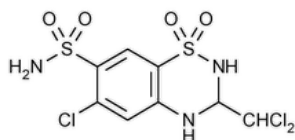


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Trichlormethiazide

Change to read:



$C_8H_8Cl_3N_3O_4S_2$ ▲380.64▲ (USP 1-Dec-2022)

2*H*-1,2,4-Benzothiadiazine-7-sulfonamide, 6-chloro-3-(dichloromethyl)-3,4-dihydro-, 1,1-dioxide, (±)-;

▲(RS)▲ (USP 1-Dec-2022) -6-Chloro-3-(dichloromethyl)-3,4-dihydro-2*H*-1,2,4-benzothiadiazine-7-sulfonamide 1,1-dioxide CAS RN®: 133-67-5.

UNII: Q58C92TUN0

Change to read:

DEFINITION

Trichlormethiazide▲ (USP 1-Dec-2022) contains NLT 98.0% and NMT 102.0% of trichlormethiazide ($C_8H_8Cl_3N_3O_4S_2$) ▲calculated on the dried basis.▲ (USP 1-Dec-2022)

IDENTIFICATION

Change to read:

- **A. SPECTROSCOPIC IDENTIFICATION TESTS (197), Infrared Spectroscopy:** 197M▲ or 197A▲ (USP 1-Dec-2022)

Change to read:

- **B.** ▲The retention time of the trichlormethiazide peak from the *Sample solution* corresponds to that of the *Standard solution*, as obtained in the Assay.▲ (USP 1-Dec-2022)

ASSAY

Change to read:

• PROCEDURE

Mobile phase: [Methanol](#) and 0.05 M [monobasic potassium phosphate](#) (30:70)

Internal standard solution: 2.4 mg/mL of [methylparaben](#) in [methanol](#)

Standard solution: 0.5 mg/mL of [USP Trichlormethiazide RS](#) prepared as follows. Transfer 25 mg of [USP Trichlormethiazide RS](#) into a 50-mL volumetric flask. Add 4.0 mL of *Internal standard solution*, and dilute with [methanol](#) to volume.

Sample solution: 0.5 mg/mL of Trichlormethiazide prepared as follows. ▲Transfer 25 mg of Trichlormethiazide into a 50-mL volumetric flask. Add 4.0 mL of *Internal standard solution*, and dilute with [methanol](#) to volume.▲ (USP 1-Dec-2022)

Chromatographic system

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

Mode: LC

Detector: UV 254 nm

Column: 3.9-mm × 30-cm; ▲10-μm▲ (USP 1-Dec-2022) packing [L1](#)

Flow rate: 2.3 mL/min

Injection volume: ▲20 μL

Run time: NLT 5 times the retention time of the trichlormethiazide peak▲ (USP 1-Dec-2022)

System suitability

Sample: *Standard solution*

[NOTE—The relative retention times for trichlormethiazide and methylparaben are 0.56 and 1.0, respectively.]

Suitability requirements

Resolution: NLT 2.0 between the ▲trichlormethiazide▲ (USP 1-Dec-2022) and ▲methylparaben▲ (USP 1-Dec-2022) peaks

Relative standard deviation: ▲NMT 0.73% for peak response ratios▲ (USP 1-Dec-2022)

Analysis

Samples: *Standard solution* and *Sample solution*

Calculate the percentage of trichlormethiazide ($C_8H_8Cl_3N_3O_4S_2$) in the portion of Trichlormethiazide taken:

$$\text{Result} = (R_U/R_S) \times (C_S/C_U) \times 100$$

R_U = peak response ratio of trichlormethiazide to methylparaben from the *Sample solution*

R_S = peak response ratio of trichlormethiazide to methylparaben from the *Standard solution*

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

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

Acceptance criteria: 98.0%–102.0% ▲on the dried basis▲ (USP 1-Dec-2022)

IMPURITIES

- [RESIDUE ON IGNITION \(281\)](#): NMT 0.1%

Delete the following:

- ▲• [SELENIUM \(291\)](#)▲ (USP 1-Dec-2022)

- **ORGANIC IMPURITIES, DIAZOTIZABLE SUBSTANCES**

Standard solution: 250 µg/mL of [USP Benzothiadiazine Related Compound A RS](#) in a mixture of [toluene](#) and [alcohol](#) (50:50)

Sample solution: 10 mg/mL of Trichlormethiazide prepared as follows. Transfer 100.0 mg of Trichlormethiazide into a 10-mL volumetric flask. Dissolve in 1 mL of [acetone](#), and dilute with a mixture of [toluene](#) and [alcohol](#) (50:50) to volume.

Chromatographic system

(See [Chromatography \(621\)](#), [General Procedures](#), [Thin-Layer Chromatography](#).)

Mode: TLC

Adsorbent: 0.25-mm layer of [chromatographic silica gel mixture](#)

Application volume: 5 µL

Developing solvent system: [Ethyl acetate](#)

Spray reagent 1: A solution (1 in 20) of [sodium nitrite](#) in dilute [hydrochloric acid](#) (1 in 12)

Spray reagent 2: A solution (1 in 1000) of [N-\(1-naphthyl\) ethylenediamine dihydrochloride](#) in [alcohol](#)

Analysis

Samples: *Standard solution* and *Sample solution*

Apply each of the samples separately to the TLC plate. Allow the spots to dry, and develop the chromatogram in the *Developing solvent system* until the solvent front has moved about three-fourths of the length of the plate. Remove the plate from the developing chamber, mark the solvent front, and allow the solvent to evaporate. Locate the spots on the plate by spraying first with *Spray reagent 1* and then with *Spray reagent 2*.

Acceptance criteria: After 3 min, any spot of the *Sample solution*, occurring at the R_f value corresponding to that produced by the *Standard solution*, is not greater in size or intensity than the spot of the *Standard solution*, corresponding to NMT 2.5% of diazotizable substances.

SPECIFIC TESTS

- [LOSS ON DRYING \(731\)](#)

Analysis: Dry at 105° for 3 h.

Acceptance criteria: NMT 0.5%

ADDITIONAL REQUIREMENTS

- **PACKAGING AND STORAGE:** Preserve in well-closed containers.

Change to read:

- [USP REFERENCE STANDARDS \(11\)](#)

[USP Benzothiadiazine Related Compound A RS](#)

▲4-Amino-6-chlorobenzene-1,3-disulfonamide.▲ (USP 1-Dec-2022)

$C_6H_8ClN_3O_4S_2$ ▲285.72▲ (USP 1-Dec-2022)

[USP Trichlormethiazide RS](#)

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

Topic/Question	Contact	Expert Committee
TRICHLORMETHIAZIDE	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:

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