

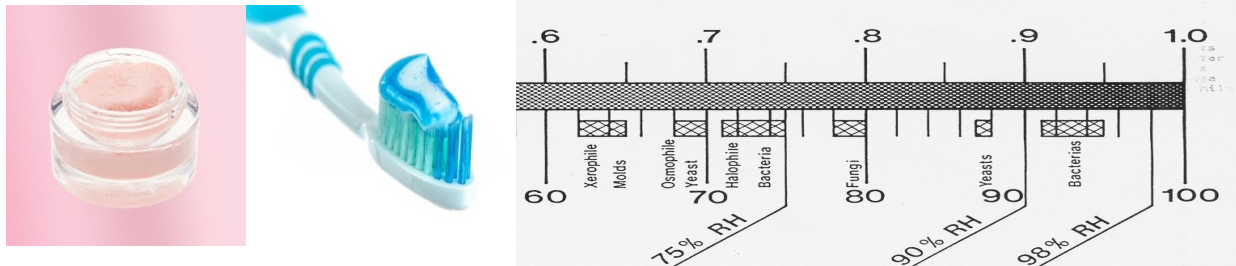
Water activity in hygiene products

Water activity and ERH%

Water activity, or equilibrium relative humidity (ERH%), is used to measure many personal hygiene and domestic cleaning products like soap, gels, creams, toothpaste and washing powders/ liquids for quality control and stability. By controlling water activity, shelf- life may be extended and product effectiveness may be much improved by the maintaining stability of active ingredients.

Microbiological growth potential

Many hygiene products absorb moisture from the environment in which they are used or stored, once the packaging seal is first broken. During the life of the product it may be possible that micro-growth occurs which can be inhibited if the product water activity remains below 0.6 aw.



Stability and moisture migration

Many hygiene products will experience moisture migration throughout the structure of the product during its useable life, once first used. This may cause ineffectiveness of the active ingredients and instability that leads to changes in smell, caking /sogginess & discolouration.

Challenges for water activity testing

Often there are high concentrations of solvents in samples, eg glycerol as a humectant, which can lead to slow aw readings, false results or damage and sensor drift for the water activity meter. It is therefore important to use a sensor protective alcohol and chemical filter in the aw meter to block these effects.