



## 头孢呋辛酯

无定形，原料药（喷雾干燥法）

Cefuroxime axetil, amorphous , APIs (spray drying)

**执行标准：**CP2015/EP/USP/IP

**CAS：**64544-07-6

**Packaging:** 10kg/carton

### 产品特点

- 2000 年国内首家取得批文并投产  
The first manufacturer won the approval and went into production in 2000
- 3 年有效期，稳定性好  
Three-year validity period, good stability
- 第二代口服头孢菌素，安全、疗效好、见效快。  
The second-generation oral cephalosporins with safety and good efficacy

### 质量性能 Quality Performance

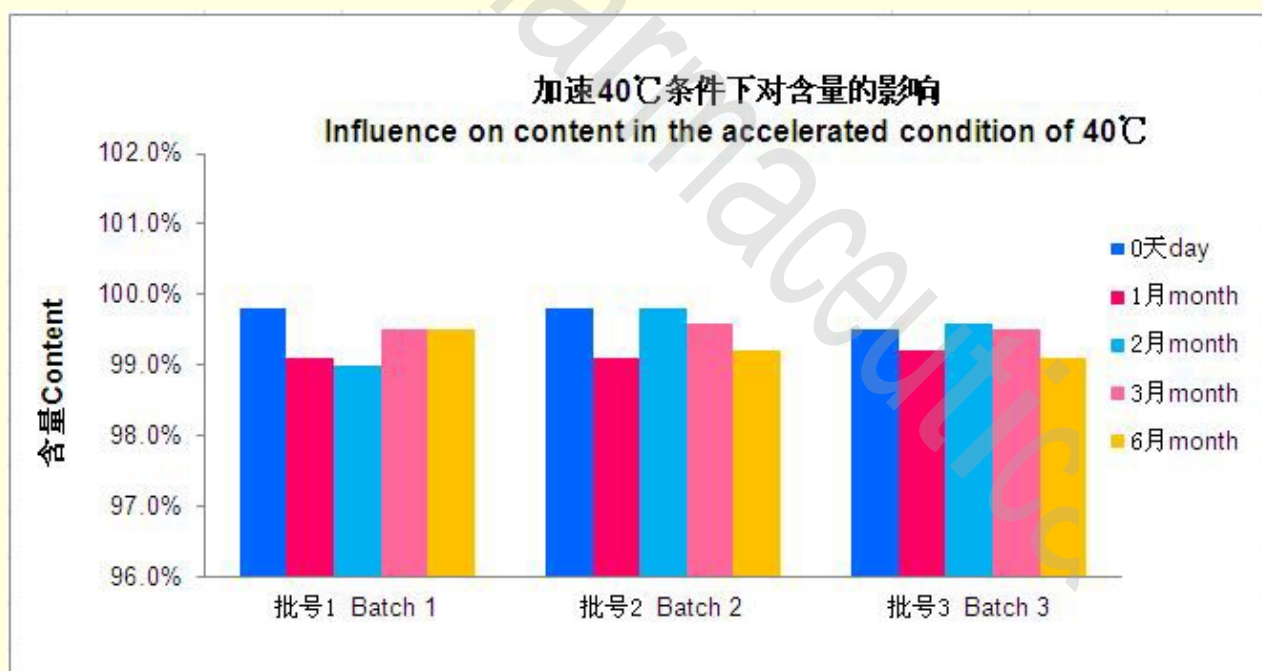
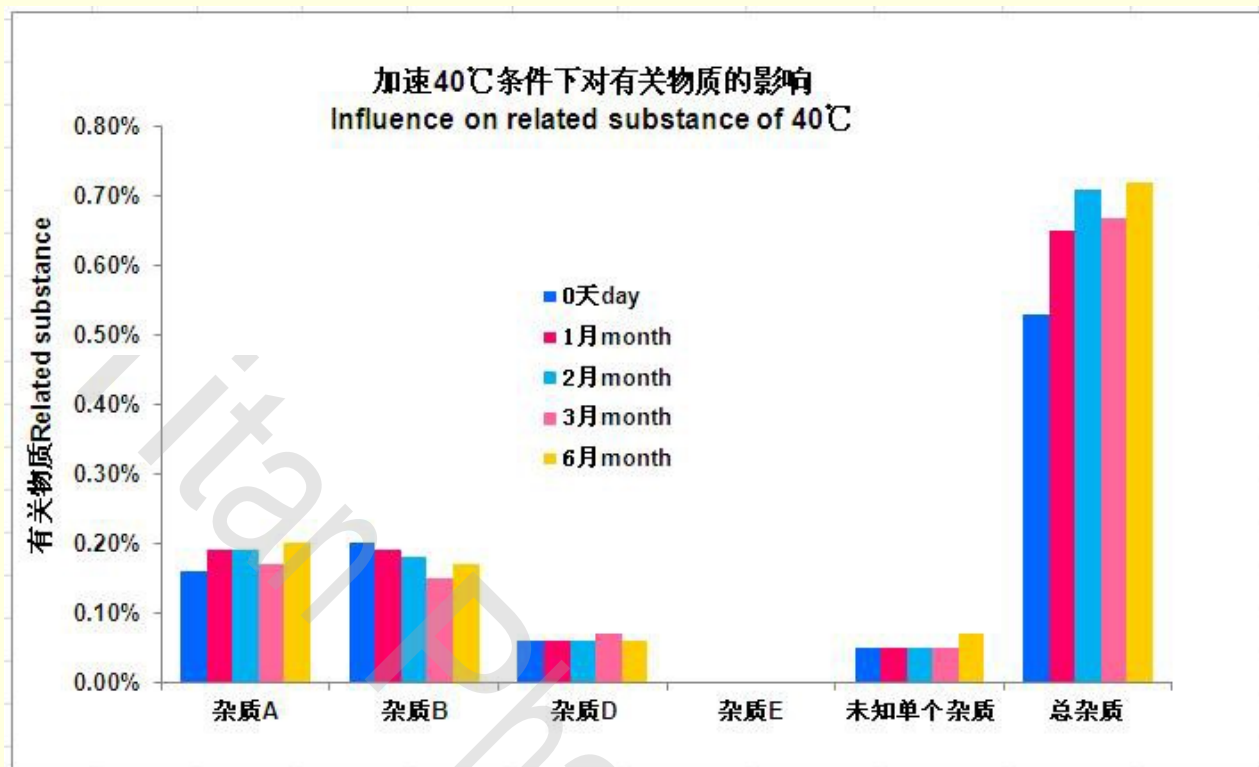
**加速试验条件：**温度  $40\pm 2^{\circ}\text{C}$ ，RH  $75\pm 5\%$ ，**检验标准：**EP8.0

