

Status: Currently Official on 15-Feb-2025
Official Date: Official as of 01-Sep-2024
Document Type: USP Monographs
DocId: GUID-069EB963-42E1-4F0E-B03C-8B310CEFEA3B_7_en-US
DOI: https://doi.org/10.31003/USPNF_M71654_07_01
DOI Ref: 4jo57

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Naproxen Sodium and Pseudoephedrine Hydrochloride Extended-Release Tablets

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DEFINITION

Naproxen Sodium and Pseudoephedrine Hydrochloride Extended-Release Tablets contain NLT 90.0% and NMT 110.0% of the labeled amount of naproxen sodium ($C_{14}H_{13}NaO_3$) and pseudoephedrine hydrochloride ($C_{10}H_{15}NO \cdot HCl$).

IDENTIFICATION

- **A.** The retention times of the naproxen and pseudoephedrine peaks of the *Sample solution* correspond to those of the *Standard solution*, as obtained in the Assay.
- **B.** The UV absorption spectra of the naproxen and pseudoephedrine peaks of the *Sample solution* exhibit maxima and minima at the same wavelengths as those of the corresponding peaks of the *Standard solution*, as obtained in the Assay.

ASSAY

PROCEDURE

Buffer: Dissolve 400 mg of [sodium lauryl sulfate](#) in 1 L of [water](#). Add 5 mL of [triethylamine](#) and adjust with [glacial acetic acid](#) to a pH of 4.1.

Mobile phase: [Acetonitrile](#), [methanol](#), and *Buffer* (25:25:50)

Standard solution: 0.22 mg/mL of [USP Naproxen Sodium RS](#) and 0.12 mg/mL of [USP Pseudoephedrine Hydrochloride RS](#) in [methanol](#)

Sample stock solution: Nominally 2.2 mg/mL of naproxen sodium and 1.2 mg/mL of pseudoephedrine hydrochloride in [methanol](#) prepared as follows. Transfer NLT 5 whole Tablets to an appropriate volumetric flask, add 70% of the final volume of [methanol](#), and shake to disintegrate the Tablets. Sonicate for 30 min with intermittent shaking. Allow the solution to cool to room temperature and dilute with [methanol](#) to volume. Centrifuge 10 mL of the solution for 10 min, and use the clear supernatant to prepare the *Sample solution*.

Sample solution: Nominally 0.22 mg/mL of naproxen sodium and 0.12 mg/mL of pseudoephedrine hydrochloride in [methanol](#) from the *Sample stock solution*. Pass a portion of the solution through a suitable filter of 0.45- μ m pore size.

Chromatographic system

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

Mode: LC

Detector: UV 257 nm. For *Identification B*, use a diode array detector in the range of 200–400 nm.

Column: 4.6-mm $\times$ 25-cm; 5- μ m packing [L1](#)

Flow rate: 1.0 mL/min

Injection volume: 10 μ L

Run time: NLT 6 times the retention time of pseudoephedrine

System suitability

Sample: *Standard solution*

Suitability requirements

Tailing factor: NMT 2.0 for the naproxen and pseudoephedrine peaks

Relative standard deviation: NMT 2.0% for the naproxen and pseudoephedrine peaks

Analysis

Samples: *Standard solution* and *Sample solution*

Calculate the percentage of the labeled amount of naproxen sodium ($C_{14}H_{13}NaO_3$) and pseudoephedrine hydrochloride ($C_{10}H_{15}NO \cdot HCl$) in the portion of Tablets taken:

$$\text{Result} = (r_U/r_S) \times (C_S/C_U) \times 100$$

r_U = peak response of naproxen or pseudoephedrine from the *Sample solution*

r_S = peak response of naproxen or pseudoephedrine from the *Standard solution*

C_S = concentration of [USP Naproxen Sodium RS](#) or [USP Pseudoephedrine Hydrochloride RS](#) in the *Standard solution* (mg/mL)

C_U = nominal concentration of naproxen sodium or pseudoephedrine hydrochloride in the *Sample solution* (mg/mL)

Acceptance criteria: 90.0%–110.0%

PERFORMANCE TESTS

Change to read:

- [DISSOLUTION \(711\)](#).

