

ZINCI OXIDI SUSPENSIO

CZ 142:2025

Zinc oxide suspension

DEFINITION

A suspension of zinc oxide (ZnO ; M_r 81.38) and talc ($\text{Mg}_3\text{Si}_4\text{O}_{10}(\text{OH})_2$ M_r 379.27) in a mixture of glycerol ($\text{C}_3\text{H}_8\text{O}_3$, M_r 92.09) and mucilage of anhydrous colloidal silica.

Content:

- *zinc oxide*: 23.8% to 26.3%;
- *glycerol*: 19.9% to 22.8%.

COMPOSITION AND

PROCEDURE

Zinci oxidum (0252)	25.0 g
Talcum (0438)	25.0 g
Glycerolum 85% (0497)	25.0 g
Silica colloidalis anhydrica (0434)	1.0 g
Aqua purificata (0008)	to 100.0 g

Gradually mix anhydrous colloidal silica with part of the purified water in a mortar. Mix zinc oxide with talc and gradually add 85% glycerol and mucilage of anhydrous colloidal silica in purified water. Make up the suspension to the total weight with purified water and mix thoroughly.

PROPERTIES

Appearance. Uniform white suspension, very dense, practically odourless.

IDENTIFICATION TESTS

- A.** Evaporate 1 g in a crucible, burn, and anneal. Add 5 ml of 3 mol/l hydrochloric acid RS to the residue and heat for about 5 minutes in a water bath. Then add 5 ml water R and filter the liquid. Use the residue on the filter for identity test B. The filtrate complies with the zinc test (2.3.1).
- B.** Dissolve 0.5 g by boiling in a mixture of 10 ml dilute sodium hydroxide RS and 10 ml water R. To 1 ml of this solution, add 0.5 ml ammonium molybdate RS and 0.25 ml sulphuric acid R. A yellow colour will develop. After adding 1 ml of a solution prepared

by mixing 0.1 ml of a solution of *stannous chloride R* (400 g/l) in *hydrochloric acid R1*, 2.5 ml of *dilute sodium hydroxide RS* and 2.5 ml of *water R*, an intense blue colour appears (*silicates*).

C. Heat about 5 g slowly with 0.5 g *potassium bisulphate R*; it carbonises and a penetrating odour of acrolein develops (*glycerol*).

TEST OF PHARMACEUTICAL FORM

Particle size. Mix 1.0 g with 5 ml *water R*. No particles with a diameter larger than 50 µm are detected in a microscopic slide when observed in four fields of view.

DETERMINATION OF CONTENT

Zinc oxide. Dissolve 0.600 g in 10 ml *dilute acetic acid RS* and perform chelatometric titration of zinc (2.5.11).

1 ml 0.1 mol/l *disodium edetate VS* corresponds to 8.138 mg ZnO.

Glycerol. Dilute 2.000 g in a graduated flask with *water R* to 50.0 ml. Filter 10.0 ml of this liquid through a moistened dense paper filter into a stoppered flask and wash the filter with *water R*. Dilute the combined filtrates to a total volume of about 40 ml, add 25.0 ml of *sodium periodate R* solution (21.4 g/l), close the flask, mix its contents, and leave to stand for 15 minutes protected from light. Then add 5.0 ml of *ethylene glycol R* solution (500 g/l), mix again and let stand for 20 minutes while protected from light. Add 0.2 ml *Phenolphthalein RS* and titrate with 0.1 mol/l *sodium hydroxide VS*. Perform a blind test.

1 ml 0.1 mol/l *sodium hydroxide VS* is equivalent to 9.209 mg C₃H₈O₃.

STORAGE

See the article *Liquida cutanea* (0927).

SHELF LIFE

Six months when stored in glass wide-necked containers at a temperature of 15 °C to 25 °C and protected from light.

LABELLING

See the article *Liquida cutanea* (0927).

The labelling shall indicate that the product must be shaken before use.