**Condition of accelerated testing:**  $40\pm 2^{\circ}\text{C}$ , RH $75\pm 5\%$ .

**Quality Standard:** EP8.0 立国

制药 2011 年生产随机三批

Three batches of sample produced by Titan Pharmaceutical in 2011





长期试验条件: 温度  $25\pm 2^{\circ}\text{C}$ , RH  $60\pm 10\%$ , 检验标准: EP8.0

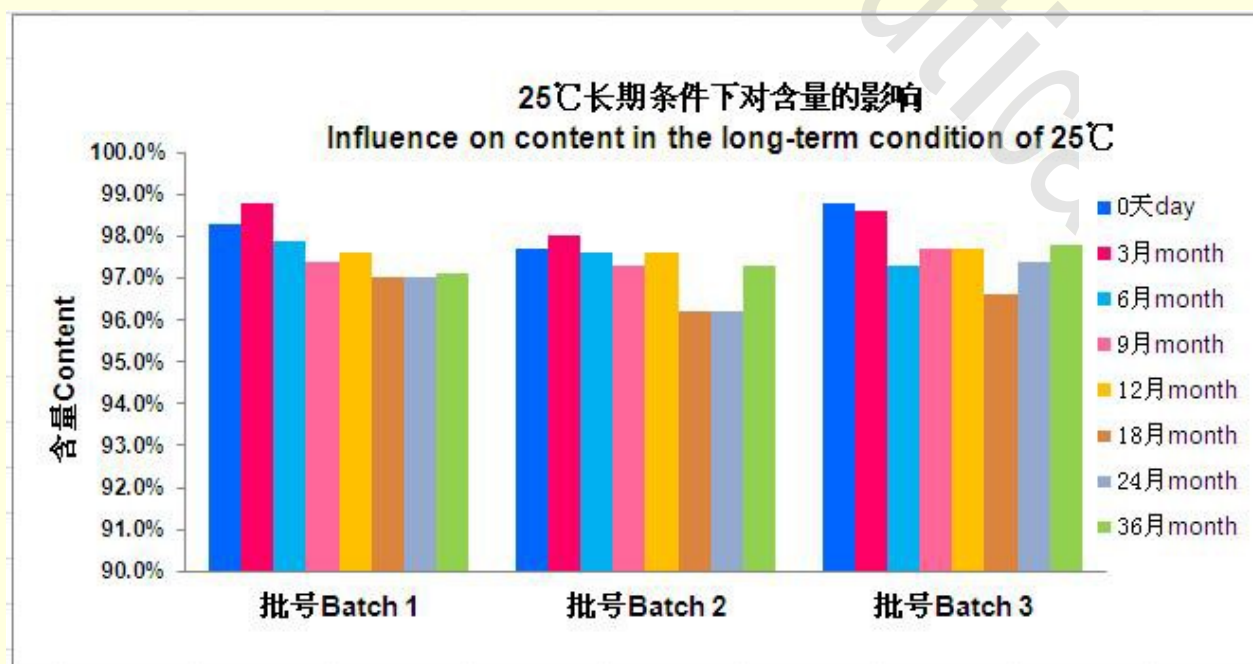
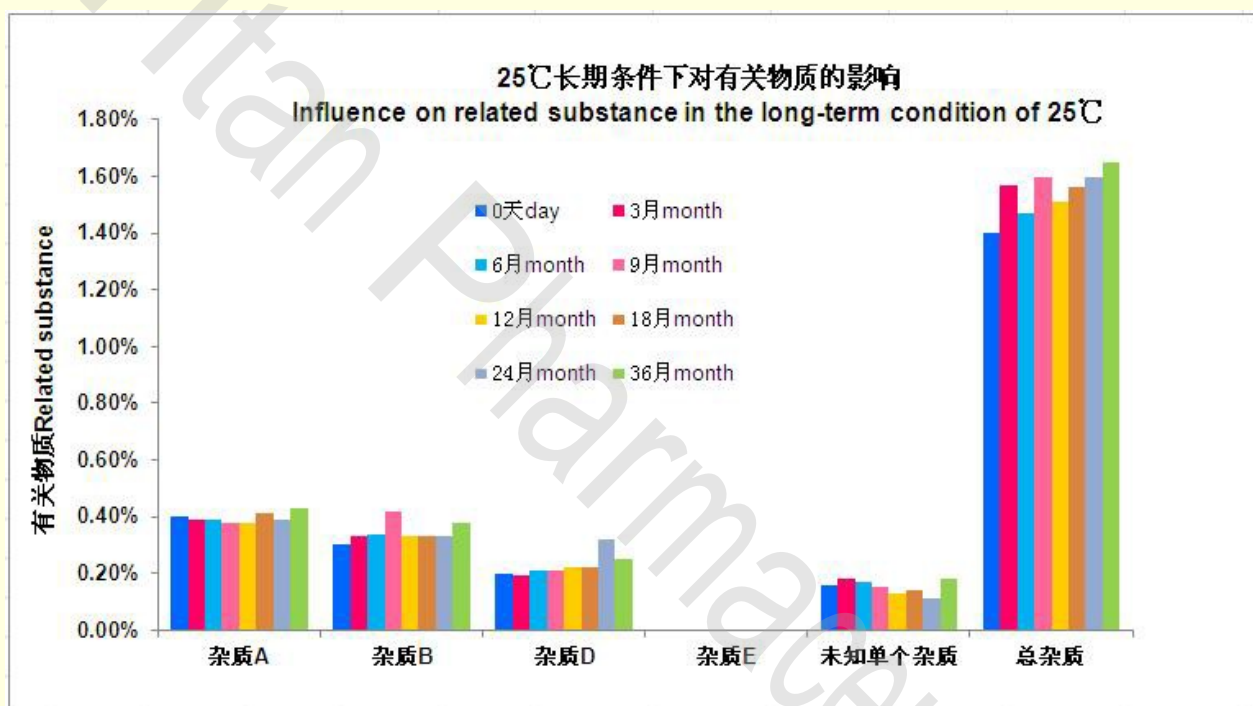
立国制药 2011 年生产的随机三批

