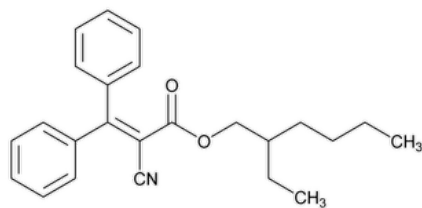


Status: Currently Official on 16-Feb-2025
Official Date: Official as of 01-Sep-2023
Document Type: USP Monographs
DocId: GUID-2E6EB12F-8F7C-4727-8EC0-E0A0E1551617_7_en-US
DOI: https://doi.org/10.31003/USPNF_M58280_07_01
DOI Ref: fxyc1

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Octocrylene



$C_{24}H_{27}NO_2$ 361.48
2-Propenoic acid, 2-cyano-3,3-diphenyl-, 2-ethylhexyl ester;
2-Ethylhexyl 2-cyano-3,3-diphenylacrylate CAS RN®: 6197-30-4; UNII: 5A68WGF6WM.

DEFINITION
Octocrylene contains NLT 95.0% and NMT 105.0% of octocrylene ($C_{24}H_{27}NO_2$).

IDENTIFICATION

Change to read:

- A. [SPECTROSCOPIC IDENTIFICATION TESTS \(197\)](#), [Ultraviolet-Visible Spectroscopy: 197U](#)**
Sample solution: 25 µg/mL in methanol
Analytical wavelength: 303 nm
Acceptance criteria: ▲ Absorptivities, calculated on the as-is basis, do not differ by more than 3.0%. ▲ (ERR 1-Sep-2023)
- B.** The retention time of major peak of the *Sample solution* corresponds to that of the *Standard solution*, as obtained in the Assay.

ASSAY

- PROCEDURE**
Standard solution: 21 mg/mL of [USP Octocrylene RS](#) in [acetone](#)
Sample solution: 21 mg/mL of Octocrylene in [acetone](#)
Chromatographic system
(See [Chromatography \(621\)](#), [System Suitability](#).)
Mode: GC
Detector: Flame ionization
Column: 0.32-mm × 60-m; coated with a 0.25-µm film of phase G1
Temperatures
Injection port: 300°
Detector: 300°
Column: See [Table 1](#).

Table 1

Initial Temperature (°)	Temperature Ramp (°/min)	Final Temperature (°)	Hold Time at Final Temperature (min)
80	4	280	10

Carrier gas: Helium

Flow rate: 6 mL/min

Injection volume: 1 µL

Injection type: Split ratio, 30:1

System suitability

Sample: *Standard solution*

Suitability requirements

Resolution: NLT 1.0 between octocrylene and any other adjacent peak

Relative standard deviation: NMT 2.0%

Analysis

Samples: *Standard solution* and *Sample solution*

Calculate the percentage of octocrylene ($C_{24}H_{27}NO_2$) in the portion of Octocrylene taken:

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

r_U = peak response from the *Sample solution*

r_S = peak response from the *Standard solution*

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

C_U = concentration of Octocrylene in the *Sample solution* (mg/mL)

Acceptance criteria: 95.0%–105.0%

IMPURITIES

• ORGANIC IMPURITIES

Standard solution, Sample solution, Chromatographic system, and System suitability: Proceed as directed in the Assay.

Analysis

Sample: *Sample solution*

Calculate the percentage of each impurity in the portion of Octocrylene taken:

$$\text{Result} = (r_U/r_T) \times 100$$

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

r_T = sum of all the peak responses from the *Sample solution*

Acceptance criteria

Individual impurities: NMT 0.5%

Total impurities: NMT 2.0%

SPECIFIC TESTS

• **SPECIFIC GRAVITY (841):** 1.045–1.055

• **REFRACTIVE INDEX (831):** 1.561–1.571 at 20°

• ACIDITY

Sample: 6 g of Octocrylene

Titrimetric system

(See [Titrimetry \(541\)](#).)

Mode: Direct titration

Titrant: [0.1 N sodium hydroxide](#)

Endpoint detection: Visual

Analysis: To 60 mL of [alcohol](#) add 1 mL of [phenolphthalein TS](#) and sufficient *Titrant* to obtain a persistent pink color. Transfer 60 mL of this solution to a suitable container, add the *Sample*, mix, and titrate with *Titrant* until a persistent pink color is obtained.

Acceptance criteria: NMT 0.18 mL of *Titrant*/g is required

ADDITIONAL REQUIREMENTS

• **PACKAGING AND STORAGE:** Preserve in tight containers.

• **USP REFERENCE STANDARDS (11).**

[USP Octocrylene RS](#)

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

Topic/Question	Contact	Expert Committee
OCTOCRYLENE	Documentary Standards Support	SM32020 Small Molecules 3
REFERENCE STANDARD SUPPORT	RS Technical Services RSTECH@usp.org	SM32020 Small Molecules 3

Chromatographic Database Information: [Chromatographic Database](#)

Most Recently Appeared In:
Pharmacopeial Forum: Volume No. PF 43(3)
Current DocID: GUID-2E6EB12F-8F7C-4727-8EC0-E0A0E1551617_7_en-US
DOI: https://doi.org/10.31003/USPNF_M58280_07_01
DOI ref: [fxyc1](#)

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