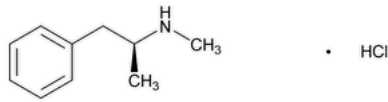


Status: Currently Official on 18-Feb-2025
Official Date: Official as of 01-May-2020
Document Type: USP Monographs
DocId: GUID-247D1D89-D9D0-459A-92F7-3F6C4B902772_2_en-US
DOI: https://doi.org/10.31003/USPNF_M50000_02_01
DOI Ref: w83ql

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Methamphetamine Hydrochloride



$C_{10}H_{15}N \cdot HCl$ 185.69
Benzeneethanamine, *N*, α -dimethyl-, hydrochloride, (S)-;
(+)-(S)-*N*, α -Dimethylphenethylamine hydrochloride CAS RN®: 51-57-0; UNII: 997F43Z9CV.

DEFINITION

Methamphetamine Hydrochloride contains NLT 98.5% and NMT 100.5% of methamphetamine hydrochloride ($C_{10}H_{15}N \cdot HCl$), calculated on the dried basis.

IDENTIFICATION

Change to read:

- A. [▲ SPECTROSCOPIC IDENTIFICATION TESTS \(197\), Infrared Spectroscopy: 197K ▲](#) (CN 1-MAY-2020)
- B. [IDENTIFICATION TESTS—GENERAL, Chloride\(191\)](#)

ASSAY

PROCEDURE

Mobile phase: Prepare a degassed solution of 1.1 g of sodium 1-heptanesulfonate in a mixture of water, methanol, and diluted glacial acetic acid (7 in 50) (575:400:25). Adjust with acetic acid to a pH of 3.3 ± 0.1 , if necessary. Filter through a 0.5- μ m disk.

Standard solution: 0.2 mg/mL of [USP Methamphetamine Hydrochloride RS](#) in 0.12 M phosphoric acid. Sonicate if necessary.

Sample solution: 0.2 mg/mL of Methamphetamine Hydrochloride in 0.12 M phosphoric acid

Chromatographic system

(See [Chromatography \(621\), System Suitability](#).)

Mode: LC

Detector: UV 257 nm

Column: 3.9-mm $\times$ 30.0-cm; packing L1

Flow rate: 2 mL/min

Injection volume: 20 μ L

System suitability

Sample: *Standard solution*

Suitability requirements

Column efficiency: NLT 1000 theoretical plates

Tailing factor: NMT 1.5

Relative standard deviation: NMT 2.0%

Analysis

Samples: *Standard solution* and *Sample solution*

Calculate the percentage of methamphetamine hydrochloride ($C_{10}H_{15}N \cdot HCl$) in the portion of Methamphetamine Hydrochloride taken:

$$\text{Result} = (r_U/r_S) \times (C_S/C_U) \times 100$$

r_U = peak response from the *Sample solution*

r_S = peak response from the *Standard solution*

C_S = concentration of [USP Methamphetamine Hydrochloride RS](#) in the *Standard solution* (mg/mL)

C_U = concentration of Methamphetamine Hydrochloride in the *Sample solution* (mg/mL)

Acceptance criteria: 98.5%–100.5% on the dried basis

IMPURITIES

- [RESIDUE ON IGNITION \(281\)](#): NMT 0.1%
 - [ORDINARY IMPURITIES \(466\)](#)
- Standard solution** and **Sample solution**: Chloroform
- Eluant**: Chloroform, cyclohexane, and diethylamine (5:4:1)
- Visualization**: 1
- Acceptance criteria**: Meets the requirements

SPECIFIC TESTS

- [MELTING RANGE OR TEMPERATURE \(741\)](#): 171°–175°
 - [OPTICAL ROTATION, Specific Rotation \(781S\)](#)
- Sample solution**: 20 mg/mL in water
- Acceptance criteria**: Between +16° and +19°
- [LOSS ON DRYING \(731\)](#)
- Analysis**: Dry at 105° for 2 h.
- Acceptance criteria**: NMT 0.5%

ADDITIONAL REQUIREMENTS

- **PACKAGING AND STORAGE**: Preserve in tight, light-resistant containers.
- [USP REFERENCE STANDARDS \(11\)](#)
[USP Methamphetamine Hydrochloride RS](#)

Auxiliary Information - Please [check for your question in the FAQs](#) before contacting USP.

Topic/Question	Contact	Expert Committee
METHAMPHETAMINE HYDROCHLORIDE	Documentary Standards Support	SM22020 Small Molecules 2
REFERENCE STANDARD SUPPORT	RS Technical Services RSTECH@usp.org	SM22020 Small Molecules 2

Chromatographic Database Information: [Chromatographic Database](#)

Most Recently Appeared In:

Pharmacopeial Forum: Volume No. 50(6)

Current DocID: GUID-247D1D89-D9D0-459A-92F7-3F6C4B902772_2_en-US

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DOI ref: [w83q!](#)