameters: Split Ratio = 25:1, 1 μL injected

MS Parameters: Mass scan range: 30-550 amu
Threshold: 250
Tune file: stune.u
Acquisition mode: scan

Retention Time: 20.526 min

EI Mass Spectrum: Benzoylbenzyl fentanyl HCl; lot# N18-P66A

Latest Revision: 11/13/2017

SWGDRUG.org/monographs.htm
3.3 INFRARED SPECTROSCOPY (FTIR)

Instrument: FTIR (SensIR Dura-Scope ATR Accessory)
Scan Parameters:
- Number of scans: 32
- Number of background scans: 32
- Resolution: 4 cm⁻¹
- Sample gain: 8
- Aperture: 150

FTIR ATR (Diamond 1 Bounce): Benzoylbenzyl fentanyl HCl; lot# N18-P66A
Benzoylbenzyl fentanyl

The Drug Enforcement Administration's Special Testing and Research Laboratory generated this monograph using structurally confirmed reference material.

4. ADDITIONAL RESOURCES

no available literature as of 11/13/17