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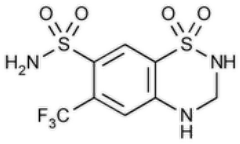
Hydroflumethiazide



$C_8H_8F_3N_3O_4S_2$ 331.29

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

3,4-Dihydro-6-(trifluoromethyl)-2*H*-1,2,4-benzothiadiazine-7-sulfonamide 1,1-dioxide CAS RN®: 135-09-1; UNII: 501CFL162R.

DEFINITION

Hydroflumethiazide contains NLT 98.0% and NMT 102.0% of hydroflumethiazide ($C_8H_8F_3N_3O_4S_2$), calculated on the anhydrous basis.

IDENTIFICATION

Change to read:

- **A. Spectroscopic Identification Tests ⟨197⟩, *Infrared Spectroscopy*:** 197K

▲▲ (USP 1-Aug-2022)

- **B. Spectroscopic Identification Tests ⟨197⟩, *Ultraviolet-Visible Spectroscopy*:** 197U

Sample solution: 10 µg/mL of Hydroflumethiazide in methanol

Standard solution: 10 µg/mL of USP Hydroflumethiazide RS in methanol

Acceptance criteria: Meets the requirements

ASSAY

Change to read:

- **Procedure**

Standard solution: 10 µg/mL of USP Hydroflumethiazide RS in methanol

Sample solution: 10 µg/mL of Hydroflumethiazide in methanol

Instrumental conditions

▲(See *Ultraviolet-Visible Spectroscopy* ⟨857⟩.)▲ (USP 1-Aug-2022)

Mode: UV

Analytical wavelength: Maximum absorbance at about 273 nm

Cell: 1 cm

Blank: methanol

Analysis

Samples: *Standard solution* and *Sample solution*

Calculate the percentage of hydroflumethiazide ($C_8H_8F_3N_3O_4S_2$) in the portion of Hydroflumethiazide taken:

$$\text{Result} = (A_U/A_S) \times (C_S/C_U) \times 100$$

A_U = absorbance of the *Sample solution*

A_S = absorbance of the *Standard solution*

C_S = concentration of USP Hydroflumethiazide RS in the *Standard solution* (µg/mL)

C_U = concentration of Hydroflumethiazide in the *Sample solution* (µg/mL)

Acceptance criteria: 98.0%–102.0% on the anhydrous basis

IMPURITIES

• **Residue on Ignition ⟨281⟩:** NMT 1.0%

Delete the following:

▲• **Selenium ⟨291⟩:** NMT 0.003%▲ (USP 1-Aug-2022)

Change to read:

• **Diazotizable Substances**

Dilute hydrochloric acid: Hydrochloric acid (1 in 5)

Sodium nitrite solution: Sodium nitrite (1 in 100), freshly prepared

Ammonium sulfamate solution: Ammonium sulfamate (1 in 10), freshly prepared

***N*-(1-naphthyl)ethylenediamine dihydrochloride solution:** *N*-(1-naphthyl)ethylenediamine dihydrochloride (1 in 1000), freshly prepared

Standard stock solution: 200 µg/mL of USP 2,4-Disulfamyl-5-trifluoromethylaniline RS in acetone

Standard solution: 20 µg/mL of USP 2,4-Disulfamyl-5-trifluoromethylaniline RS in water from *Standard stock solution*

Sample solution: Transfer 100 mg of Hydroflumethiazide to a 50-mL volumetric flask, dissolve in 5 mL of acetone, and dilute with water to volume.

Instrumental conditions

▲(See *Ultraviolet-Visible Spectroscopy ⟨857⟩*.)▲ (USP 1-Aug-2022)

Mode: Vis

Analytical wavelength: 518 nm

Cell: 1 cm

Blank: Acetone in water (1 in 10)

Analysis

Samples: *Standard solution, Sample solution*, and *Blank*

Transfer 5.0 mL each of the *Standard solution*, *Sample solution*, and *Blank* to separate 25-mL volumetric flasks. To each flask add 2.0 mL of *Dilute hydrochloric acid*, and immediately add 1 mL of *Sodium nitrite solution*. Mix, and allow to stand for 5 min. Add 1 mL of *Ammonium sulfamate solution* to each flask, mix, and allow to stand for 1 min, with frequent swirling. Add 1 mL of *N-(1-naphthyl)ethylenediamine dihydrochloride solution*, and mix. After 1 min, dilute with water to volume, and mix. Concomitantly, and within 5 min after mixing, taking care to establish the same elapsed time for each solution, determine the absorbances of the solutions.

Acceptance criteria: The absorbance of the solution from the *Sample solution* does not exceed that of the *Standard solution*, corresponding to NMT 1.0% of diazotizable substances.

SPECIFIC TESTS

• **Melting Range or Temperature ⟨741⟩, *Class I*:** 270°–275°

• **pH ⟨791⟩**

Sample solution: 1 in 100 dispersion in water

Acceptance criteria: 4.5–7.5

• **Water Determination ⟨921⟩, *Method I*:** NMT 1.0%

ADDITIONAL REQUIREMENTS

• **Packaging and Storage:** Preserve in tight containers.

• **USP Reference Standards ⟨11⟩**

USP 2,4-Disulfamyl-5-trifluoromethylaniline RS	$C_7H_8F_3N_3O_4S_2$	319.29
USP Hydroflumethiazide RS		

Auxiliary Information - Please check for your question in the FAQs before contacting USP.

Topic/Question	Contact	Expert Committee
HYDROFLUMETHIAZIDE	Documentary Standards Support	SM22020 Small Molecules 2

Chromatographic Database Information: Chromatographic Database

Most Recently Appeared In:
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