



ADEPALE

Association Des Entreprises de Produits **AL**imentaires **Elaborés**

SULPHITES IN CRUSTACEANS

MAC WG3 MEETING – 26 JANUARY 2022

ETF
Produits Traiteur

FIAC
Aliments Conservés

FNLS
Légumes Secs

Les EGS
Les Glaces et Surgelés

SRF
Riz

SVFPE
Végétaux 4^{ème} gamme

Economic importance of crustacean market

Extraction Eurostat Comext – Year 2020 – In 1000 Tonnes

EU 27-2020	IMPORT	EXPORT	BALANCE
All CRUSTACEANS	508	104	404
Of which FROZEN PENAEUS	270	78	192



Use of sulphites

- Melanosis results from enzymatic activity catalyzing irreversible oxidation of the tyrosine present in the tissues, resulting in black spots on the crustaceans.
- Post-mortem melanosis in crustaceans has significant impact on the shelf life and the overall commercial value of the products, particularly shrimps and Norway Lobsters,
- To limit this process, shrimps and Norway Lobsters in shell are treated with sodium metabisulphite (E223) to inhibit enzymes and stop the appearance of melanosis.
- Currently there is no other available means of preventing melanosis on crustaceans in shell



Health aspect

- Major risk = intolerance for sensitive people.
- Hazard associated with sulphites is generated by two distinct causes:
 - quality of metabisulphite used (purity criteria for food additives ...)
 - use rates .
- This danger is well controlled by professionals, particularly through implementation of good hygiene practices.
- Acceptable Daily Intake (ADI) defined EFSA is 0.7 milligrams per kilogram of body weight of SO₂ covering 8 combined substances (E220 to E228), currently under reevaluation.



MAXIMUM LIMITS

- Sulphites are additives

Maximum limits of sulphites for shrimps (*Penaeidae*, *Solenoceridae* and *Aristeidae* families) and Norway Lobsters (*Nephrops norvegicus* - *Nephropidae* family) are regulated by Regulation (EC) No 1333/2008.

E-number	Name	Maximum level (in mg / l or mg / kg as appropriate)	Restrictions / exceptions
09.1.2 Unprocessed molluscs and crustaceans			
E220 - E228	Sulphur dioxide - Sulphites	150 ⁽³⁾ ⁽¹⁰⁾	Only fresh, frozen and deep-frozen crustaceans and cephalopods; crustaceans of the Penaeidae, Solenoceridae and Aristaeidae family up to 80 units per kg
E220 - E228	Sulphur dioxide - Sulphites	200 ⁽³⁾ ⁽¹⁰⁾	Only crustaceans of the Penaeidae, Solenoceridae and Aristaeidae family between 80 and 120 units per kg
E220 - E228	Sulphur dioxide - Sulphites	300 ⁽³⁾ ⁽¹⁰⁾	Only crustaceans of the Penaeidae, Solenoceridae and Aristaeidae family over 120 units per kg
09.2 Processed fish and fishery products, including molluscs and crustaceans			
E220 - E228	Sulphur dioxide - Sulphites	50 ⁽³⁾ ⁽¹⁰⁾	Only cooked crustaceans and cephalopods
E220 - E228	Sulphur dioxide - Sulphites	135 ⁽³⁾ ⁽¹⁰⁾	Only cooked crustaceans of the Penaeidae, Solenoceridae and Aristaeidae family up to 80 units per kg
E220 - E228	Sulphur dioxide - Sulphites	180 ⁽³⁾ ⁽¹⁰⁾	Only cooked crustaceans of the Penaeidae, Solenoceridae and Aristaeidae family between 80 and 120 units per kg
E220 - E228	Sulphur dioxide - Sulphites	270 ⁽³⁾ ⁽¹⁰⁾	Only cooked crustaceans of the Penaeidae, Solenoceridae and Aristaeidae family over 120 units per kg

(3): Maximum levels are expressed as SO₂ relate to the total quantity, available from all sources, an SO₂ content of not more than 10 mg/kg or 10 mg/l is not considered to be present

(10): Maximum limits in edible parts

Problems encountered – Shrimps in shell

- Raw and cooked shrimps : maximum permissible thresholds varying according to size,
- 10% difference in the allowed rate between raw (+) and cooked (-) → not justified after at the experience.
- Modification of maximum limits are requested :
 - To harmonize levels between raw and cooked products
 - To remove variations related to sizes to be closer to the reality, thus simplifying the regulation without creating any danger for the consumer.



Our suggestions – Shrimps

	Size (number of pieces/kg)	Maximum level (mg/kg) for shrimps according to Regulation (EC) No 1333/2008	Maximum level (mg/kg) for shrimps according to Regulation (EC) No 1333/2008
		RAW	COOKED
Current thresholds	< 80	150	135
	80-120	200	180
	> 120	300	270
Suggested thresholds	All sizes	200	200



Problems encountered – Norway lobster (*Nephrops norvegicus*)

	Maximum level (mg/kg) for Norway lobster according to Regulation (EC) No 1333/2008	Maximum level (mg/kg) for Norway lobster according to Regulation (EC) No 1333/2008
	RAW	COOKED
Current thresholds	150	50
Suggested thresholds	150	150

