

Water activity in dry pharmaceuticals

Water activity and equilibrium relative humidity

Water activity, or equilibrium relative humidity(ERH%), is widely used as a quality control measure in pharmaceuticals to maintain stability of the composition and effectiveness of the active ingredients (API).

Product stability

By controlling water activity , especially of film coated tablets, the product shelf-life may be maximised especially with respect to the micro-climate humidity that is created inside the blister packaging during transportation and use in many different climate conditions globally.

Effectiveness of active pharmaceutical ingredients (API)

API effectiveness may be maximised and maintained during process drying where sample water activity may be controlled right through to film-coating and packaging.

Challenges for low-range water activity testing

Normally, very low water activity control measures for pharmaceuticals are needed which mean that measuring instruments require calibration at ultra –low humidity levels with reliable traceable standards. Often there are also high-solvent contents in samples which necessitate specific filters for the sensor cell to protect it from contamination and consequent calibration drift. These special REDOX filters act as a barrier to allow only water molecules to pass through to the sensor cell and give reliable readings.

Redox filter

