



Edition: BP 2025 (Ph. Eur. 11.6 update)

Titanium Ointment

[General Notices](#)

DEFINITION

Titanium Ointment contains a large proportion of Titanium Dioxide with smaller quantities of titanium peroxide and titanium salicylate in a suitable basis containing 5.0% w/w of Dimeticone 350.

The ointment complies with the requirements stated under Topical Semi-solid Preparations and with the following requirements.

Content of total titanium, as titanium dioxide TiO_2

22.5 to 27.5% w/w.

Content of titanium salicylate

2.70 to 3.30% w/w.

CHARACTERISTICS

A yellow, greasy ointment.

IDENTIFICATION

A. Disperse 5 g in 20 mL of warm [dichloromethane](#) on a water bath and filter the resulting suspension (Whatman No 1 paper is suitable). Wash the residue with 50 mL of warm [dichloromethane](#) and transfer the residue to a 50 mL beaker with the aid of a few mL of [water](#). Add carefully 10 mL of [sulfuric acid](#) and 5 g of [ammonium sulfate](#) and heat until a clear solution is obtained. Allow to cool, add sufficient [water](#) to produce about 30 mL and add 1 mL of [hydrogen peroxide solution](#) (20 vol). A bright orange colour is produced immediately.

B. Disperse 5 g in 20 mL of warm [dichloromethane](#) on a water bath and filter the resulting suspension (Whatman No 1 paper is suitable). Wash the residue with 50 mL of warm [dichloromethane](#) and transfer the residue to a 50 mL beaker with the aid of a few mL of [water](#). Mix well, filter again and add 0.05 mL of a 5% w/v solution of [iron\(III\) chloride hexahydrate](#) to the filtrate. A purple colour is produced immediately.

ASSAY

For TiO_2

Weigh 0.5 g into a tared silica crucible, heat gently over a small flame until the basis is completely volatilised or charred, increasing the rate of heating until almost all of the carbon has been removed. Heat at about 800° for about 30 minutes, allow to cool in a desiccator and weigh. Repeat the heating at 800° to constant weight. Calculate the content of total titanium as a percentage weight in weight using the formula:

$$\left(\frac{W_r}{W_s} \times 100 \right) - 1.55$$

where

W_r	=	weight of the residue,
W_s	=	weight of the sample
1.55	=	percentage correction for contribution from Dimeticone 350.

For titanium salicylate

To 1.5 g in an iodine flask add 50 mL of 2M ammonia and heat gently until the solution boils. Add 25 mL of 0.0167M potassium bromate VS and 10 mL of a 10% w/v solution of potassium bromide, add 20 mL of 7M hydrochloric acid, close the flask immediately and shake while cooling under running water. Allow the flask to stand for 30 minutes, protected from light. Add 10 mL of a 10% w/v solution of potassium iodide, shake and titrate the liberated iodine with 0.1M sodium thiosulfate VS using starch solution, added towards the end of the titration, as indicator. Each mL of 0.0167M potassium bromate VS is equivalent to 2.818 mg of titanium salicylate.