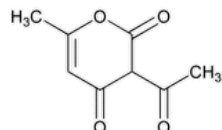


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Dehydroacetic Acid



C₈H₈O₄ 168.15

Keto form: 2*H*-Pyran-2,4(3*H*)-dione, 3-acetyl-6-methyl-;

3-Acetyl-6-methyl-2*H*-pyran-2,4(3*H*)-dione CAS RN®: 520-45-6.

Enol form: 2*H*-Pyran-2-one, 3-acetyl-4-hydroxy-6-methyl-;

3-Acetyl-4-hydroxy-6-methyl-2*H*-pyran-2-one CAS RN®: 771-03-9.

DEFINITION

Dehydroacetic Acid contains NLT 98.0% and NMT 100.5% of dehydroacetic acid (C₈H₈O₄), calculated on the dried basis.

IDENTIFICATION

Change to read:

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

ASSAY

• PROCEDURE

Sample: 500 mg

Blank: 75 mL of neutralized alcohol

Titrimetric system

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

Mode: Direct titration

Titrant: 0.1 N sodium hydroxide VS

Endpoint detection: Visual

Analysis: Transfer the *Sample* into a 250-mL conical flask, dissolve it in 75 mL of neutralized alcohol, and add phenolphthalein TS. Titrate with *Titrant* to a pink endpoint that persists for NLT 30 s. Perform a blank determination.

Calculate the percentage of dehydroacetic acid (C₈H₈O₄) in the *Sample* taken:

$$\text{Result} = \left\{ \left[(V_S - V_B) \times N \times F \right] / W \right\} \times 100$$

V_S = *Titrant* volume consumed by the *Sample* (mL)

V_B = *Titrant* volume consumed by the *Blank* (mL)

N = actual normality of the *Titrant* (mEq/mL)

F = equivalency factor, 168.2 mg/mEq

W = *Sample* weight (mg)

Acceptance criteria: 98.0%–100.5% on the dried basis

IMPURITIES

- [RESIDUE ON IGNITION \(281\)](#): NMT 0.1%

SPECIFIC TESTS

- **MELTING RANGE OR TEMPERATURE, *Class I* (741):** 109°–111°
- **LOSS ON DRYING (731).**

Analysis: Dry a sample at 80° for 4 h.

Acceptance criteria: NMT 1.0%

ADDITIONAL REQUIREMENTS

- **PACKAGING AND STORAGE:** Preserve in well-closed containers. No storage requirements specified.
- **USP REFERENCE STANDARDS (11).**
[USP Dehydroacetic Acid RS](#)

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

Topic/Question	Contact	Expert Committee
DEHYDROACETIC ACID	Documentary Standards Support	SE2020 Simple Excipients

Chromatographic Database Information: [Chromatographic Database](#)

Most Recently Appeared In:

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