1. GENERAL INFORMATION

**IUPAC Name:**  \(N\)-phenyl-\(N\)-[1-(2-phenylethyl)piperidin-4-yl]furan-3-carboxamide

**CAS#:** NA

**Synonyms:** NA

**Source:** DEA Reference Material Collection

**Appearance:** White powder

**\(UV_{max}(nm)\):** Not determined

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_{24}H_{26}N_{2}O_{2})</td>
<td>374.48</td>
<td>Not Determined</td>
</tr>
<tr>
<td>HCl</td>
<td>(C_{24}H_{26}N_{2}O_{2}) HCl</td>
<td>410.94</td>
<td>Not Determined</td>
</tr>
</tbody>
</table>
3. QUALITATIVE DATA

3.1 NUCLEAR MAGNETIC RESONANCE

Sample Preparation: Dilute analyte to ~15 mg/mL in Methanol -d₄ 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

¹HNMR: 3-Furanyl fentanyl HCl; Lot # ALB-288-6; Methanol -d₄; 400MHz
3-Furanyl 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 in CHCl₃

Instrument: Agilent gas chromatograph operated in split mode with MS detector
Column: DB-5 MS (or equivalent); 15m x 0.25 mm x 0.25 μm
Carrier Gas: Helium at 1.5 mL/min
Temperatures:
- Injector: 280°C
- MSD transfer line: 280°C
- MS Source: 250°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: 150
- Tune file: stune.u
- Acquisition mode: scan
Retention Time: 16.65 min

EI Mass Spectrum: 3-Furanyl fentanyl HCl; Lot # ALB-288-6

Latest Revision: 9/13/2016   SWGDRUG.org/monographs.htm
3-Furanyl fentanyl

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3.3 INFRARED SPECTROSCOPY (FTIR)

Instrument: FTIR with diamond ATR attachment (1 bounce)

Scan Parameters:
- Number of scans: 32
- Number of background scans: 32
- Resolution: 4 cm⁻¹
- Sample gain: 4
- Aperture: 80

FTIR ATR (Diamond 1 Bounce): 3-Furanyl fentanyl HCl; Lot # ALB-288-6
3-Furanyl fentanyl

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4. ADDITIONAL RESOURCES

No additional resources as of 09/2016