

SAMAC Kernel Standards (Updated 10 Jan 2018)	SAMAC First Grade		Commercial Grade		Local Market	
	Styles 0 - 4	Styles 5 - 8	Styles 0 - 4	Styles 5 - 8	Styles 0 - 4	Styles 5 - 8
<b>Parameters</b>						
<b>Total plate count</b>	<20,000 cfu/g	<30,000 cfu/g	<20,000 cfu/g	<30,000 cfu/g	<20,000 cfu/g	<30,000 cfu/g
<b>Yeast and moulds</b>	<20,000 cfu/g	<30,000 cfu/g	<20,000 cfu/g	<30,000 cfu/g	<20,000 cfu/g	<30,000 cfu/g
<b><i>Escherichia coli</i></b>	Not detected (BS 5763 method)		Not detected (BS 5763 method)		Not detected (BS 5763 method)	
<b><i>Salmonella</i></b>	Not detected in 25g (ISO 6579 or BAM method)		Not detected in 25g (ISO 6579 or BAM method)		Not detected in 25g (ISO 6579 or BAM method)	
<b><i>Listeria monocytogenes</i></b>	Not detected		Not detected		Not detected	
<b>Coliforms</b>	<300 cfu/g	<350 cfu/g	<300 cfu/g	<350 cfu/g	<300 cfu/g	<350 cfu/g
<b>Moisture content</b>	Maximum 2%		Maximum 2%		Maximum 2%	
<b>Peroxide value</b>	Max 3 meq/kg	Max 3.5 mEq/kg	Max 3 mEq/kg	Max 3.5 mEq/kg	Max 3 mEq/kg	Max 3.5 mEq/kg
<b>Free fatty acids</b>	Max 0.5%		Max 0.5%		Max 0.5%	
<b>Aflatoxin total</b>	Max 4 ppb		Max 4 ppb		Max 4 ppb	
<b>Aflatoxin B1</b>	Max 2 ppb		Max 2 ppb		Max 2 ppb	
<b>Loose shell pieces</b>	Max 1 piece larger than 2 mm / 11.34 kg	max 2 pieces / 11.34 kg	Max 1 piece larger than 2 mm / 11.34 kg	max 2 pieces / 11.34 kg	Max 1 piece larger than 2 mm / 11.34 kg	max 2 pieces / 11.34 kg
<b>Impacted Shell</b>	Max 1 piece larger than 2 mm / 11.34 kg	max 2 pieces / 11.34 kg	Max 1 piece larger than 2 mm / 11.34 kg	max 2 pieces / 11.34 kg	Max 1 piece larger than 2 mm / 11.34 kg	max 2 pieces / 11.34 kg
<b>Chemical residues</b>	As per importing country's food standards		As per importing country's food standards		As per importing country's food standards	
<b>Reject Defects (Insect damage, 791 spot, discoloration, shrivelled/immature)</b>	Max 1.5%		Max 1.5%		Max 1.5%	
<b>Insect infestation</b>	None		None		None	
<b>Kernel Colour</b>	Uniform, normal, natural cream colour		Uniform, normal, natural cream coloured nuts, as well as nuts that are discoloured due to physiological browning and/or onion ring		Uniform, normal, natural cream colour	
<b>Kernel Appearance</b>	Free from surface oil		Free from surface oil		Free from surface oil	
<b>Flavour and Odour</b>	No off flavours or odours		No off flavours or odours		No off flavours or odours	
<b>Kernel Dust</b>	The UNECE Standard DDP-23 specification: foreign matter, shells and dust: 0.25% by weight		The UNECE Standard DDP-23 specification: foreign matter, shells and dust: 0.25% by weight		The UNECE Standard DDP-23 specification: foreign matter, shells and dust: 0.25% by weight	
<b>Foreign material</b>	None		None		None	
<b>Shell marks</b>	not permitted		not permitted		not permitted	
<b>Bulk packaging</b>	Packaging material should be food grade; Flushed with food grade N2 / CO <sub>2</sub> so that residual oxygen is less than 2%		Packaging material should be food grade; Flushed with food grade N2 / CO <sub>2</sub> so that residual oxygen is less than 2%		Packaging material should be food grade; Flushed with food grade N2 / CO <sub>2</sub> so that residual oxygen is less than 2%	

<b>Bulk packaging material transmission rates</b>	At 25°C and 75% RH and 1 atm: Water vapour less than 0.1 cc/m <sup>2</sup> ; Oxygen less than 0.1 cc/m <sup>2</sup>	At 25°C and 75% RH and 1 atm: Water vapour less than 0.1 cc/m <sup>2</sup> ; Oxygen less than 0.1 cc/m <sup>2</sup>	At 25°C and 75% RH and 1 atm: Water vapour less than 0.1 cc/m <sup>2</sup> ; Oxygen less than 0.1 cc/m <sup>2</sup>
<b>Export Retail packaging</b>	Nitrogen or food grade CO <sub>2</sub> flushed and residual oxygen is less than 2%	Nitrogen or food grade CO <sub>2</sub> flushed and residual oxygen is less than 2%	N/A
<b>Immatures</b>	None (float test)	Acceptable	None - no sinkers using float test

<b>Sizing</b>	
<b>Style 0</b>	Greater than 20 mm with min 95% wholes
<b>Style 1</b>	16-21 mm with 90% wholes
<b>Style S1</b>	13 - 17 mm with 95% wholes
<b>Style 2</b>	Pieces greater than 13 mm with min 50%
<b>Style 3</b>	Pieces greater than 13 mm with min 15%
<b>Style 4 L</b>	Pieces greater than 13 mm with min 80%
<b>Style 4 S</b>	Pieces 9-15 mm with min 50% halves
<b>Style 5</b>	8-14mm pieces (Minimum 80%)
<b>Style 6</b>	5-9 mm chips and pieces (min 80%)
<b>Style 7</b>	3-6 mm chips and pieces (min 70%)
<b>Style 8</b>	Pieces smaller than 3 mm (min 70%)

<b>Commercial grade</b>	Kernel containing discolouration, onion ring and 791 spot and immatures. To be used in food ingredients. May not be sold as snack products/first/premium/choice grade and to be labeled as commercial grade. Not more than 2% industrial grade
<b>Industrial grade</b>	Kernel with defects such as insect damage which are not suitable for human consumption only to be used for oil processing and cosmetic products etc. To be labelled as industrial grade. Not allowed to be sold in retail

<b>Definition of whole:</b>	Not more than 25% missing / chipped out
<b>Definition of halves:</b>	Not more than 33% missing of half of the kernel