
**Infant formula and adult
nutritionals — Determination of
 β -carotene, lycopene and lutein
by reversed-phase ultra-high
performance liquid chromatography
(RP-UHPLC)**

*Formules infantiles et produits nutritionnels pour adultes —
Détermination du bêta-carotène, du lycopène et de la lutéine par
chromatographie liquide ultra haute performance à phase inversée*

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Foreword

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This document was prepared by Technical Committee ISO/TC 34, *Food products*, in collaboration with AOAC INTERNATIONAL. It is being published by ISO and separately by AOAC INTERNATIONAL. The method described in this document is equivalent to the AOAC Official Method 2016.13: *Determination of Lutein, β -Carotene, and Lycopene in Infant Formula and Adult Nutritionals by Ultra-High-Performance Liquid Chromatography: Final Action (β -Carotene and Lycopene Only)*.

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Introduction

Lutein, β -carotene and lycopene are among the carotenoids present in human milk and are added to infant formula and adult nutritionals^{[1][2][3]}. Lutein may play a role in vision and cognitive function, and β -carotene has provitamin A activity^{[4][5]}. Accurate and precise measurements of these added ingredients are important for ensuring their presence in the allowable ranges.

This analytical method was originally presented to the Stakeholder Panel on Infant Formula and Adult Nutritionals through AOAC International, and a single-laboratory validation was previously published^[6]. It was recommended as an AOAC Final Action method for β -carotene and lycopene after the collaborative study data was reviewed by the same panel^[7].

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