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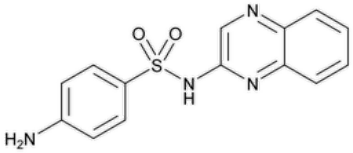
Sulfaquinoxaline



$C_{14}H_{12}N_4O_2S$ 300.34

N^1-2-Quinoxalinylsulfanilamide CAS RN®: 59-40-5; UNII: WNW8115TM9.

DEFINITION

Sulfaquinoxaline contains NLT 98.0% and NMT 101.0% of $C_{14}H_{12}N_4O_2S$, calculated on the dried basis.

IDENTIFICATION

Change to read:

• **A.** ▲**Spectroscopic Identification Tests ⟨197⟩, *Infrared Spectroscopy*: 197K**▲ (CN 1-May-2020)

Change to read:

• **B.** ▲**Spectroscopic Identification Tests ⟨197⟩, *Ultraviolet-Visible Spectroscopy*: 197U**▲ (CN 1-May-2020)

Sample solution: 10 µg/mL in 0.01 N sodium hydroxide

Acceptance criteria: Meets the requirements

ASSAY

• **Procedure**

Mobile phase: 2 g/L of monobasic ammonium phosphate in a mixture of acetonitrile, glacial acetic acid, tetrahydrofuran, ammonium hydroxide, and water (400:10:5:2:583). Pass through a filter of 0.5-µm or finer pore size.

Standard solution: 0.06 mg/mL of USP Sulfaquinoxaline RS in 0.01 N sodium hydroxide

Sample solution: 0.06 mg/mL of Sulfaquinoxaline in 0.01 N sodium hydroxide

Chromatographic system

(See *Chromatography ⟨621⟩, System Suitability*.)

Mode: LC

Detector: UV 254 nm

Column: 4-mm × 25-cm; packing L1

Flow rate: 1 mL/min

Injection size: 15 µL

System suitability

Sample: *Standard solution*

Suitability requirements

Tailing factor: NMT 1.2

Relative standard deviation: NMT 1.0%

Analysis

Samples: *Standard solution* and *Sample solution*

Calculate the percentage of sulfaquinoxaline ($C_{14}H_{12}N_4O_2S$) in the portion of Sulfaquinoxaline taken:

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

r_U = peak response from the *Sample solution*

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r_S = peak response from the *Standard solution*

C_S = concentration of USP Sulfaquinoxaline RS in the *Standard solution* (mg/mL)

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

Acceptance criteria: 98.0%–101.0% on the dried basis

IMPURITIES

• **Residue on Ignition ⟨281⟩:** NMT 0.1%

• **Organic Impurities**

Sample solution: 4 mg/mL, prepared as follows. Dissolve 400 mg of Sulfaquinoxaline in 4 mL of 1 N sodium hydroxide, dilute with methanol to 100 mL, and mix.

Standard solution A: 0.12 mg/mL of USP Sulfaquinoxaline Related Compound A RS in methanol

Standard solution B: 0.04 mg/mL of sulfanilamide in methanol

Chromatographic system

(See *Chromatography ⟨621⟩, Thin-Layer Chromatography*.)

Mode: TLC

Adsorbent: 0.25-mm layer of chromatographic silica gel mixture

Application volume: 5 µL

Developing solvent system: Chloroform, methanol, and ammonium hydroxide (60:40:20)

Analysis: Separately apply each solution to the TLC plate, and proceed as directed in the chapter. When the solvent front has moved about three-fourths the length of the plate, remove the plate from the chamber, mark the solvent front, allow it to air-dry, and examine the plate under short-wavelength UV light.

Acceptance criteria: No spot corresponding to sulfaquinoxaline related compound A in the chromatogram of the *Sample solution* is more intense than the principal spot in the chromatogram of *Standard solution A* (NMT 3.0%); and no spot, other than the principal spot and the sulfaquinoxaline related compound A spot, in the chromatogram of the *Sample solution* is more intense than the principal spot in the chromatogram of *Standard solution B* (NMT 1.0%).

SPECIFIC TESTS

• **Acidity**

Sample: 2 g

Analysis: Digest the *Sample* with 100 mL of water at about 70° for 5 min, cool to about 20°, and filter. Titrate 50 mL of the filtrate with 0.1 N sodium hydroxide VS to a pH of 7.0.

Acceptance criteria: NMT 0.2 mL is required

• **Loss on Drying ⟨731⟩:** Dry a sample at 105° for 4 h: it loses NMT 1.0% of its weight.

ADDITIONAL REQUIREMENTS

• **Packaging and Storage:** Preserve in well-closed containers, protected from light.

• **Labeling:** Label it to indicate that it is for veterinary use only.

• **USP Reference Standards ⟨11⟩**

USP Sulfaquinoxaline Related Compound A RS

N^1,N^2-Diquinoxalin-2-ylsulfanilamide.

$C_{22}H_{16}N_6SO_2$ 428.50

USP Sulfaquinoxaline RS

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

Topic/Question	Contact	Expert Committee
SULFAQUINOXALINE	Documentary Standards Support	SM32020 Small Molecules 3
REFERENCE STANDARD SUPPORT	RS Technical Services RSTECH@usp.org	SM32020 Small Molecules 3

Chromatographic Database Information: Chromatographic Database

https://trungtamthuoc.com/
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