Product Name: Fentanyl citrate  
Catalog No.: 3247  
Batch No.: 1

CAS Number: 990-73-8  
EC Number: 213-588-0

IUPAC Name: \[N\text{-Phenyl-N-[1-(2-phenylethyl)-4-piperidinyl]propanamide citrate}\]

1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula: \(\text{C}_{22}\text{H}_{28}\text{N}_{2}\text{O.C}_{6}\text{H}_{8}\text{O}_{7}\)

Batch Molecular Weight: 528.59

Physical Appearance: White crystalline solid

Solubility: water to 40 mM

Storage: Store at RT

Batch Molecular Structure:

![Chemical Structure Image]

2. ANALYTICAL DATA

HPLC: Shows >99.2% purity
**Product Name:** Fentanyl citrate  
**CAS Number:** 990-73-8  
**IUPAC Name:** \( N\)-Phenyl-\( N\)\-[1-(2-phenylethyl)-4-piperidinyl]propanamide citrate

**Description:**  
Potent and selective \( \mu\)-opioid receptor agonist (K values are 7.0, 151 and 470 nM for \( \mu\)-, \( \delta\)- and \( \kappa\)-opioid receptors respectively). Displays antinociceptive activity in vivo.

**Physical and Chemical Properties:**  
- **Batch Molecular Formula:** \( C_{22}H_{28}N_2O_2\cdot C_6H_8O_7 \)  
- **Batch Molecular Weight:** 528.59  
- **Physical Appearance:** White crystalline solid  
- **Minimum Purity:** >99%

**Batch Molecular Structure:**

![Fentanyl citrate molecular structure](image)

**Storage:** Store at RT

**Solubility & Usage Info:**
water to 40 mM

**Stability and Solubility Advice:**
Some solutions can be difficult to obtain and can be encouraged by rapid stirring, sonication or gentle warming (in a 45-60°C water bath).  
Information concerning product stability, particularly in solution, has rarely been reported and in most cases we can only offer a general guide. Our standard recommendations are:  
SOLIDS: Provided storage is as stated on the product label and the vial is kept tightly sealed, the product can be stored for up to 6 months from date of receipt.  
SOLUTIONS: We recommend that stock solutions, once prepared, are stored aliquoted in tightly sealed vials at -20°C or below and used within 1 month. Wherever possible solutions should be made up and used on the same day.

**Other Information:**

**INFORMATION FOR CUSTOMERS IN THE UK ONLY**
This product is a Schedule 2 Home Office controlled substance and customers in the UK are required to hold the relevant licence or be exempt from restrictions in order to purchase and possess this material.

**INFORMATION FOR CUSTOMERS IN THE USA ONLY**
This product is a Schedule I DEA controlled substance and customers in the USA are required to hold a controlled substance registration in order to purchase and possess this material (in accordance with Title 21 code of federal regulations part 1300 to end).

**INFORMATION FOR CUSTOMERS IN CANADA ONLY**
This product is a Schedule I CDSA controlled substance and customers in Canada require an import permit to purchase this material.

**References:**
- Stevenson *et al* (2003) Opioid interactions in rhesus monkeys: effects of \( \delta\) + \( \mu\) and \( \delta\) + \( \kappa\) agonists on schedule-controlled responding and thermal nociception. J.Pharmacol.Exp.Ther. 307 1054. PMID: 14557380.  