CHEMISCHE FABRIK BERG Gesellschaft mit beschränkter Haftung

Chemische Fabrik Berg GmbH . Mainthalstraße 3 . 06749 Bitterfeld-Wolfen . Germany . Tel.: +49-(0)3493-78180

# Analysenzertifikat / Certificate of analysis

| Produkt / Product | Batch No.: | 20126 / 1308B167 |
|---|---|---|
| **5-Fluorouracil** (Ph.Eur. 7th Ed.) | | |

The test parameters and the requirements follow the agreed specification unless indicated otherwise: **SPEC-Pr.-No. 20126/4** (valid Nov. 24th, 2011).

The analysis was made available by the manufacturer unless indicated otherwise.

| Methode / Method | Anforderungen / Requirements | Ergebnisse / Results |
|---|---|---|
| **Ph. Eur.** | | |
| Appearance | white or almost white crystalline powder | conforms |
| Identification (IR) | positive | positive |
| Assay (titration) | 98.5 – 101.0 % | 100.0 % |
| Appearance of solution (0.5 g / 50 ml aqueous solution) | clear, not more intensely coloured than reference solution $BY_7$ or $Y_7$ | conforms |
| pH (0.5 g / 50 ml aqueous solution) | 4.5 – 5.0 | 4.7 |
| Heavy metals | 20 ppm maximum | < 20 ppm |
| Loss on drying | 0.5 % maximum | < 0.1 % |
| Sulphated ash | 0.1 % maximum | < 0.1 % |
| Related substances (TLC) | | |
| *2-Ethoxy-5-fluorouracil* | 0.25 % maximum | < 0.25 % |
| *Urea* | 0.1 % maximum | < 0.1 % |
| Related substances (HPLC) | | |
| *Barbituric acid* | 0.1 % maximum | < 0.1 % |
| *5-Hydroxyuracil* | 0.1 % maximum | < 0.1 % |
| *Uracil* | 0.1 % maximum | < 0.1 % |
| *5-Methoxyuracil* | 0.1 % maximum | < 0.1 % |
| *5-Chlorouracil* | 0.1 % maximum | < 0.1 % |
| *Each unspecified impurity* | 0.10 % maximum | < 0.05 % |
| *Total impurities* | 0.5 % maximum | < 0.1 % |
| **Additional tests** (not specified) | | |
| Bacterial endotoxines* | 0.048 maximum | < 0.01 IU/mg |
| Microbiology* | | |
| *TAMC* | 100 cfu/g maximum | < 100 cfu/g |
| *TYMC* | 10 cfu/g maximum | < 10 cfu/g |

| | |
|---|---|
| Manufacturing date: | 08 / 2013 |
| Release date: | 10 / 2013 |
| Retest date: | 08 / 2018 |

* test performed at external laboratory

| Dr. Raschke / QC | Raschke | 16/10/2013 |
|---|---|---|
| Name / Department | Signature / Unterschrift | Date / Datum |

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# Certificate of Conformity

| Produkt / Product | Batch No.: 20126 / 1308B167 |
|---|---|
| **5-Fluorouracil** (Ph.Eur.) | |

**Name of Active Ingredient:** 5-Fluorouracil
**CEP No.: (if available)** R1-CEP 2000-092-Rev 04
**ASMF Version No** n.A.
**Batch No.:** 20126/1308B167
**Manufacturing date:** 08/2013
**Retest/Expiry date:** 08/2018

**Results of analysis:** see separate Certificate of Analysis dated on 16.10.2013

**Comments/remarks:** none

Following relevant GMP aspects were taken into account before batch release of the API:

1. The batch of API is produced and analysed according to the validated manufacturing process and the validated test methods laid down in the valid ASMF (Active Substance Master File) and/or CEP.

2. Written procedures are established and followed for the review and approval of batch production and laboratory control records, including packaging and labeling, to determine compliance of the API with the established specification.

3. Batch production and laboratory control records of critical process steps are reviewed and approved by the quality unit(s) to be in compliance with the rules of GMP as stipulated in ICH Q7.

4. All deviations, investigations, and OOS reports are reviewed as part of the batch record review. Critical deviations or OOS results were entcountered ☐ yes / ☒ no (if yes, a summary report is attached).

Above mentioned batch is released for shipping.

**Name and position of person authorising the batch release:** Dr. Ilse Frosch (Head of Quality Assurance)

| Dr. Frosch / QA | Frosch | 17/10/2013 |
|---|---|---|
| Name / Department | Signature | Date |