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Cocaine Hydrochloride

$C_{17}H_{21}NO_4 \cdot HCl$ 339.81

8-Azabicyclo[3.2.1]octane-2-carboxylic acid, 3-(benzoyloxy)-8-methyl-, methyl ester, hydrochloride, 1*R*-(*exo*,*exo*)-.

Methyl 3β-hydroxy-1αH,5αH-tropan-2β-carboxylate, benzoate (ester) hydrochloride CAS RN®: 53-21-4; UNII: XH8T8T6WZH.

» Cocaine Hydrochloride contains not less than 99.0 percent and not more than 101.0 percent of $C_{17}H_{21}NO_4 \cdot HCl$, calculated on the dried basis.

Packaging and storage—Preserve in well-closed, light-resistant containers.

USP Reference standards ⟨11⟩—
USP Cocaine Hydrochloride RS

Identification—

A: It meets the requirements under *Identification—Organic Nitrogenous Bases* ⟨181⟩, sodium carbonate TS being used in place of 1 N sodium hydroxide.

B: To 5 mL of a solution (1 in 50) add 5 drops of chromium trioxide solution (1 in 20): a yellow precipitate is formed, and it quickly redissolves when the mixture is shaken gently. Add 1 mL of hydrochloric acid: a permanent, orange-colored crystalline precipitate is formed.

C: To a solution of about 10 mg in 2 drops of water add 1 mL of 0.1 N potassium permanganate: a violet, crystalline precipitate is formed, and it appears brownish violet when collected on a filter, and shows characteristic, violet-red crystalline aggregates under the low power of a microscope.

D: It responds to the tests for *Chloride* ⟨191⟩.

Specific rotation ⟨781S⟩**:** between −71° and −73°.

Test solution: 20 mg, previously dried, per mL, in water.

Acidity—Dissolve 500 mg in 10 mL of water, add 1 drop of methyl red TS, and titrate with 0.020 N sodium hydroxide: not more than 0.50 mL is required to produce a yellow color.

Loss on drying ⟨731⟩—Dry it over silica gel for 3 hours: it loses not more than 1.0% of its weight.

Residue on ignition ⟨281⟩**:** not more than 0.1%.

Readily carbonizable substances ⟨271⟩—Dissolve 500 mg in 5 mL of sulfuric acid: the solution has no more color than *Matching Fluid F*.

Limit of cinnamyl-cocaine and other reducing substances—To 5 mL of a solution (1 in 50) add 0.3 mL of 1 N sulfuric acid and 0.10 mL of 0.10 N potassium permanganate: the violet color does not disappear entirely within 30 minutes.

Limit of isoatropyl-cocaine—Dilute 5 mL of a solution (1 in 50) in a beaker with 80 mL of water, add 0.2 mL of 6 N ammonium hydroxide, stir the solution vigorously during 5 minutes, occasionally rubbing the inner wall of the beaker with a stirring rod: a crystalline precipitate of cocaine is formed, and the supernatant is clear.

Assay—Dissolve about 500 mg of Cocaine Hydrochloride, accurately weighed, in a mixture of 40 mL of glacial acetic acid and 10 mL of mercuric acetate TS. Add 2 drops of quinaldine red TS, and titrate with 0.1 N perchloric acid VS. Perform a blank determination, and make any necessary correction. Each mL of 0.1 N perchloric acid is equivalent to 33.98 mg of $C_{17}H_{21}NO_4 \cdot HCl$.

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

Topic/Question	Contact	Expert Committee
COCAINE HYDROCHLORIDE	Nam-Cheol Kim Scientific Liaison	BDSHM2020 Botanical Dietary Supplements and Herbal Medicines

Chromatographic Database Information: Chromatographic Database

https://trungtamthuoc.com/
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