

# Certificate of analysis



## Butyryl fentanyl (hydrochloride)

*N*-phenyl-*N*-[1-(2-phenylethyl)-4-piperidinyl]-butanamide, monohydrochloride

Item number ....:14728  
Batch number :0450679  
Purity Specification.....>98%

Molecular Formula: C<sub>23</sub>H<sub>30</sub>N<sub>2</sub>O • HCl  
CAS Number .....: 1443-52-3

Formula Weight: 387.00  
Expiry date .....: 8/9/2015

Tests	Specifications	Results
HPLC	Column .....: C18, 5 $\mu$ , 4.6 X 250 mm Mob. Phase.....: Methanol:10mM Ammonium Acetate (80:20) Flow Rate.....: 1.00 ml/min Detector UV .....: 210 nm	Retention Time Actual.: 6.80 min Purity .....: 99.3 %
IR	Conforms with standard	Conforms
Mass	Source Type .....: APCI M-HCl	Expected 351.6 Actual 351.6
Melting Point	212 - 222 °C	215 - 218 °C
TLC	Mob. Phase.....: Dichloromethane:Methanol (95:5) Stationary Phase: Silica Gel Visualized With ..: UV	Rf.....: 0.38 Purity % .....: 100.00

Analyzed by: Ashley Macey

Approved by: Libby Perry