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## Purified Rayon

### DEFINITION

Purified Rayon is a fibrous form of bleached, regenerated cellulose.

### IDENTIFICATION

**Add the following:**

▲ • **A. AUXILIARY PACKAGING COMPONENTS (670), Pharmaceutical Coil, Rayon Pharmaceutical Coil:** Meets the requirements ▲ (USP 1-Dec-2020)

**Add the following:**

▲ • **B. FLUORESCENCE:** No intense blue with UV ▲ (USP 1-Dec-2020)

### IMPURITIES

• [RESIDUE ON IGNITION \(281\)](#)

**Sample:** 5.0 g of Purified Rayon

**Acceptance criteria:** NMT 1.50%

• [ACID-INSOLUBLE ASH](#)

**Analysis:** To the residue obtained in the test for *Residue on Ignition*, add 25 mL of 3 N hydrochloric acid, and boil for 5 min. Collect the insoluble matter on a tared filtering crucible, wash with hot water, ignite, and weigh.

**Acceptance criteria:** NMT 63.0 mg (1.25%)

• [WATER-SOLUBLE SUBSTANCES](#)

**Sample:** 10 g of Purified Rayon, accurately weighed

**Analysis:** Place the *Sample* in a beaker containing 1000 mL of water and boil gently for 30 min, adding water as required to maintain the volume. Pour the water through a funnel into another vessel, and press out the excess water from the rayon with a glass rod. Wash the rayon in the funnel with two 250-mL portions of boiling water, pressing the rayon after each washing. Filter the combined extract and washings, and wash the filter thoroughly with hot water. Evaporate the combined extract and washings to a small volume, transfer to a tared porcelain or platinum dish, evaporate to dryness, and dry the residue at 105° to constant weight.

**Acceptance criteria:** NMT 100 mg (1.0%)

### SPECIFIC TESTS

• [ALKALINITY OR ACIDITY](#)

**Sample:** About 10 g of Purified Rayon

**Analysis:** Immerse the *Sample* in 100 mL of recently boiled and cooled water and decant 25-mL portions of the water, with the aid of a glass rod, into each of two dishes. To one portion add 3 drops of [phenolphthalein TS](#), and to the other portion add 1 drop of [methyl orange TS](#).

**Acceptance criteria:** Neither portion appears pink when viewed against a white background.

**Change to read:**

• [FIBER LENGTH](#)

**Sample:** Remove Purified Rayon from its wrappings, and condition it for NLT 4 h in a standard atmosphere of 65 ± 2% relative humidity at 21 ± 1.1° before determining the fiber length.

**Analysis:** Determine the fiber length ▲ using a suitable method. ▲ (USP 1-Dec-2020)

**Acceptance criteria:** ▲ ▲ (USP 1-Dec-2020) NMT 5.0%, by weight, of the fibers are ▲ 6.25 ▲ (USP 1-Dec-2020) mm or less in length.

**Change to read:**

• [ABSORBENCY](#)

**Sample:** Remove Purified Rayon from its wrappings, and condition it for NLT 4 h in a standard atmosphere of 65 ± 2% relative humidity at 21 ± 1.1° before determining the absorbency.

**Analysis:** ▲Prepare a test basket, weighing NMT 3 g, from copper wire approximately 0.4 mm in diameter (No. 26, B. & S. gauge) in the form of a cylinder approximately 5 cm in diameter and 8 cm deep, with spaces of about 2 cm between the wires. Take portions of rayon weighing  $1 \pm 0.05$  g from five different parts of the package by pulling, not cutting, the specimens. Combine the portions in the basket and weigh. Hold the basket on its side approximately 12 mm above the surface of water at  $25 \pm 1^\circ$ , and drop it into the water. Determine, preferably by use of a stopwatch, the time in seconds required for complete submersion. Remove the basket from the water, allow it to drain for 10 s in the same horizontal position, then place it immediately in a tared, covered vessel, and weigh, deducting the weight of the test basket and of the rayon to find the weight of water absorbed.▲ (USP 1-Dec-2020)

**Acceptance criteria:** Submersion is complete in 5 s, and the rayon retains NLT 16 times its weight of water.

• **DYES**

**Sample:** About 10 g of Purified Rayon

**Analysis:** Pack the **Sample** in a narrow percolator, and extract slowly with alcohol until the percolate measures 50 mL.

**Acceptance criteria:** When observed downward through a column 20 cm in depth, the percolate may show a yellowish color, but neither a blue nor a green tint.

**Change to read:**

• **OTHER FOREIGN MATTER:** The ▲samples▲ (USP 1-Dec-2020) of Purified Rayon taken for the determination of fiber length in the test for *Fiber Length* contain no oil stains or metallic particles ▲on visual inspection.▲ (USP 1-Dec-2020)

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

Topic/Question	Contact	Expert Committee
PURIFIED RAYON	<a href="#">Leslie Furr</a> Associate Scientific Liaison	GCDF2020 General Chapters - Dosage Forms 2020
REFERENCE STANDARD SUPPORT	RS Technical Services <a href="mailto:RSTECH@usp.org">RSTECH@usp.org</a>	GCDF2020 General Chapters - Dosage Forms 2020

**Chromatographic Database Information:** [Chromatographic Database](#)

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