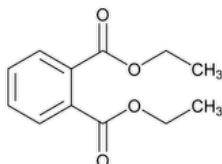


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Diethyl Phthalate



$C_{12}H_{14}O_4$ 222.24
 1,2-Benzenedicarboxylic acid, diethyl ester;
 Diethyl phthalate CAS RN®: 84-66-2.

DEFINITION

Diethyl Phthalate contains NLT 98.0% and NMT 102.0% of diethyl phthalate ($C_{12}H_{14}O_4$), calculated on the anhydrous basis. [CAUTION—Avoid contact.]

IDENTIFICATION

Change to read:

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

ASSAY

PROCEDURE

Sample: 1.5 g

Titrimetric system

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

Mode: Residual titration

Titrant: 0.5 N alcoholic potassium hydroxide VS

Back-titrant: 0.5 N hydrochloric acid VS

Endpoint detection: Visual

Analysis: Transfer the *Sample* to a flask, add 50.0 mL of the *Titrant*, and boil with a reflux condenser on a water bath for 1 h. Add 20 mL of water, then add phenolphthalein TS. Titrate the excess potassium hydroxide with the *Back-titrant*. Perform a blank determination. Each mL of 0.5 N potassium hydroxide is equivalent to 55.56 mg of diethyl phthalate ($C_{12}H_{14}O_4$).

Acceptance criteria: 98.0%–102.0% on the anhydrous basis

IMPURITIES

- [RESIDUE ON IGNITION \(281\)](#).

Sample: 10 g

Analysis: Gently heat the *Sample* until the liquid has evaporated, and ignite the residue to constant weight.

Acceptance criteria: NMT 0.02%

SPECIFIC TESTS

- [SPECIFIC GRAVITY \(841\)](#): 1.118–1.122 at 20°

- [REFRACTIVE INDEX \(831\)](#): 1.500–1.505 at 20°

ACIDITY

Sample: 20.0 g

Analysis: Mix the *Sample* with 50 mL of alcohol that previously has been neutralized to a phenolphthalein endpoint, and titrate with 0.1 N sodium hydroxide VS to a phenolphthalein endpoint.

Acceptance criteria: NMT 0.50 mL is required for neutralization.

- [WATER DETERMINATION, Method I \(921\)](#): NMT 0.2%

ADDITIONAL REQUIREMENTS

- **PACKAGING AND STORAGE:** Preserve in tight containers.
- **USP REFERENCE STANDARDS (11).**
[USP Diethyl Phthalate RS](#)

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

Topic/Question	Contact	Expert Committee
DIETHYL PHTHALATE	Documentary Standards Support	SE2020 Simple Excipients
REFERENCE STANDARD SUPPORT	RS Technical Services RSTECH@usp.org	SE2020 Simple Excipients

Chromatographic Database Information: [Chromatographic Database](#)

Most Recently Appeared In:

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