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Collodion

DEFINITION

Collodion contains NLT 5.0%, by weight, of pyroxylin.

Pyroxylin	40 g
Ether	750 mL
Alcohol	250 mL
To make about	1000 mL

To the *Pyroxylin* in a suitable container add the *Alcohol* and *Ether*, and insert the stopper into the container. Shake the mixture occasionally until the *Pyroxylin* is dissolved.

[CAUTION—Collodion is highly flammable.]

IDENTIFICATION

• **A.**

Analysis: Expose a thin layer to air, leaving a transparent, tenacious film.

Acceptance criteria: The film of pyroxylin so obtained burns rapidly with a yellow flame.

• **B.**

Analysis: Mix with an equal volume of water.

Acceptance criteria: A viscid, stringy mass of pyroxylin is produced.

ASSAY

• **PROCEDURE**

Sample: 10 mL

Analysis: Quickly pour the *Sample* into a tared flask, insert the stopper, and weigh the Assay charge accurately. Remove the stopper, warm on a steam bath, and add 10 mL of water dropwise, with constant stirring. Evaporate the mixture on a steam bath, and dry the residue at 105° for 4 h.

Acceptance criteria: NLT 5.0%, by weight

OTHER COMPONENTS

• **[ALCOHOL DETERMINATION \(611\).](#)**

Internal standard solution: Acetone and 1,2-dichloroethane (20:80) in a glass-stoppered graduated cylinder

Standard stock solutions: Transfer 10-, 20-, and 30-mL portions of dehydrated alcohol into separate 100-mL volumetric flasks, dilute with 1,2-dichloroethane to volume, and mix.

Standard solutions: Mix 10 mL of each *Standard stock solution* with 15 mL of 1,2-dichloroethane, 10 mL of hexane, and 10.0 mL of *Internal standard solution* in separate glass-stoppered, 50-mL graduated cylinders.

Sample solution: To 10 mL of Collodion in a glass-stoppered, 50-mL graduated cylinder add 15 mL of 1,2-dichloroethane, 10 mL of hexane, and 10.0 mL of *Internal standard solution*. Mix, and allow the precipitate to settle.

Chromatographic system

(See [Chromatography \(621\)](#), [System Suitability](#).)

Mode: GC

Detector: Thermal conductivity

Column: 1.8-m × 3.5-mm glass; packing S3

Temperatures

Column: 150°

Injection port: 200°

Detector: 250°

Carrier gas: Helium

Flow rate: 50 mL/min

Injection volume: 4 µL

Analysis

Samples: *Standard solutions and Sample solution*

Calculate the relative response factor, F , for each *Standard solution* taken:

$$F = C_s / R_s$$

C_s = concentration of alcohol in the *Standard solution*, as a percentage (v/v)

R_s = peak response ratio of alcohol to acetone from the respective *Standard solution*

Calculate the percentage of alcohol (C_2H_5OH) in the portion of Collodion taken:

$$\text{Result} = R_u \times F_a$$

R_u = peak response ratio of alcohol to acetone from the *Sample solution*

F_a = average of the individual F values

Acceptance criteria: 22.0%–26.0%

SPECIFIC TESTS

• **SPECIFIC GRAVITY (841):** 0.765–0.775

• **ACIDITY**

Sample: 5 mL

Analysis: Add the *Sample* to 5 mL of water.

Acceptance criteria: The liquid separated from the pyroxylin is not acid to litmus.

ADDITIONAL REQUIREMENTS

- **PACKAGING AND STORAGE:** Package in tight containers, at a temperature not exceeding 30°, remote from fire.
- **LABELING:** The label bears a caution statement to the effect that Collodion is highly flammable.

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

Topic/Question	Contact	Expert Committee
COLLODION	Brian Serumaga Science Program Manager	CMP2020 Compounding 2020

Chromatographic Database Information: [Chromatographic Database](#)

Most Recently Appeared In:

Pharmacopeial Forum: Volume No. Information currently unavailable

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