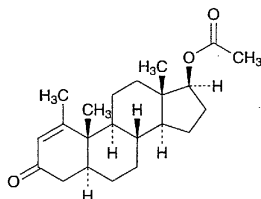


$$\begin{aligned} & \text{Amount (mg) of } C_{21}H_{26}O_2 \\ &= \text{amount (mg) of Mestranol Reference Standard} \\ & \quad \times \frac{A_T}{A_S} \end{aligned}$$

**Containers and storage** Containers—Tight containers.  
Storage—Light-resistant.

## Metenolone Acetate

酢酸メテノロン



$C_{22}H_{32}O_3$ : 344.49  
1-Methyl-3-oxo-5 $\alpha$ -androst-1-en-17 $\beta$ -yl acetate [434-05-9]

Metenolone Acetate, when dried, contains not less than 97.0% and not more than 103.0% of  $C_{22}H_{32}O_3$ .

**Description** Metenolone Acetate occurs as a white to pale yellowish white, crystalline powder. It is odorless.

It is freely soluble in acetone, in 1,4-dioxane and in chloroform, soluble in ethanol (95) and in methanol, sparingly soluble in diethyl ether and in sesame oil, slightly soluble in hexane and in petroleum ether, and practically insoluble in water.

**Identification** (1) Dissolve 1 mg of Metenolone Acetate in 5 mL of a mixture of ethanol (95) and sulfuric acid (1:1), and heat for 30 minutes in a water bath: a red-brown color develops.

(2) To 0.01 g of Metenolone Acetate add 0.5 mL of dilute sodium hydroxide-ethanol TS, and heat for 1 minute on a water bath. After cooling, add 0.5 mL of diluted sulfuric acid (1 in 2), and boil gently for 1 minute: the odor of ethyl acetate is perceptible.

(3) Dissolve 0.05 g of Metenolone Acetate in 3 mL of methanol, add 0.3 mL of a solution of potassium carbonate (1 in 6), and boil for 2 hours under a reflux condenser. After cooling, add this solution gradually to 50 mL of cold water, and stir for 15 minutes. Filter the precipitate so obtained by suction through a glass filter (G4), wash with 10 mL of water, and dry at 105°C for 1 hour: it melts between 157°C and 161°C.

(4) Determine the infrared absorption spectrum of Metenolone Acetate, previously dried, as directed in the potassium bromide disk method under the Infrared Spectrophotometry, and compare the spectrum with the Reference Spectrum: both spectra exhibit similar intensities of absorption at the same wave numbers.

**Optical rotation**  $[\alpha]_D^{20}$ : +39 – +42° (after drying, 0.2 g, chloroform, 10 mL, 100 mm).

**Melting point** 141 – 144°C

**Purity** (1) Clarity and color of solution—Dissolve 0.50 g

of Metenolone Acetate in 10 mL of 1,4-dioxane: the solution is clear and colorless to pale yellow.

(2) Heavy metals—Proceed with 2.0 g of Metenolone Acetate according to Method 2, and perform the test. Prepare the control solution with 2.0 mL of Standard Lead Solution (not more than 10 ppm).

(3) Other steroids—Dissolve 0.035 g of Metenolone Acetate in 20 mL of chloroform, and use this solution as the sample solution. Pipet 1 mL of the sample solution, dilute with chloroform to exactly 250 mL, and use this solution as the standard solution. Perform the test with these solutions as directed under the Thin-layer Chromatography. Spot 10  $\mu$ L each of the sample solution and the standard solution on a plate of silica gel with fluorescent indicator for thin-layer chromatography. Develop the plate with a mixture of cyclohexane and ethyl acetate (1:1) to a distance of about 12 cm, and air-dry the plate. Examine under ultraviolet light (main wavelength: 254 nm): the spots other than the principal spot from the sample solution are not more intense than the spot from the standard solution.

**Loss on drying** Not more than 0.5% (0.5 g, 105°C, 3 hours).

**Residue on ignition** Not more than 0.1% (0.5 g).

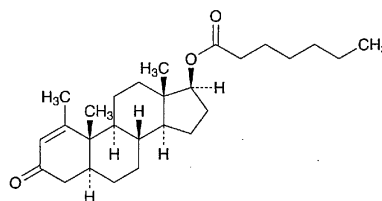
**Assay** Weigh accurately about 0.01 g of Metenolone Acetate, previously dried, and dissolve in methanol to make exactly 100 mL. Pipet 5 mL of this solution, and dilute with methanol to exactly 50 mL. Determine the absorbance  $A$  of this solution at the wavelength of maximum absorption at about 242 nm.

$$\text{Amount (mg) of } C_{22}H_{32}O_3 = \frac{A}{391} \times 10,000$$

**Containers and storage** Containers—Tight containers.  
Storage—Light-resistant.

## Metenolone Enanthate

エナント酸メテノロン



$C_{27}H_{42}O_3$ : 414.62  
1-Methyl-3-oxo-5 $\alpha$ -androst-1-en-17 $\beta$ -yl heptanoate [303-42-4]

Metenolone Enanthate, when dried, contains not less than 97.0% and not more than 103.0% of  $C_{27}H_{42}O_3$ .

**Description** Metenolone Enanthate occurs as white crystals or crystalline powder. It is odorless.

It is very soluble in ethanol (95), in acetone, in 1,4-dioxane and in chloroform, freely soluble in methanol, in ethyl acetate, in diethyl ether, in cyclohexane, in petroleum