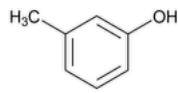


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Metacresol



C₇H₈O 108.14
3-Methylphenol;
3-Hydroxytoluene CAS RN®: 108-39-4; UNII: GGO4Y809LO.

DEFINITION
Metacresol contains NLT 98.0% and NMT 102.0% of metacresol (C₇H₈O).

IDENTIFICATION

Change to read:

- A. [▲SPECTROSCOPIC IDENTIFICATION TESTS \(197\), Infrared Spectroscopy: 197F](#) ▲ (CN 1-MAY-2020)

Change to read:

- B. The retention time of the [▲metacresol](#) ▲ (ERR 1-Jan-2019) peak of the *Sample solution* corresponds to that of the *Standard solution*, as obtained in the Assay.

ASSAY

• **PROCEDURE**

Internal standard solution: 1 mg/mL of [USP Phenol RS](#) in methanol
System suitability solution: 5 mg/mL each of metacresol, orthocresol, and paracresol in methanol
Standard solution: 1 mg/mL of [USP Metacresol RS](#) in the *Internal standard solution*
Sample solution: 1 mg/mL of Metacresol in the *Internal standard solution*
Chromatographic system
(See [Chromatography \(621\), System Suitability.](#))

Mode: GC
Detector: Flame-ionization
Column: 0.25-mm × 30-m; 0.25-µm coating of G7
Temperatures
Injection port: 200°
Detector: 200°
Column: See [Table 1](#).

Table 1

Initial Temperature (°)	Temperature Ramp (°/min)	Final Temperature (°)	Hold Time at Final Temperature (min)
90	0	90	10
90	2	120	0
120	10	150	3

Carrier gas: Helium
Flow rate: 1.8 mL/min
Injection type: Split ratio of 1:40
Injection volume: 1 µL
System suitability

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

[NOTE—The relative retention times for phenol, orthocresol, paracresol, and metacresol are about 0.77, 0.85, 0.99, and 1.00, respectively.]

Suitability requirements

Resolution: NLT 1.4 between the paracresol and metacresol peaks, *System suitability solution*

Relative standard deviation: NMT 1.0% for the peak ratio of metacresol to phenol, *Standard solution*

Analysis

Samples: *Standard solution* and *Sample solution*

Calculate the percentage of metacresol (C₇H₈O) in the portion of Metacresol taken:

$$\text{Result} = (R_U/R_S) \times (C_S/C_U) \times 100$$

R_U = ratio of the metacresol peak response to the phenol peak response from the *Sample solution*

R_S = ratio of the metacresol peak response to the phenol peak response from the *Standard solution*

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

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

Acceptance criteria: 98.0%–102.0%

IMPURITIES

• **ORGANIC IMPURITIES**

System suitability solution: 5 mg/mL each of metacresol, orthocresol, and paracresol in methanol

Sensitivity solution: 5 µg/mL of [USP Metacresol RS](#) in methanol

Sample solution: 10 mg/mL of Metacresol in methanol

Chromatographic system

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

Mode: GC

Detector: Flame-ionization

Column: 0.25-mm × 30-m; 0.25-µm coating of G7

Temperatures

Injection port: 200°

Detector: 200°

Column: See [Table 2](#).

Table 2

Initial Temperature (°)	Temperature Ramp (°/min)	Final Temperature (°)	Hold Time at Final Temperature (min)
90	0	90	10
90	2	150	15

Carrier gas: Helium

Flow rate: 1.8 mL/min

Injection type: Split ratio of 1:40

Injection volume: 1 µL

System suitability

Samples: *System suitability solution* and *Sensitivity solution*

Suitability requirements

Resolution: NLT 1.4 between the paracresol and metacresol peaks, *System suitability solution*

Signal-to-noise ratio: NLT 10, *Sensitivity solution*

Analysis

Sample: *Sample solution*

Calculate the percentage of each individual impurity in the portion of Metacresol taken:

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

r_U = peak area of each individual impurity from the *Sample solution*