Test 1

Medium: 0.01% ▲ [sodium dodecyl sulfate](#) ▲ (RB 1-Sep-2024) in [water](#), degassed; 900 mL

Apparatus 1: 75 rpm

Times

Naproxen sodium: 1 h

Pseudoephedrine hydrochloride: 1, 3, and 8 h

Buffer: Add 5 mL of [triethylamine](#) to 1 L of 0.4 g/L of ▲ [sodium dodecyl sulfate](#) ▲ (RB 1-Sep-2024) in [water](#). Adjust with [glacial acetic acid](#) to a pH of 4.1.

Mobile phase: [Acetonitrile](#), [methanol](#), and *Buffer* (25:25:50)

Standard stock solution: 1.22 mg/mL of [USP Naproxen Sodium RS](#) and 0.66 mg/mL of [USP Pseudoephedrine Hydrochloride RS](#) in [methanol](#)

Standard solution: 0.24 mg/mL of [USP Naproxen Sodium RS](#) and 0.13 mg/mL of [USP Pseudoephedrine Hydrochloride RS](#) in *Medium* from the *Standard stock solution*

Sample solution: At the times specified, withdraw 10 mL of the solution under test, and pass through a suitable filter of 0.45-μm pore size. Replace the aliquots withdrawn for analysis with equal volumes of fresh portions of *Medium* maintained at 37°.

Chromatographic system

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

Mode: LC

Detector: UV 257 nm

Column: 4.6-mm × 25-cm; 5-μm packing [L1](#)

Flow rate: 1.5 mL/min

Injection volume: 40 μL

Run time: NLT 2.5 times the retention time of pseudoephedrine

System suitability

Sample: *Standard solution*

[NOTE—The relative retention times for pseudoephedrine and naproxen are 0.5 and 1.0, respectively.]

Suitability requirements

Tailing factor: NMT 2.0 for the naproxen and pseudoephedrine peaks

Relative standard deviation: NMT 2.0% for the naproxen and pseudoephedrine peaks

Analysis

Samples: *Standard solution* and *Sample solution*

Calculate the percentage (*Q*) of the labeled amount of naproxen sodium ($C_{14}H_{13}NaO_3$) dissolved:

$$\text{Result} = (r_U/r_S) \times C_S \times V \times (1/L) \times 100$$

r_U = peak response of naproxen from the *Sample solution*

r_S = peak response of naproxen from the *Standard solution*

C_S = concentration of [USP Naproxen Sodium RS](#) in the *Standard solution* (mg/mL)

V = volume of *Medium*, 900 mL

L = label claim of naproxen sodium (mg/Tablet)

Calculate the concentration (C_i), in mg/mL, of pseudoephedrine hydrochloride ($C_{10}H_{15}NO \cdot HCl$) in the sample withdrawn from the vessel at each time point (*i*):

$$\text{Result}_i = (r_U/r_S) \times C_S$$

r_U = peak response of pseudoephedrine from the *Sample solution*

r_S = peak response of pseudoephedrine from the *Standard solution*

C_S = concentration of [USP Pseudoephedrine Hydrochloride RS](#) in the *Standard solution* (mg/mL)

Calculate the percentage of the labeled amount of pseudoephedrine hydrochloride ($C_{10}H_{15}NO \cdot HCl$) dissolved at each time point (*i*):

$$\text{Result}_1 = C_1 \times V \times (1/L) \times 100$$

$$\text{Result}_2 = [(C_2 \times V) + (C_1 \times V_s)] \times (1/L) \times 100$$

$$\text{Result}_3 = \{(C_3 \times V) + [(C_2 + C_1) \times V_s]\} \times (1/L) \times 100$$

- C_i = concentration of pseudoephedrine hydrochloride in *Medium* in the portion of the sample withdrawn at each time point (*i*) (mg/mL)
- V = volume of *Medium*, 900 mL
- L = label claim of pseudoephedrine hydrochloride (mg/Tablet)
- V_s = volume of the *Sample solution* withdrawn from the *Medium* (mL)

Tolerances

- Naproxen sodium:** NLT 80% (*Q*) of the labeled amount of naproxen sodium ($C_{14}H_{13}NaO_3$) is dissolved.
- Pseudoephedrine hydrochloride:** See [Table 1](#).

