

## Draft Guidance on Pseudoephedrine Hydrochloride

This draft guidance, once finalized, will represent the Food and Drug Administration's (FDA's) current thinking on this topic. It does not create or confer any rights for or on any person and does not operate to bind FDA or the public. You can use an alternative approach if the approach satisfies the requirements of the applicable statutes and regulations. If you want to discuss an alternative approach, contact the Office of Generic Drugs.

**Active ingredient:** Pseudoephedrine Hydrochloride

**Form/Route:** Extended Release Tablet/Oral

**Recommended studies:** 2 studies

1. Type of Study: Fasting  
Design: Single-dose, two-way crossover *in-vivo*  
Strength: 240 mg  
Subjects: Healthy males and non-pregnant females, general population.  
Additional Comments:

2. Type of Study: Fed  
Design: Single-dose, two-way crossover *in-vivo*  
Strength: 240 mg  
Subjects: Healthy males and non-pregnant females, general population.  
Additional Comments:

**Analytes to measure (in appropriate biological fluid):** Pseudoephedrine in plasma

**Bioequivalence based on (90% CI):** Pseudoephedrine

**Waiver request of in-vivo testing:** Not Applicable

**Dissolution test method and sampling times:**

Please note that a **Dissolution Methods Database** is available to the public at the OGD website at <http://www.accessdata.fda.gov/scripts/cder/dissolution/index.cfm>. Please find the dissolution information for this product at this website. Please conduct comparative dissolution testing on 12 dosage units each of all strengths of the test and reference products. Specifications will be determined upon review of the application.

For modified release products, dissolution profiles on 12 dosage units each of test and reference products USP Apparatus I at 100 rpm and/or Apparatus II at 50 rpm in at least three dissolution media (pH 1.2, 4.5 and 6.8 buffer) should be submitted in the application. Agitation speeds may have to be increased if appropriate. It is acceptable to add a small amount of surfactant, if necessary. Please include early sampling times of 1, 2, and 4 hours and continue every 2 hours until at least 80% of the drug is released, to provide assurance against premature release of drug (dose dumping) from the formulation. Specifications will be determined upon review of the data submitted in the application.