

Echinacea purpurea* (L.) Moench**Echinacea Purpurea* Seed (Cypsela)*****Echinaceae purpureae* Fructus (semen)****Asteraceae**

Echinacea purpurea seed is not commonly used by itself but is sometimes used in conjunction with other parts of *Echinacea*. Because of its widespread cultivation, it is not readily subject to adulteration.

Transverse section: Transparent exocarp; mesocarp of slightly thickened, very small, pitted orange-brown cells, elongated in longitudinal section; walls of innermost cells may be coated with phytomelanin; axially elongated cells with fine reticulate wall thickenings occur between the mesocarp and a fibrous layer; axially

oriented fibers occur in a continuous layer around the fruit, the layer is one to several cells thick and fortified by sclereids in the basal and apical regions; fiber cell walls are heavily coated with phytomelanin except at the pits; secretory ducts are located in the fibrous layer, generally at the position of the fruit ribs; small vascular bundles occur interior to the secretory ducts; endocarp and testa are inconspicuous; thin-walled embryo cells contain large amounts of fixed oil; palisade cells in the embryo occur in one to several rows.

Powder: Fragments of seed parenchyma with oil droplets; phytomelanin-coated fibers with bright, uncoated regions at the pits; heavily pitted elongated cells from the mesocarp; sclereids occasional.

