



NQAC

Nestlé Quality Assurance Center  
Dublin

# Technical Datasheet

**Analysis Name:** Water Activity Using Dew Point Principle

**Method Number:** LI-00.014

**Scope of Application:** Water activity measurement using the AquaLab 4TE Dewpoint Water activity meter in foodstuffs, ingredients, and gummy-based vitamins. Using the 4TE, aw measurement range is 0.080 to 0.997 at 25 °C.

**Description:** Water activity (aw) measures the vapor pressure at the surface of a product. It is defined as being the relative humidity of a product in equilibrium with its environment when the product is placed in a closed system at constant temperature. The procedure is based on the dew-point principle, which is determined accurately on a chilled mirror (Peltier effect). The test portion is in equilibration with the air in a measuring chamber. This is facilitated by means of a fan that circulates the air in the chamber. The water activity value is calculated by the instrument from the temperature of the test portion and that of the dew point.

**Sample Weight Required:** Original container (minimum 10 g)

**Method Reference:** AOAC Official method 978.18

**Analytical Platform:** Dewpoint Water activity meter

**Special Information:** The method is applicable to liquid, semi-moist and dry products containing at least an amorphous material fraction.

Water activity measurement is not applicable to pure crystalline materials, such as salt and sugar. It is neither applicable to products having poor moisture exchange with headspace such as water-in-oil emulsions, fat-coated or fat-based continuous phase products (e.g. chocolate).



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Analyte Reported	Alias	Unit of Measure	Limit of Quantification	Reproducibility
Temperature		°C	N/A	N/A
Water Activity		N/A	0.080	N/A