

MAIZE STARCH

Maydis amyllum

DEFINITION

Maize starch is obtained from the caryopsis of *Zea mays* L.

CHARACTERS

A matt, white to slightly yellowish, very fine powder which creaks when, pressed between the fingers; tasteless, practically insoluble in cold water and in alcohol. The presence of granules with cracks or irregularities on the edge is exceptional.

DESCRIPTION

Examined under a microscope it presents granules either angular polyhedral 2 µm to 23 µm in sizes or rounded 25 µm to 32 µm in size. The central hilum consists of a distinct cavity or two- to five-rayed cleft and there are no concentric striations. Between crossed nicol prisms, the granules show a distinct black cross intersecting at the hilum.

IDENTIFICATION

- A. Suspend 1 g in 50 ml of *water R*, boil for 1 min and cool. A thin, cloudy mucilage is formed.
- B. To 1 ml of the mucilage obtained in identification test A add 0.05 ml of *iodine solution R1*. A dark-blue colour is produced which disappears on heating.

TESTS

Acidity. Add 10 g to 100 ml of *alcohol (70 per cent V/V) R* previously neutralised to 0.5 ml of *phenolphthalein solution R* and shake for 1 h. Filter and take 50 ml of the filtrate. Not more than 2.0 ml of 0.1 M *sodium hydroxide* is required to change the colour of the indicator.

Foreign matter. Not more than traces of cell membranes and protoplasm are present.

Loss on drying (2.2.32). Not more than 15.0 per cent, determined on 1.000 g by drying in an oven at 100-105 °C.

Sulphated ash. (2.4.14). Not more than 0.6 per cent, determined on 1.0 g.

Microbial contamination. Total viable aerobic count (2.6.12) not more than 10³ bacteria and not more than 10² fungi per gram, determined by plate-count. It complies with the test for *Escherichia coli* (2.6.13).

STORAGE

In an airtight container.