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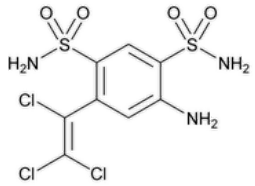
Clorsulon



$C_8H_8Cl_3N_3O_4S_2$ 380.66

1,3-Benzenedisulfonamide, 4-amino-6-(trichloroethenyl)-;

4-Amino-6-(trichlorovinyl)-*m*-benzenedisulfonamide CAS RN®: 60200-06-8; UNII: EG1ZDO6LRD.

DEFINITION

Clorsulon contains NLT 98.0% and NMT 101.0% of clorsulon ($C_8H_8Cl_3N_3O_4S_2$), calculated on the dried basis.

IDENTIFICATION

Change to read:

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

• **B.** The retention time of the major peak of the *Sample solution* corresponds to that of the *Standard solution*, as obtained in the *Assay*.

ASSAY

• **Procedure**

[Note—Store the *Standard solution* and the *Sample solution* in low-actinic glassware.]

Mobile phase: Acetonitrile, glacial acetic acid, and water (30:0.1:70)

Standard solution: 0.1 mg/mL of USP Clorsulon RS in *Mobile phase*

Sample stock solution: 1 mg/mL of Clorsulon in *Mobile phase*

Sample solution: 0.1 mg/mL of Clorsulon in *Mobile phase*, from the *Sample stock solution*

Chromatographic system

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

Mode: LC

Detector: UV 254 nm

Column: 4.6-mm × 25-cm; packing L7

Flow rate: 1 mL/min

Injection volume: 30 µL

System suitability

Sample: *Standard solution*

Suitability requirements

Column efficiency: NLT 7400 theoretical plates

Tailing factor: NMT 1.4

Relative standard deviation: NMT 1.0%

Analysis

Samples: *Standard solution* and *Sample solution*

Calculate the percentage of clorsulon ($C_8H_8Cl_3N_3O_4S_2$) in the portion of Clorsulon 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 Clorsulon RS in the *Standard solution* (mg/mL)

C_U = concentration of Clorsulon 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**

[Note—Store the *Standard solutions* and the *Sample solution* in low-actinic glassware.]

Standard solution A: 10 mg/mL of USP Clorsulon RS in methanol

Standard solution B: 0.1 mg/mL of USP Clorsulon RS in methanol, from *Standard solution A*

Sample solution: 10 mg/mL of Clorsulon in methanol

Chromatographic system

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

Mode: TLC

Adsorbent: 0.25-mm layer of chromatographic silica gel mixture

Developing solvent system: Chloroform and methanol (4:1)

Analysis 1

Samples: *Standard solution A*, *Standard solution B*, and *Sample solution*

Apply 10 µL each of the *Sample solution* and *Standard solution A*, and 5 and 10 µL of *Standard solution B*. Allow the spots to dry. Develop in *Developing solvent system* until the solvent front has moved three-fourths of the length of the plate. Remove the plate, mark the solvent front, allow the solvent to evaporate, and examine the plate under short-wavelength UV light.

Acceptance criteria 1: The chromatograms show principal spots at the same R_F value.

Analysis 2: Estimate the amounts of any additional spots observed in the chromatograms of the *Sample solution* in *Analysis 1* by comparing them with the spots in the two chromatograms of *Standard solution B*, corresponding to 0.5% and 1.0% of impurities.

Acceptance criteria 2

Any individual impurities: 0.5%; no spot other than the principal spot of the *Sample solution* is larger or more intense than that of the principal spot of the 5-µL portion of *Standard solution B*.

Total impurities: NMT 2.0%

SPECIFIC TESTS

• **Melting Range ⟨741⟩:** 197°–203°

• **Loss on Drying ⟨731⟩**

Analysis: Dry a sample under vacuum at 100° for 4 h.

Acceptance criteria: NMT 0.5%

ADDITIONAL REQUIREMENTS

• **Packaging and Storage:** Preserve in well-closed containers.

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

• **USP Reference Standards ⟨11⟩**

USP Clorsulon RS

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

Topic/Question	Contact	Expert Committee
CLORSULON	Documentary Standards Support	SM32020 Small Molecules 3

Chromatographic Database Information: Chromatographic Database

Most Recently Appeared In:
Pharmacopeial Forum: Volume No. PF 28(2)

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