Table 1

Time Point (<i>i</i>)	Time (h)	Amount of Pseudoephedrine Hydrochloride Dissolved (%)
1	1	35–55
2	3	75–95
3	8	NLT 85

The percentages of the labeled amount of pseudoephedrine hydrochloride ($C_{10}H_{15}NO \cdot HCl$) dissolved at the times specified conform to [Dissolution \(711\)](#), [Acceptance Table 2](#).

Test 2: If the product complies with this test, the labeling indicates that it meets USP *Dissolution Test 2*.

- Medium:** 0.01% ▲ [sodium dodecyl sulfate](#) ▲ (RB 1-Sep-2024) in [water](#); 900 mL
- Apparatus 1:** 75 rpm
- Times**

Naproxen sodium: 1 h

Pseudoephedrine hydrochloride: 1, 3, and 8 h
- Solution A:** Dissolve 6.8 g of [monobasic potassium phosphate](#) in 1 L of [water](#). Adjust with [phosphoric acid](#) to a pH of 4.0.
- Solution B:** [Acetonitrile](#)
- Mobile phase:** See [Table 2](#).

Table 2

Time (min)	Solution A (%)	Solution B (%)
0.0	90	10
10.0	45	55
11.0	90	10
14.0	90	10

- Standard solution:** 0.24 mg/mL of [USP Naproxen Sodium RS](#) and 0.13 mg/mL of [USP Pseudoephedrine Hydrochloride RS](#) prepared as follows. Dissolve suitable quantities of [USP Naproxen Sodium RS](#) and [USP Pseudoephedrine Hydrochloride RS](#) with 2% of the final volume of [methanol](#) and sonicate if necessary. Dilute with *Medium* to volume.
- Sample solution:** At the times specified, withdraw 10 mL of the solution under test, and pass through a suitable filter of 0.45-µm pore size.
- Chromatographic system**

(See [Chromatography \(621\)](#), [System Suitability](#).)
- Mode:** LC

Detector: UV 254 nm for the pseudoephedrine peak (before relative retention time of 0.5 in relation to the naproxen peak); UV 290 nm for the naproxen peak (at relative retention time of 0.5 and after relative retention time of 0.5 in relation to the naproxen peak)

Column: 4.6-mm × 15-cm; 5-μm packing [L1](#)

Column temperature: 30°

Flow rate: 1.6 mL/min

Injection volume: 30 μL

System suitability

Sample: *Standard solution*

Suitability requirements

Tailing factor: NMT 2.0 for the naproxen and pseudoephedrine peaks

Relative standard deviation: NMT 2.0% for the naproxen and pseudoephedrine peaks

Analysis

Samples: *Standard solution* and *Sample solution*

Calculate the percentage (*Q*) of the labeled amount of naproxen sodium ($C_{14}H_{13}NaO_3$) dissolved:

$$\text{Result} = (r_U/r_S) \times C_S \times V \times (1/L) \times 100$$

r_U = peak response of naproxen from the *Sample solution*

r_S = peak response of naproxen from the *Standard solution*

C_S = concentration of [USP Naproxen Sodium RS](#) in the *Standard solution* (mg/mL)

V = volume of *Medium*, 900 mL

L = label claim of naproxen sodium (mg/Tablet)

