Status: Currently Official on 17-Feb-2025
Official Date: Official Prior to 2013
Document Type: USP Monographs
DocId: GUID-EF4F7837-CC10-42C6-9E2F-25827B72F304_1_en-US
DOI: https://doi.org/10.31003/USPNF_M13830_01_01
DOI Ref: v2zom

Aromatic Castor Oil

DEFINITION
Aromatic Castor Oil is Castor Oil containing suitable flavoring agents. It contains NLT 95.0% of castor oil.

ASSAY

• **Procedure**

Internal standard solution: 12 mg/mL of di(2-ethylhexyl)phthalate in chloroform

Standard solution: Transfer 100 mg of Castor Oil to a 100-mL boiling flask equipped with a suitable reflux condenser connected by a ground-glass joint. Add 30 mL of a mixture of 300 mL of methanol and 3.7 mL of sulfuric acid, reflux in a water bath maintained at 75°–80° for 2.5 h, cool, and rinse down the condenser with 10 mL of water. Transfer the contents of the flask to a 125-mL separator with the aid of 10 mL of water. Rinse the condenser and the flask with 25 mL of solvent hexane, and transfer to the separator. Shake the separator for 2 min, and draw off the aqueous layer into a second 125-mL separator. Add 20 mL of solvent hexane to the second separator, shake for 2 min, discard the aqueous layer, and transfer the solvent hexane layer to the first separator with the aid of 10 mL of solvent hexane. Wash the combined extracts with three 5-mL portions of water, discarding the washings, and transfer the washed extract to a 125-mL conical flask, through a funnel containing anhydrous sodium sulfate, with the aid of 25 mL of solvent hexane. Place the flask in a hot water bath, and evaporate with the aid of a current of air to dryness. To the residue add 10.0 mL of *Internal standard solution*, and mix until solution is complete.

Sample solution: Transfer an amount of Aromatic Castor Oil, well-shaken and nominally equivalent to 100 mg of castor oil, to a long-neck, round-bottom 100-mL boiling flask equipped with a suitable reflux condenser connected by a ground-glass joint. Proceed as directed for the *Standard solution*, beginning with "Add 30 mL of a mixture of 300 mL of methanol and 3.7 mL of sulfuric acid…".

Chromatographic system

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

Mode: GC

Detector: Flame ionization

Column: 1.8-m × 4-mm column packed with 4% liquid phase G25 on support S1

Column conditioning: Flush with helium for 2–5 min, then heat without further flushing at 250° for NLT 30 min, then cool to room temperature, and finally heat while helium is flowing through it at 250° for NLT 60 min.

Temperature

Column: 245°

Injector: 300°

Detector: 300°

Flow rate: Adjust to obtain a peak due to castor oil 5.5 min after introduction of the specimen and an internal standard peak 8 min after introduction of the specimen.

Carrier gas: Helium

Injection size: 5 µL

Analysis

Samples: *Standard solution* and *Sample solution*

Measure the heights of the peaks due to castor oil and the *Internal standard solution*.

Calculate the percentage of castor oil in the portion of Aromatic Castor Oil taken:

$$\text{Result} = (R_U/R_S) \times (W_S/W_U) \times 100$$

R_U = ratio of the heights of the peaks due to castor oil and the internal standard, *Sample solution*

R_S = ratio of the heights of the peaks due to castor oil and the internal standard, *Standard solution*

W_S = weight of Castor Oil taken to prepare the *Standard solution* (mg)

W_U = nominal weight of castor oil in the sample of Aromatic Castor Oil taken to prepare the *Sample solution* (mg)

Acceptance criteria: NLT 95.0%

OTHER COMPONENTS

• **Alcohol Determination,** *Method I* ⟨611⟩**:** NMT 4.0% of C_2H_5OH

ADDITIONAL REQUIREMENTS

• **Packaging and Storage:** Preserve in tight containers.

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

Topic/Question	Contact	Expert Committee
AROMATIC CASTOR OIL	Nam-Cheol Kim Scientific Liaison	BDSHM2020 Botanical Dietary Supplements and Herbal Medicines
REFERENCE STANDARD SUPPORT	RS Technical Services RSTECH@usp.org	BDSHM2020 Botanical Dietary Supplements and Herbal Medicines

Chromatographic Database Information: Chromatographic Database

Most Recently Appeared In:
Pharmacopeial Forum: Volume No. Information currently unavailable

Current DocID: GUID-EF4F7837-CC10-42C6-9E2F-25827B72F304_1_en-US
DOI: https://doi.org/10.31003/USPNF_M13830_01_01
DOI ref: v2zom