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# EU - NEW MAXIMUM LEVEL OF BENZOATES IN COOKED SHRIMP IN BRINE

The European Commission published the Commission Regulation (EU) 2015/538 in order to amend Annex of Regulation (EC) No. 1333/2008 regarding the use of benzoic acid – benzoates (E210 – 213) in cooked shrimps in brine. The new regulation was published in the Official Journal of the European Union on 1 April 1 2015 and entered into force on 21 April 2015.

Sodium benzoate is a generally effective compound to control mold, inhibit yeast growth and protect against a wide range of bacterial attack. It produces benzoic acid once it is dissolved in water. Benzoic acid and its salt are widely used as preservatives in foodstuffs. However, some adverse effects such as metabolic acidosis, convulsions, hyperpnoea, and allergic reactions have been reported in experimental animals and in humans. As a result, many countries regulate these compounds according to specific legislation for food additives. The Joint Food and Agriculture Organization / World Health Organization Expert Committee (JEFCA) has established the acceptable daily intake (ADI) at 0 – 5 mg/kg body weight for benzoate and benzoic acid. Maximum level of both benzoate and benzoic acid in each type of foods is set by the European Commission. In Annex II of regulation (EC) No. 1333/2008[1] total maximum level for the use of sorbic acid – sorbate; benzoic acid – benzoates (E200-213) at 2000 mg/kg in semi-preserved fish and fisheries products including crustacean, molluscs, surimi and fish/crustacean paste; cooked crustaceans and molluscs. For benzoic acid – benzoates (E210-213), it is furthermore set at 1000 mg/kg in cooked crustaceans and molluscs.

In Denmark, cooked shrimp in brine is the major exported product of the seafood processing industry. The aqueous brine is contained with salt, benzoic, citric and sorbic acid in order to inhibit microbial growth[2]. The concentration of benzoic acid – benzoates at maximum level in cooked and brined shrimp with pH of 5.6 to 5.7 is sufficient to inhibit growth of Listeria monocytogenes at temperatures between 5 and 8 °C . Nevertheless, small changes in the preserving parameters can affect pathogen growth. Scientific studies indicate that the optimal combination of benzoic acid – benzoates (E 210-213) and sorbic acid – sorbates (E200-203) is 1500 mg/kg and 500 mg/kg, respectively. Since the maximum level of the combination of E200-213 at 2000 mg/kg have usage authorization according to Directive 2006/52/EC for all cooked crustacean and molluscs, the increase of the level of benzoic-benzoates from

[1] (EC) No. 1333/2008
[2] Science Direct

1000 mg/kg to 1500 mg/kg only for cooked shrimp is not likely to have an effect on human health. So, it is not necessary to seek the opinion of the European Food Safety Authority. From these facts, Part E of Annex II to Regulation (EC) No. 1333/2008 is being amended, as follows[3].

**TABLE 1.**

| E-NUMBER | NAME | MAXIMUM LEVEL | RESTRICTIONS / EXCEPTIONS |
|---|---|---|---|
| E 210-213 | Benzoic acid -benzoates | 1500 mg/kg | Only cooked shrimp in brine |

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[3] Part E of Annex II to Regulation

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