

|                                   |                    |
|-----------------------------------|--------------------|
| <b>676412</b>                     | <b>Lot: 826094</b> |
| <b>Methacycline hydrochloride</b> |                    |

### 1. General Information

|             |   |             |                   |
|-------------|---|-------------|-------------------|
| Formula     | C <sub>22</sub> H <sub>23</sub> ClN <sub>2</sub> O <sub>8</sub> | Expiry Date | 01 Jul 2029       |
| Mol. Weight | <b>478.88 g/mol</b>   | Store at    | 4°C (in the dark) |
| CAS-No.     | 3963-95-9   |             |                   |

### 2. Batch Analysis

|                       |                      |                             |                     |
|-----------------------|----------------------|-----------------------------|---------------------|
| Identity              | confirmed by LC-MS   |                             |                     |
| <b>Overall Purity</b> | <b>96.32 % (g/g)</b> | <b>Expanded Uncertainty</b> | <b>0.39 % (g/g)</b> |
| Assay Purity (HPLC)   | 97.39 % (g/g)        | Uncertainty                 | 0.17 % (g/g)        |
| Residual Solvents     | 1.10 % (g/g)         | Uncertainty                 | 0.10 % (g/g)        |

Certified on 24 Jun 2024

by Heike Uhlig  
RM ReleaseThe overall purity is calculated by:  $\text{Purity(\%)} = \frac{\text{Assay purity} \times (100 - \text{water content} - \text{impurities})}{100}$ 

The reported uncertainties are determined in accordance with ISO 17034 with a 95% confidence level ( $k=2$ ). The Uncertainty is based on the combined uncertainties, including uncertainties of characterization and stability testing. The expiry date is based on the current knowledge and holds only for proper storage conditions in the originally closed flask. If the substance is proven to be unstable under the given storage conditions, you will be contacted immediately. The warranty of this product is limited to the purchasing price of this product and to the first point of use. The indicated long-term storage temperature can vary in a range of  $\pm 4$  °C.

Our standards are for laboratory use only and can be used as reference material for calibration of chromatographic systems or related analytical techniques. For handling instructions see the MSDS. A minimum sample of 2 mg is recommended. Deploying less material will increase the uncertainty by a factor 2 for half of sample and 4 for a quarter of sample. The material in the vial can be used multiple times, but it is strongly recommended that all external negative influences to the material are considered and ruled out (e.g. high temperatures, UV-radiation, moisture, oxygen). It is strongly recommended to open the vial at room temperature only and handle the material under inert gas if necessary. The integrity of the purity cannot be guaranteed if the substance is handled under unfavorable conditions.

The balances used are calibrated with weights traceable to the national standards (DKD).

HPC Standards GmbH produces reference materials according to ISO 17034. For further information, check:

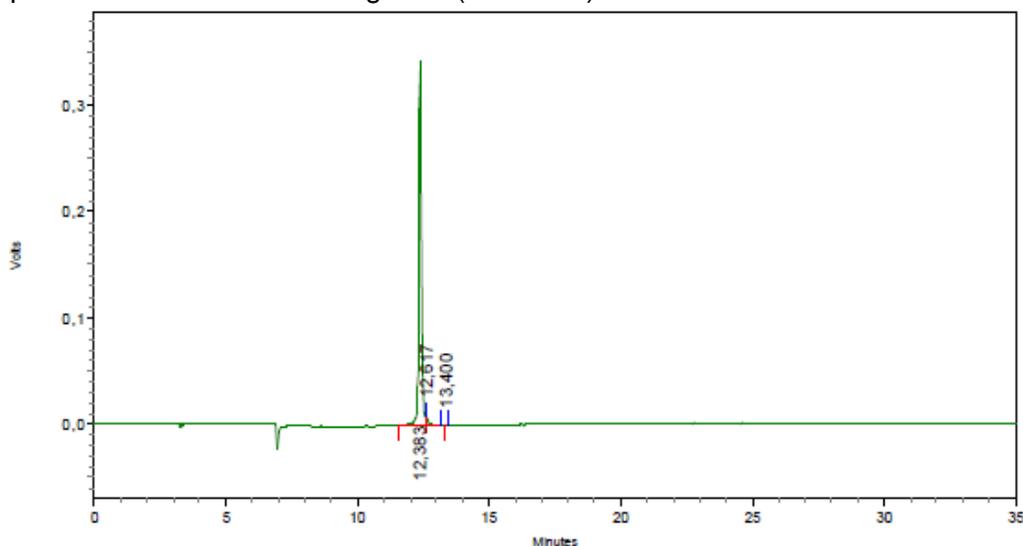


**HPLC-Method**

Article 676412  
 Lot-No. 826094  
 Column L=250mm, ID=4.6mm; Luna-Omega C18, 100A, 5µm  
 Eluent A Acetonitrile  
 Eluent B 0.1 % Phosphoric acid (Water)  
 Gradient

| time    | %A | %B  |
|---------|----|-----|
| 0min    | 0  | 100 |
| 22.5min | 90 | 10  |
| 25min   | 90 | 10  |

Flow 1.0 ml min<sup>-1</sup>  
 Detector UV-220nm  
 Injection-Volume 5 µl  
 Sample 0.3 mg ml<sup>-1</sup> (Methanol)



Detector A - 1 (220nm)

| Retention Time | Height | Area    | Area Percent |
|----------------|--------|---------|--------------|
| 12,383         | 344103 | 2505753 | 97,38        |
| 12,617         | 9221   | 64831   | 2,52         |
| 13,400         | 455    | 2653    | 0,10         |

| Totals | Height | Area    | Area Percent |
|--------|--------|---------|--------------|
|        | 353779 | 2573237 | 100,00       |

Exemplary chromatogram of given method.

| Version | Article | Lot    | Reason for Change | Date        |
|---------|---------|--------|-------------------|-------------|
| 1       | 676412  | 826094 | Initial Version   | 24 Jun 2024 |