Calculate the concentration (C_i), in mg/mL, of pseudoephedrine hydrochloride ($C_{10}H_{15}NO \cdot HCl$) in the sample withdrawn from the vessel at each time point (*i*):

$$\text{Result}_i = (r_U/r_S) \times C_S$$

r_U = peak response of pseudoephedrine from the *Sample solution*

r_S = peak response of pseudoephedrine from the *Standard solution*

C_S = concentration of [USP Pseudoephedrine Hydrochloride RS](#) in the *Standard solution* (mg/mL)

Calculate the percentage of the labeled amount of pseudoephedrine hydrochloride ($C_{10}H_{15}NO \cdot HCl$) dissolved at each time point (*i*):

$$\text{Result}_1 = C_i \times V \times (1/L) \times 100$$

$$\text{Result}_2 = \{[C_2 \times (V - V_S)] + (C_1 \times V_S)\} \times (1/L) \times 100$$

$$\text{Result}_3 = \{C_3 \times [V - (2 \times V_S)] + [(C_2 + C_1) \times V_S]\} \times (1/L) \times 100$$

C_i = concentration of pseudoephedrine hydrochloride in *Medium* in the portion of the sample withdrawn at each time point (*i*) (mg/mL)

V = volume of *Medium*, 900 mL

L = label claim of pseudoephedrine hydrochloride (mg/Tablet)

V_S = volume of the *Sample solution* withdrawn from the vessel, 10 mL

Tolerances

Naproxen sodium: NLT 80% (*Q*) of the labeled amount of naproxen sodium ($C_{14}H_{13}NaO_3$) is dissolved.

Pseudoephedrine hydrochloride: See [Table 3](#).

Table 3

Time Point (i)	Time (h)	Amount of Pseudoephedrine Hydrochloride Dissolved (%)
1	1	40–65
2	3	75–100
3	8	NLT 85

The percentages of the labeled amount of pseudoephedrine hydrochloride ($C_{10}H_{15}NO \cdot HCl$) dissolved at the times specified conform to [Dissolution \(711\)](#), [Acceptance Table 2](#).

▲**Test 3:** If the product complies with this test, the labeling indicates that it meets USP *Dissolution Test 3*.

Medium: 0.01% [sodium dodecyl sulfate](#) in [water](#) (Dissolve 0.1 g of [sodium dodecyl sulfate](#) in 1 L of [water](#)); 900 mL, deaerated, if necessary

Apparatus 1: 75 rpm

Times

Naproxen sodium: 45 min

Pseudoephedrine hydrochloride: 1, 3, and 8 h

Solution A: [Acetonitrile](#) and [water](#) (45:55)

Mobile phase: Dissolve 2.5 g of [dioctyl sodium sulfosuccinate](#) and 1.0 mL of [phosphoric acid](#) in 1 L of *Solution A*. Adjust with [ammonia water, 25 percent](#) or [phosphoric acid](#) to a pH of 3.0.

Standard stock solution A: 0.62 mg/mL of [USP Naproxen Sodium RS](#) in *Medium*. Sonicate to dissolve, if necessary.

Standard stock solution B: 0.56 mg/mL of [USP Pseudoephedrine Hydrochloride RS](#) in *Medium*. Sonicate to dissolve, if necessary.

Standard solution: 0.124 mg/mL of [USP Naproxen Sodium RS](#) and 0.0672 mg/mL of [USP Pseudoephedrine Hydrochloride RS](#) from *Standard stock solution A* and *Standard stock solution B* in *Medium*

Sample solution: At the specified time points, withdraw a suitable volume of the solution under test. Pass through a suitable filter, discarding an appropriate volume of filtrate so that a consistent result can be obtained. Dilute 5 mL of the filtrate with *Medium* to 10 mL. Replace the portion removed from the solution under test with the same volume of *Medium*.

