filtrate has no more color than the following control solution.

Control solution: To 2.0 mL of 1/60 mol/L potassium dichromate VS add water to make 1000 mL.

Loss on drying Not more than 1.5% (0.5 g, 105°C, 2 hours).

Residue on ignition Not more than 0.20% (1 g).

Assay Conduct this procedure without exposure to daylight, using light-resistant vessels. Weigh accurately about 0.015 g of Riboflavin, previously dried, dissolve in 800 mL of diluted acetic acid (100) (1 in 400) by warming, cool, add water to make exactly 1000 mL, and use this solution as the sample solution. Dry Riboflavin Reference Standard at 105°C for 2 hours, weigh accurately about 0.015 g, dissolve in 800 mL of diluted acetic acid (100) (1 in 400) by warming, cool, add water to make exactly 1000 mL, and use this solution as the standard solution. Perform the test with the sample solution and the standard solution as directed under the Ultraviolet-visible Spectrophotometry, using water as the blank, and determine the absorbances, A_T and A_S, at 445 nm. Add 0.02 g of sodium hydrosulfite to 5 mL of each solution, shake until decolorized, and immediately measure the absorbances, $A_{T'}$ and $A_{S'}$, of the solutions.

Amount (mg) of $C_{17}H_{20}N_4O_6$
= amount (mg) of Riboflavin Reference Standard
$\times \frac{A_T - A_{T'}}{A_S - A_{S'}}$

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

Riboflavin Powder

Vitamin B_2 Powder

リボフラビン散

Riboflavin Powder contains not less than 95% and not more than 115% of the labeled amount of riboflavin ($C_{17}H_{20}N_4O_6$: 376.36).

Method of preparation Prepare as directed under Powders, with Riboflavin.

Identification Shake a portion of Riboflavin Powder, equivalent to 1 mg of Riboflavin according to the labeled amount, with 100 mL of water, filter, and proceed with the filtrate as directed in the Identification (1) and (2) under Riboflavin.

Purity Rancidity—Riboflavin Powder is free from any unpleasant or rancid odor or taste.

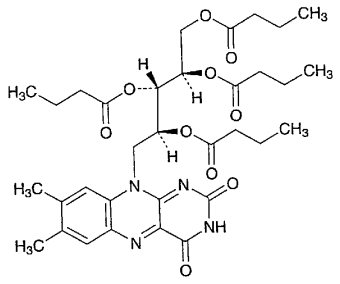
Assay The procedure should be performed under protection from direct sunlight and in light-resistant vessels. Weigh accurately Riboflavin Powder equivalent to about 0.015 g of riboflavin ($C_{17}H_{20}N_4O_6$), add 800 mL of diluted acetic acid (100) (1 in 400), and extract by warming for 30 minutes with occasional shaking. Cool, dilute with water to make exactly 1000 mL, and filter through a glass filter (G4). Use this filtrate as the sample solution, and proceed as directed in the Assay under Riboflavin.

Amount (mg) of riboflavin ($C_{17}H_{20}N_4O_6$)
= amount (mg) of Riboflavin Reference Standard
$\times \frac{A_T - A_{T'}}{A_S - A_{S'}}$

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

Riboflavin Butyrate

酪酸リボフラビン



$C_{33}H_{44}N_4O_{10}$: 656.72
(2*R*,3*S*,4*S*)-5-(3,4-Dihydro-7,8-dimethyl-2,4-dioxobenzo-[*g*]pteridin-10(2*H*)-yl)-2,3,4-tris(butyryloxy)pentyl butyrate [*752-56-7*]

Riboflavin Butyrate, when dried, contains not less than 98.5% of $C_{33}H_{44}N_4O_{10}$.

Description Riboflavin Butyrate occurs as orange-yellow crystals or crystalline powder. It has a slight, characteristic odor and a slightly bitter taste.

It is freely soluble in methanol, in ethanol (95) and in chloroform, slightly soluble in diethyl ether, and practically insoluble in water.

It is decomposed by light.

Identification **(1)** A solution of Riboflavin Butyrate in ethanol (95) (1 in 100,000) shows a light yellow-green color with a strong yellowish green fluorescence. To the solution add dilute hydrochloric acid or sodium hydroxide TS: the fluorescence disappears.

(2) Dissolve 0.01 g of Riboflavin Butyrate in 5 mL of ethanol (95), add 2 mL of a mixture of a solution of hydroxylammonium chloride (3 in 20) and a solution of sodium hydroxide (3 in 20) (1:1), and shake well. To this solution add 0.8 mL of hydrochloric acid and 0.5 mL of iron (III) chloride TS, and add 8 mL of ethanol (95): a deep red-brown color develops.

(3) Determine the absorption spectrum of the sample solution obtained in the Assay as directed under the Ultraviolet-visible Spectrophotometry, and compare the spectrum with the Reference Spectrum: both spectra exhibit similar intensities of absorption at the same wavelengths.

Melting point 146 - 150°C

Purity **(1)** Chloride—Dissolve 2.0 g of Riboflavin Butyrate in 10 mL of methanol, and add 24 mL of dilute nitric acid and water to make 100 mL. After shaking well, al-