



NQAC

Nestlé Quality Assurance Center
Dublin

OSMOLALITY SUBMISSIONS

WHICH TEST SHOULD I CHOOSE WHEN SUBMITTING FOR OSMOLALITY?

Two osmolality tests are available for measurement at NQAC Dublin. Both methods can provide results on a variety of food types, but optimal results depend on the expected osmolality and the composition of the food. The methods offered are as follows:

- Freezing Point Depression (NQA-55.0003)
- Vapor Point Depression (LI-08.067)

Freezing Point Depression (NQA-55.0003) is applicable to low viscosity food products in liquid or reconstituted powder form. The optimal measurement range is 0-500 mmol/kg. The freezing point depression method is recommended as the primary selection for foods within the scope as it has a higher level of accuracy versus the vapor point depression approach.

Recommended for:

- Products containing substantial amounts of volatiles (e.g., ethanol)
- Products with low viscosities like water

Not recommended for:

- Products with an osmolality above 500 mmol/kg due to high bias versus vapor point depression approach

Vapor Point Depression (LI-08.067) is applicable to liquid or reconstituted powder form products that are viscous or have higher osmolality. This method is recommended when the freezing point depression approach is not applicable, or the expected osmolality is above 500 mmol/kg.

Recommended for:

- Products that are viscous (about $>2\text{mPa}\cdot\text{s}$)
- Products with higher osmolality ($>300\text{ mmol/kg}$)
- Products containing particulate matter that can act as crystallization nuclei