Three batches of sample produced by Titan Pharmaceutical in 2011

Condition of long-term testing:  $25\pm 2^{\circ}\text{C}$ , RH  $60\% \pm 10\%$ ,

Quality standard: EP 8.0.

Influence on content in the long-term condition of  $25^{\circ}\text{C}$





质量标准（国内） Specification (Domestic)

| 检验项目        | 药典标准<br>(中国药典2015年版)                | 企业放行标准                              |
|-------------|-------------------------------------|-------------------------------------|
| <b>性状</b>   |                                     |                                     |
| 性状          | 白色或类白色粉末                            | 白色或类白色粉末                            |
| 吸收系数        | 390 – 420 (276 nm)                  | 390 – 420 (276 nm)                  |
| <b>鉴别</b>   |                                     |                                     |
| 头孢呋辛酯       | 本品与头孢呋辛酯对照品<br>HPLC主峰保留时间一致         | 本品与头孢呋辛酯对照品<br>HPLC主峰保留时间一致         |
| 头孢呋辛酯       | 本品红外光吸收图谱与中国<br>药典红外光谱集923图一<br>致   | 本品红外光吸收图谱与中国<br>药典红外光谱集923图一致       |
| <b>检查</b>   |                                     |                                     |
| 结晶性         | 无消光位和双折射                            | 无消光位和双折射                            |
| 异构体         | 0.48~0.55                           | 0.48~0.55                           |
| 有关物质        | E异构体: ≤1.0%                         | E异构体: ≤0.5%                         |
|             | Δ <sup>3</sup> 异构体: ≤1.5%           | Δ <sup>3</sup> 异构体: ≤0.5%           |
|             | 单个杂质: ≤0.5%                         | 单个杂质: ≤0.25%                        |
|             | 总杂质: ≤3.0%                          | 总杂质: ≤1.5%                          |
| 水分          | ≤1.5%                               | ≤1.5%                               |
| 炽灼残渣        | ≤0.2%                               | ≤0.2%                               |
| 重金属         | 不超过百万分之二十                           | 不超过百万分之二十                           |
| 残留溶剂        | 二氯甲烷: ≤0.06%                        | 二氯甲烷: ≤0.05%                        |
|             | N,N -二甲基乙酰胺:<br>≤0.109%             | N,N -二甲基乙酰胺:<br>≤0.08%              |
|             | 乙酸乙酯: ≤0.5%                         | 乙酸乙酯: ≤0.4%                         |
|             | 异丙醇: ≤0.5%                          | 异丙醇: ≤0.4%                          |
|             | 环己烷: ≤0.388%                        | 环己烷: ≤0.3%                          |
|             | 丙酮: ≤0.5%                           | 丙酮: ≤0.45%                          |
| 微生物限度       | 需氧菌总数: ≤10 <sup>3</sup> cfu/g       | 需氧菌总数: ≤10 <sup>3</sup> cfu/g       |
|             | 霉菌和酵母菌总数:<br>≤10 <sup>2</sup> cfu/g | 霉菌和酵母菌总数:<br>≤10 <sup>2</sup> cfu/g |
|             | 大肠埃希菌: 不得检出                         | 大肠埃希菌: 不得检出                         |
| <b>含量测定</b> |                                     |                                     |
| 头孢呋辛含量      | 不少于75.0 % (按无水物<br>计)               | 不少于80.5 % (按无水物<br>计)               |



