

APPENDIX V

NUMERIC PERFORMANCE CRITERIA FOR NITRATE AND NITRITE IONS IN CERTAIN FOOD MATRICES

(For CCFA's consideration)

Table 1: Numeric Performance Criteria for adopted MLs

Food Additive	Subcategory for which value was provided	Adopted Maximum Levels (CXS 192-1995)*	Calculated method performance criteria based on Maximum level (mg/kg)					
			Min Appl. Range (mg/kg)	LOD (mg/kg)	LOQ (mg/kg)	Precision (RSD _R (%))	Recovery (%)	Examples of applicable methods that meet the criteria
01.6 (Cheese and analogues)								
Nitrate	01.6.2 (Ripened cheese)	35 mg/kg as residual NO ₃ ion.	25 – 45	3.5	7	19	80 – 110	Multi-laboratory validation - ISO 14673-3 I IDF 189-3: 2004 Single-laboratory validation - ISO 14673-2 I IDF 189-2: 2004^
08.0 (Meat and meat products, including poultry and game)								
Nitrite	08.2.2 (Heat-treated processed meat, poultry, and game products in whole pieces or cuts/)	80 mg/kg as residual NO ₂ ion.	60 – 110	8	16	17	80 – 110	Multi-laboratory validation - AOAC Method 973.31; NMKL 165: 2000 Ed.; Single-laboratory validation - Afanda et al., (2025); lammarino et al. 2013; Ferreira et al. (2008) for Ham; Siu et al., 1998 for Salami and Ham
Nitrite	08.3 (Processed comminuted meat, poultry, and game products)	80 mg/kg as residual NO ₂ ion.	60 – 110	8	16	17	80 – 110	Multi-laboratory validation - AOAC Method 973.31; NMKL 165: 2000 Ed.; Single-laboratory validation - Afanda et al., (2025); lammarino et al., 2013; Ferreira et al., (2008) for Ham; Siu et al., 1998 for Salami and Ham

Notes: * Maximum levels in CXS 192-1995.

[^] In the absence of LOD or LOQ being specified in the method, the collaborative study report being unavailable at-this-time, and relying on in-house validation data, the validation designated as SLV, although the SLV status may be reviewed with additional data.

Table 2: Numeric performance criteria for the lowest proposed residual levels for representative provisions in dairy (cheese), meat, and seafood as provided in CX/FA 21/52/7 Appendix 5 Annex 2.

Food Additive	Subcategory for which value was provided	Lowest Proposed Residual level (mg/kg)	Notes	Calculated method performance criteria based on the Lowest Proposed Residual ML					Examples of applicable methods that meet the criteria
				Min Appl. Range (mg/kg)	LOD (mg/kg)	LOQ (mg/kg)	Precision (RSD _R (%))	Recovery (%)	
01.6 (Cheese and analogues)									Multi-laboratory validation - ISO 14673-3 IDF 189-3: 2004 Single-laboratory validation - ISO 14673-2 IDF 189-2: 2004 [^]
Nitrate	01.6.2.1 (Ripened cheese, includes rind)	7	As NO ₃	4.5 – 9.5	0.7	1.4	24	80 – 110	
Nitrite	01.6.4 4 (Processed cheese) <i>*(see note 1)</i>	2	As NO ₂	1.1 – 2.9	0.2	0.4	29	80 – 110	
08.0 (Meat and meat products, including poultry and game)									Multi-laboratory validation – not available. Single-laboratory validation – not available.
Nitrate	Same residual proposed in multiple food categories including 08.2.1.1 (Cured (including salted) non-heat treated processed meat, poultry, and game products in whole pieces or cuts)	7	As NO ₃	4.5 – 9.5	0.7	1.4	24	80 – 110	
Nitrite	08.2.1.3 (Fermented non-heat treated processed meat, poultry, and game products in whole pieces or cuts)	33	As NO ₂	24 – 42	3.3	6.6	19	80 – 110	
09.0 (Fish and fish products, including molluscs, crustaceans, and echinoderms)									Multi-laboratory validation - EN 12014-3:2005, NMKL 165: 2000 Ed.; AOAC Method 973.31; Single-laboratory validation - Afanda, et al., (2025), Ferreira et al., (2008) for Ham; Siu et al., 1998 for Salami, Ham
Nitrite	09.3.3 (Salmon substitutes, caviar, and other fish roe products)	4.4	As NO ₂	2.7 – 6.1	0.44	0.88	26	80 – 110	

Notes:

1. The subcategory doesn't match the description in 21/52/7 Appendix 5 Annex 2, as Food category No. 01.6.1 is "Unripened cheese"; while Food Category No 01.6.4 is "Processed cheese".

[^]. In the absence of LOD or LOQ being specified in the method, the collaborative study report being unavailable at-this-time, and relying on in-house validation data, the validation designated as SLV, although the SLV status may be reviewed with additional data).