



NQAC

Nestlé Quality Assurance Center
Dublin

Technical Datasheet

Analysis Name: Vicine and Convicine by UPLC-UV

Method Number: NQA-52.0004

Scope of Application: This method is applicable for the quantitative determination of vicine and convicine in fava/faba beans and food products containing fava/faba bean-derived ingredients.

Description: Extraction of vicine and convicine in 70% acetonitrile/30% water using sonication and injection on a UPLC-UV (Ultra-Performance Liquid Chromatography – Ultraviolet) system with detection at 273 nm. Separation is obtained using a HILIC (Hydrophobic Interaction Liquid Chromatography) column due to the polar nature of the analytes.

Sample Weight Required: 50 g

Method Reference: LI-00.057

Analytical Platform: UPLC-UV

Special Information: The analytes determined are vicine and convicine. Results are expressed as mg/kg of product. Vicine and convicine are alkaloid β -glycosides found in fava beans (*Vicia faba*). Vicine and convicine are hydrolysed to their aglycones (divicine and isouramil) in the colon, which are toxic to individuals who suffer from hereditary loss of the enzyme glucose-6-phosphate dehydrogenase, producing what is known as favism, a potentially fatal form of anemia.

Analyte Reported	Alias	Unit of Measure	Limit of Quantification	Reproducibility
Vicine	N/A	mg/kg	20 mg/kg	$\leq 20\%$
Convicine	N/A	mg/kg	20 mg/kg	$\leq 20\%$