Chromatographic system

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

Mode: LC

Detector: UV 257 nm for naproxen; UV 215 nm for pseudoephedrine

Column: 4.6-mm × 25-cm; 5-μm packing [L11](#)

Column temperature: 30°

Flow rate: 1.2 mL/min

Injection volume: 10 μL

Run time: NLT 1.7 times the retention time of naproxen

System suitability

Sample: *Standard solution*

Suitability requirements

Tailing factor: 0.8–2.0 for naproxen and pseudoephedrine

Relative standard deviation: NMT 2.0% for naproxen and pseudoephedrine

Analysis

Samples: *Standard solution* and *Sample solution*

Calculate the percentage of the labeled amount of naproxen sodium ($C_{14}H_{13}NaO_3$) dissolved:

$$\text{Result} = (r_U/r_S) \times C_S \times V \times D \times (1/L) \times 100$$

r_U = peak response of naproxen from the *Sample solution*

r_S = peak response of naproxen from the *Standard solution*

C_S = concentration of [USP Naproxen Sodium RS](#) in the *Standard solution* (mg/mL)

V = volume of *Medium*, 900 mL

D = dilution factor for the *Sample solution*

L = label claim of naproxen sodium (mg/Tablet)

Calculate the concentration (C_i), in mg/mL, of pseudoephedrine hydrochloride ($C_{10}H_{15}NO \cdot HCl$) in the sample withdrawn from the vessel at each time point (i):

$$\text{Result}_i = (r_U/r_S) \times C_S \times D$$

- r_U = peak response of pseudoephedrine from the *Sample solution*
- r_S = peak response of pseudoephedrine from the *Standard solution*
- C_S = concentration of [USP Pseudoephedrine Hydrochloride RS](#) in the *Standard solution* (mg/mL)
- D = dilution factor for the *Sample solution*

Calculate the percentage of the labeled amount of pseudoephedrine hydrochloride ($C_{10}H_{15}NO \cdot HCl$) dissolved at each time point (i):

$$\text{Result}_1 = C_1 \times V \times (1/L) \times 100$$

$$\text{Result}_2 = [(C_2 \times V) + (C_1 \times V_S)] \times (1/L) \times 100$$

$$\text{Result}_3 = \{(C_3 \times V) + [(C_2 + C_1) \times V_S]\} \times (1/L) \times 100$$

- C_i = concentration of pseudoephedrine hydrochloride in *Medium* in the portion of the sample withdrawn at each time point (i) (mg/mL)
- V = volume of *Medium*, 900 mL
- L = label claim of pseudoephedrine hydrochloride (mg/Tablet)
- V_S = volume of the solution under test withdrawn at each time and replaced with *Medium* (mL)

Tolerances

Naproxen sodium: NLT 80% (Q) of the labeled amount of naproxen sodium ($C_{14}H_{13}NaO_3$) is dissolved.

Pseudoephedrine hydrochloride: See [Table 4](#).

Table 4

Time Point (i)	Time (h)	Amount Dissolved (%)
1	1	33–53
2	3	72–92
3	8	NLT 85

The percentages of the labeled amount of pseudoephedrine hydrochloride ($C_{10}H_{15}NO \cdot HCl$) dissolved at the times specified conform to

[Dissolution \(711\)](#), [Acceptance Table 2](#). ▲ (RB 1-Sep-2024)

- [UNIFORMITY OF DOSAGE UNITS \(905\)](#): Meet the requirements

IMPURITIES

Change to read:

- **ORGANIC IMPURITIES**

Naproxen sodium related impurities

- Mobile phase:** [Acetonitrile](#), [water](#), and [glacial acetic acid](#) (50:50:1)
- Diluent:** [Acetonitrile](#) and [water](#) (90:10)
- System suitability solution:** 3.1 mg/mL of [USP Naproxen Sodium RS](#) and 8 µg/mL each of [USP Naproxen Related Compound K RS](#) and [USP Naproxen Related Compound L RS](#) in *Diluent*
- Standard solution:** 0.006 mg/mL of [USP Naproxen Sodium RS](#) in *Diluent*
- Sample solution:** Nominally 3.1 mg/mL of naproxen sodium in *Diluent* prepared as follows. Transfer a suitable amount of naproxen sodium from NLT 20 finely powdered Tablets to an appropriate volumetric flask, add 70% of the final volume of *Diluent*, and sonicate for 20 min with intermittent shaking. Allow the solution to cool to room temperature and dilute with *Diluent* to volume. Pass a portion of the solution through a suitable filter of 0.45-µm pore size.