## 质量标准 (EP8.0) Specification (EP8.0)

| 检验项目<br>Parameter                          | 标准<br>Specification   | 药典参照<br>Pharmacopoeia<br>reference |
|--|---|------------------------------------|
| <b>性状 Characters</b>                       |   |                                    |
| 外观<br>Appearance                           | 白色或类白色粉末<br>White or almost white powder  | --                                 |
| <b>鉴别 Identification</b>                   |   |                                    |
| 头孢呋辛酯<br>Cefuroxime axetil                 | 本品与头孢呋辛酯对照品红外光吸收图谱一致<br>IR-spectra of the substance is comparable with the<br>Ph. Eur. reference spectrum of cefuroxime axetil.   | Ph. Eur.2.2.24                     |
| 头孢呋辛酯<br>Cefuroxime axetil                 | 本品与头孢呋辛酯对照品HPLC主峰保留时间一致<br>The principal peaks in the chromatogram obtained<br>with the test solution are similar in retention time and<br>size to that obtained with reference solution (d). | Ph. Eur.2.2.29                     |
| <b>检查 Tests</b>                            |   |                                    |
| 有关物质<br>Related substances                 | A杂质 ( $\Delta^3$ -异构体): 不超过1.5%<br>Impurity A( $\Delta^3$ -isomer): n.m.t 1.5%  | Ph. Eur.2.2.29                     |
|  | B杂质 (E-异构体): 不超过1.0%<br>Impurity B(E-isomer): n.m.t 1.0%  |                                    |
|  | D杂质 (头孢呋辛酸): 不超过0.5%<br>Impurity D(Cefuroxime acid): n.m.t 0.5%   |                                    |
|  | E杂质 (DCC内酯): 不超过0.5%<br>Impurity E(DCC lactone): n.m.t 0.5%   |                                    |
|  | 未知单个杂质: 不超过0.10%<br>Individual non-specified impurity : n.m.t 0.10%   |                                    |
|  | 总杂质: 不超过3.0%<br>Total impurities: n.m.t 3.0%  |                                    |
| 异构体<br>Diastereoisomer ratio               | 0.48~0.55   | Ph. Eur.2.2.29                     |
| 水分<br>Water                                | 不超过1.5%<br>n.m.t 1.5%   | Ph. Eur.2.5.12                     |
| 结晶性<br>Crystalline                         | 无消光位和双折射<br>Amorphous nature  | Ph. Eur.5.11                       |
| 残留溶剂<br>Residual solvents                  | 丙酮: 不超过5000 ppm<br>Acetone: n.m.t 5000 ppm  | Ph. Eur.2.2.28<br>Ph. Eur.2.4.24   |
|  | 异丙醇: 不超过5000 ppm<br>Isopropanol: n.m.t 5000 ppm   |                                    |
|  | 乙酸乙酯: 不超过5000 ppm<br>Ethyl acetate: n.m.t 5000 ppm  |                                    |
|  | N, N-二甲基乙酰胺: 不超过1090 ppm<br>Dimethylacetamide: n.m.t 1090 ppm   |                                    |
| <b>含量测定 Assay</b>                          |   |                                    |
| 头孢呋辛酯含量<br>Content of Cefuroxime<br>axetil | 96.0%~102.0% (按无水物计)<br>(Anhydrous substance)   | Ph. Eur.2.2.29                     |