

B. GENERAL TESTS

Thin-Layer Chromatography

Thin-Layer Chromatography is designed to separate individual components of a mixture by developing in a mobile phase, using a thin-layer made of a suitable immobile phase. This method is generally applicable to identification tests and purity tests.

Preparation of Thin-Layer Plate Unless otherwise specified, prepare a thin-layer plate by the following method, and store it at a dry place.

Using suitable instruments, add an adequate amount of water to the specified support to make a suspension. Apply this suspension on a smooth and uniform-thickness glass plate of 50 mm × 200 mm or 200 mm × 200 mm to make a uniform layer of 0.2 - 0.3 mm in thickness. After air-drying, dry further under the specified conditions. Instead of a glass plate, an appropriate plastic plate can be used.

Procedure Unless otherwise specified, proceed as directed below. Designate a line about 20 mm distant from one end of the thin-layer plate as the starting line. At least 10 mm distant from both edges, spot the specified volumes of the test solution and the control solution with about 3 mm in diameter, using a micropipet at the points on the starting line, with a suitable distance of not less than 10 mm. Air-dry them. Place the plate in a container for developing with the starting line on the bottom, and seal the container closely. In the container, the specified developing solvent is previously placed up to 10 mm in height from the bottom, and the inside of the container is already saturated with the vapor of the solvent. When the solvent front has ascended from the starting line to the specified distance, take the plate out of the container, and air-dry.

Observe and compare the location and color of each spot obtained by the specified method for the test solution and the control solution.