Chromatographic system

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

- Mode:** LC
- Detector:** UV 260 nm

Column: 4.6-mm × 25-cm; 5-μm packing [L1](#)
Flow rate: 1.0 mL/min
Injection volume: 10 μL
Run time: NLT 5.6 times the retention time of naproxen

System suitability

Samples: *System suitability solution* and *Standard solution*

Suitability requirements

Resolution: NLT 2 between naproxen related compound K and naproxen; NLT 2 between naproxen and naproxen related compound L, *System suitability solution*
Relative standard deviation: NMT 5.0%, *Standard solution*

Analysis

Samples: *Standard solution* and *Sample solution*

Calculate the percentage of each naproxen sodium related impurity in the portion of Tablets taken:

$$\text{Result} = (r_U/r_S) \times (C_S/C_U) \times (1/F) \times 100$$

r_U = peak response of each naproxen related impurity from the *Sample solution*

r_S = peak response of naproxen from the *Standard solution*

C_S = concentration of [USP Naproxen Sodium RS](#) in the *Standard solution* (mg/mL)

C_U = nominal concentration of naproxen sodium in the *Sample solution* (mg/mL)

F = relative response factor (see [▲Table 5▲](#) (RB 1-Sep-2024))

Acceptance criteria: See [▲Table 5.](#)

Table 5▲ (RB 1-Sep-2024)

Name	Relative Retention Time	Relative Response Factor	Acceptance Criteria, NMT (%)
Naproxen related compound K	0.84	1.2	0.2
Naproxen	1.00	—	—
Naproxen related compound L	1.33	6.8	0.2
Naproxen methyl ester ^a	2.23	0.95	0.2
Naproxen isopropyl ester ^b	4.61	0.83	0.2
Any unspecified impurity	—	1.0	0.2
Total impurities ^c	—	—	1.0

- ^a Methyl 2-(6-methoxynaphthalen-2-yl)propionate.
^b Isopropyl 2-(6-methoxynaphthalen-2-yl)propionate.
^c Exclude pseudoephedrine related peaks before the relative retention time of 0.4.

Pseudoephedrine hydrochloride related impurities

Solution A: 5 mL/L of [triethylamine](#) in [water](#). Adjust with [phosphoric acid](#) to a pH of 3.0.
Solution B: [Acetonitrile](#) and [water](#) (90:10)

Mobile phase: See [▲Table 6.](#)

Table 6▲ (RB 1-Sep-2024)

Time (min)	Solution A (%)	Solution B (%)
0	100	0
30	100	0
40	0	100
50	0	100
55	100	0
90	100	0

Diluent: 5 mL/L of [triethylamine](#) in [water](#). Adjust with [phosphoric acid](#) to a pH of 6.8.

System suitability solution: 0.5 mg/mL of [USP Pseudoephedrine Hydrochloride RS](#) and 1.5 µg/mL of [USP Ephedrine Hydrochloride RS](#) in *Diluent*

Standard solution: 0.001 mg/mL of [USP Pseudoephedrine Hydrochloride RS](#) in *Diluent*

Sample solution: Nominally 0.5 mg/mL of pseudoephedrine hydrochloride in *Diluent* prepared as follows. Transfer a suitable amount of pseudoephedrine hydrochloride from NLT 20 finely powdered Tablets to an appropriate volumetric flask, add 70% of the total volume of *Diluent*, and sonicate for 30 min with intermittent shaking. Allow the solution to cool to room temperature and dilute with *Diluent* to volume. Centrifuge a portion of the solution for 10 min. Pass a portion of the solution through a suitable filter of 0.45-µm pore size.

