

Swelling power of bentonite

BACKGROUND-

Bentonite is a natural, colloidal, hydrated aluminium silicate that has been processed to remove grit and non-swelling components of the ore. It is under the category of pharmaceutical aid. Bentonite is insoluble in, and does not swell in organic solvents.

Bentonite swelling power is determined by various experimental procedures such as loading difference and conditions of wetting. Sometimes the property may vary on the water content, chemical composition which can be called as grades of bentonite. Other types of bentonite are sodium bentonite, calcium bentonite and potassium bentonite, of which the useful adsorbent is calcium bentonite used in fuller's earth.

Aim: Aim of the experiment is to study the swelling behaviour of bentonite.

REQUIREMENTS-

Sample: Bentonite

Chemicals: Sodium lauryl sulfate

Apparatus: Graduated measuring cylinder

PROCEDURE-

Add 2g of bentonite in twenty portions at intervals of 2 minutes to 100ml of a 1% w/v solution of sodium lauryl sulphate in a 100ml graduated cylinder about 3cm in diameter. Allow each portion to settle before adding the next and let it stand for 2 hours.

Pharmaceutical uses

1. It can be used as a bulk laxative.
2. It can be used as desiccant due to its adsorption properties.
3. Also can be used in battlefield wound dressings.
4. It is a pharmaceutical aid used as suspending agents.

CONCLUSION-

The apparent volume of the sediment at the bottom of the cylinder has to be 24ml or more, and then the sample passes the test for swelling power of bentonite.

REFERENCES-

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