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Diploma in Pharmacy 1st Year

Pharmaceutics

Experiment

To demonstrate the hardness test of the tablets as per the monographs.

Aim:

To demonstrate the hardness test of the tablets as per the monographs.

Reference :

‘ Dr. Gupta G.D , Dr. Sharma Shailish , Dr. Sharma Neelam ’
“Practical Manual of Pharmaceutics” Published by Nirali Prakashan, Page
no 131 – 135

Apparatus and Materials Required :

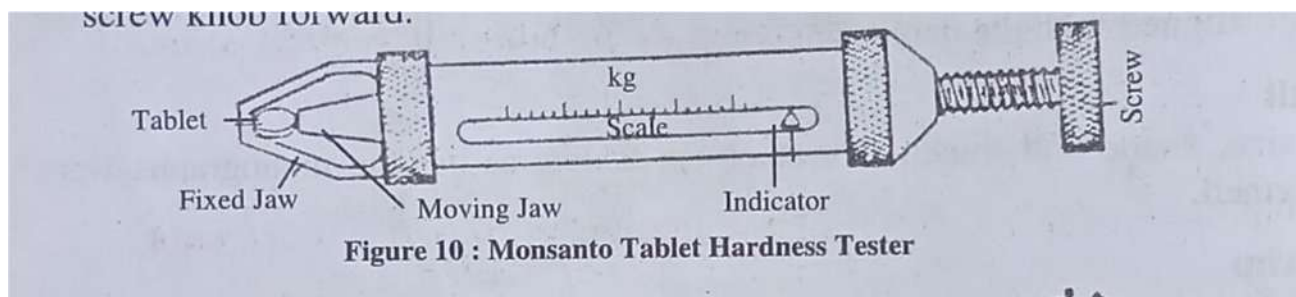
Tablets and Pfizer tablet hardness tester or Monsanto hardness tester.

Theory :

The hardness of tablets depends on the weight of the material used, space between the upper and lower punches at the time of compression, and pressure applied during compression. Hardness also depends on the nature and quantity of excipients used during formulation.

Following testers can be used for testing the hardness of tablets.

1. **Monsanto Hardness Tester:** It is a small, portable hardness tester (figure 10) which was manufactured and introduced by Monsanto Chemical Company. It consists of a spring which can be compressed by moving the screw knob forward.



2. **Pfizer Tablet Hardness Tester** : It is another instrument used for testing the hardness of a tablet. It works on the principle of a plier and is similar in shape to that of a plier (figure 11)



Procedure :

Using a Monsanto Hardness Tester

- 1) The tablet to be tested is held between a fixed and a moving jaw, and reading of the indicator is adjusted to zero.
- 2) The force applied to the tablet edge is gradually increased by moving the screw knob forward until the tablet breaks.
- 3) Reading is noted from the scale which indicates the pressure required in kg or lb to break the tablet.
- 4) Hardness of 4kg is considered suitable for handling the tablets, Hardness of 6kg or more will produce tablets of highly compact nature.

Using a Micrometer Caliper

1. The tester is fitted with a dial.
2. The tablet under test is held vertically in between the jaws which are pressed with the hand, until the tablet breaks.
3. Reading is noted from the needle of the pressure dial which may be expressed in kg or lb of force.

Result :

The hardness test of the tablets as per the monographs was performed.

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