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

Mode: LC

Detector: UV 210 nm

Column: 4.6-mm × 25-cm; 5-µm packing [L1](#)

Flow rate: 1.0 mL/min

Injection volume: 20 µL

System suitability

Samples: *System suitability solution* and *Standard solution*

Suitability requirements

Resolution: NLT 1.5 between ephedrine and pseudoephedrine, *System suitability solution*

Relative standard deviation: NMT 5.0%, *Standard solution*

Analysis

Samples: *Standard solution* and *Sample solution*

Calculate the percentage of each pseudoephedrine hydrochloride related impurity in the portion of Tablets taken:

Result = $(r_U/r_S) \times (C_S/C_U) \times (1/F) \times 100$

- r_U = peak response of each pseudoephedrine hydrochloride related impurity from the *Sample solution*
- r_S = peak response of pseudoephedrine from the *Standard solution*
- C_S = concentration of [USP Pseudoephedrine Hydrochloride RS](#) in the *Standard solution* (mg/mL)
- C_U = nominal concentration of pseudoephedrine hydrochloride in the *Sample solution* (mg/mL)
- F = relative response factor (see [▲Table 7▲](#) (RB 1-Sep-2024))

Acceptance criteria: See [▲Table 7.](#)

Table 7▲ (RB 1-Sep-2024)

Name	Relative Retention Time	Relative Response Factor	Acceptance Criteria, NMT (%)
Norephedrine hydrochloride ^a	0.62	1.0	0.2
Norpseudoephedrine hydrochloride ^b	0.72	1.3	0.2

Name	Relative Retention Time	Relative Response Factor	Acceptance Criteria, NMT (%)
Ephedrine hydrochloride	0.90	0.94	0.2
Pseudoephedrine hydrochloride	1.00	—	—
Any unspecified impurity	—	1.0	0.2
Total impurities ^c	—	—	1.0

^a (1*R*,2*S*)-2-Amino-1-phenylpropan-1-ol hydrochloride.

^b (1*S*,2*S*)-2-Amino-1-phenylpropan-1-ol hydrochloride.

^c Exclude naproxen related peaks after a relative retention time of 1.8 and blank peaks before a relative retention time of 0.2.

ADDITIONAL REQUIREMENTS

- **PACKAGING AND STORAGE:** Preserve in a dry place. Store at controlled room temperature.
- **LABELING:** When more than one *Dissolution* test is given, the labeling states the *Dissolution* test used only if *Test 1* is not used.
- **USP REFERENCE STANDARDS (11).**

[USP Ephedrine Hydrochloride RS](#)

(1*R*,2*S*)-2-(Methylamino)-1-phenylpropan-1-ol hydrochloride.

$C_{10}H_{15}NO \cdot HCl$ 201.69

[USP Naproxen Sodium RS](#)

[USP Naproxen Related Compound K RS](#)

1-(6-Methoxynaphthalen-2-yl)ethanol.

$C_{13}H_{14}O_2$ 202.25

[USP Naproxen Related Compound L RS](#)

1-(6-Methoxynaphthalen-2-yl)ethanone.

$C_{13}H_{12}O_2$ 200.23

[USP Pseudoephedrine Hydrochloride RS](#)

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

Topic/Question	Contact	Expert Committee
NAPROXEN SODIUM AND PSEUDOEPHEDRINE HYDROCHLORIDE EXTENDED-RELEASE TABLETS	Documentary Standards Support	SM22020 Small Molecules 2

Chromatographic Database Information: [Chromatographic Database](#)

Most Recently Appeared In:

Pharmacopeial Forum: Volume No. PF 43(5)

Current DocID: GUID-069EB963-42E1-4F0E-B03C-8B310CEFEA3B_7_en-US

DOI: https://doi.org/10.31003/USPNF_M71654_07_01

DOI ref: [4jo57](#)