

Emulsifiers in baked goods

PART 2

STATE-OF-THE-ART AND FUTURE PROSPECTS FOR USE OF EMULSIFIERS IN THE BAKING INDUSTRY – AUTHOR: DR. G. PLASCH, BINGEN, GERMANY

+ The harmonization of the legislation on food additives within the EU resulted in a harmonization of the scope of authorized emulsifiers with which – at least theoretically – the range of emulsifiers allowed to be used in baked goods has been expanded compared to the former national legislation. Currently, following emulsifiers are approved to be used for bread (including small bakery items) and fine bakery wares which are pastry and cakes (table 1).

This comprehensive list of emulsifiers approved to be used for the production of bread and fine bakery wares has not changed since the so-called „miscellaneous directive“ (95/2/EC) became valid 10 years ago. But this does not mean that all emulsifiers listed are

really used in Germany for example.

For the foreseeable future, it is not expected that the scope of emulsifiers allowed to be used in bread and fine bakery wares will be expanded significantly. On the one hand, this list contains a large number of suitable emulsifiers for the different technological requirements in bakery production. On the other hand, a lot of time and financial effort is needed for filing an application for authorization of a new food additive. Adding to that, the EU Commission is planning a further harmonization of the food additives legislation with the goal to authorize food additives for a period of 10 years only (Working document WGA/004/03 rev 10). This may lead to the assumption that the use of food additives will be

reduced in general and be limited to technically unavoidable substances only. Furthermore, the authorization will in future encompass the food additive and its production process. This means that it is no longer sufficient to authorize the food additive alone. There are deviating opinions on how high the additional costs will be. The bakery industry would do well to pay attention to the development and to make sure as soon as possible that the emulsifiers used successfully today will be still available in the future. This means that the renewal of authorization of already approved emulsifiers should be applied for in time and also to make sure that the production process is included in the authorization application as well. +++

Table 1: Emulsifiers approved for use in bread and fine bakery wares

NUMBER	ADDITIVE	APPROVED FOR USE IN	MAXIMUM AMOUNTS
E 322	Lecithins	Bread and Fine bakery wares	quantum satis
E 432	Polyoxyethylene sorbitan monolaurate; Polysorbate 20	Fine bakery wares	3 g/kg ¹⁾
E 433	Polyoxyethylene sorbitan mono-oleate; Polysorbate 80	Fine bakery wares	3 g/kg ¹⁾
E 434	Polyoxyethylene sorbitan monopalmitate; Polysorbate 40	Fine bakery wares	3 g/kg ¹⁾
E 435	Polyoxyethylene sorbitan monostearate; Polysorbate 60	Fine bakery wares	3 g/kg ¹⁾
E 470 a	Sodium, potassium and calcium salts of fatty acids	Bread and Fine bakery wares	quantum satis
E 471	Mono- and diglycerides of fatty acids	Bread and Fine bakery wares	quantum satis
E 472 a	Acetic acid esters of mono- and diglycerides of fatty acids	Bread ²⁾ and Fine bakery wares	quantum satis
E 472 b	Lactic acid esters of mono- and diglycerides of fatty acids	Bread ²⁾ and Fine bakery wares	quantum satis
E 472 c	Citric acid esters of mono- and diglycerides of fatty acids	Bread ²⁾ and Fine bakery wares	quantum satis
E 472 d	Tartaric acid esters of mono- and diglycerides of fatty acids	Bread ²⁾ and Fine bakery wares	quantum satis
E 472 e	Mono- and diacetyltartaric acid esters of mono- and diglycerides of fatty acids	Bread ²⁾ and Fine bakery wares	quantum satis
E 472 f	Mixed acetic and tartaric acid esters of mono- and diglycerides of fatty acids	Bread ²⁾ and Fine bakery wares	quantum satis
E 473	Sucrose esters of fatty acids	Fine bakery wares	3 g/kg ³⁾
E 474	Sucroglycerides	Fine bakery wares	3 g/kg ³⁾
E 475	Polyglycerol esters of fatty acids	Fine bakery wares	10 g/kg
E 477	Propane-1,2-diol esters of fatty acids	Fine bakery wares	5 g/kg
E 481	Sodium stearyl-2-lactylate	Fine bakery wares, bread	5 g/kg ⁴⁾ / 3 g/kg ^{4,5)}
E 482	Calcium stearyl-2-lactylate	Fine bakery wares, Bread	5 g/kg ⁴⁾ / 3 g/kg ^{4,5)}
E 483	Stearyl tartrate	Bread ⁵⁾ and Fine bakery wares	4 g/kg
E 491	Sorbitan monostearate	Fine bakery wares	10 g/kg ⁶⁾
E 492	Sorbitan tristearate	Fine bakery wares	10 g/kg ⁶⁾
E 493	Sorbitan monolaurate	Fine bakery wares	10 g/kg ⁶⁾
E 494	Sorbitan monooleate	Fine bakery wares	10 g/kg ⁶⁾
E 495	Sorbitan monopalmitate	Fine bakery wares	10 g/kg ⁶⁾

¹⁾ individually or in total – ²⁾ except „Pain courant français“ – ³⁾ individually or in total – ⁴⁾ individually or in total – ⁵⁾ except „bread made exclusively from wheat flour, water, yeast or sourdough and salt“ as well as „Pain courant français“ – ⁶⁾ individually or in total