

食用タール色素試験法に関する検討(1) 非スルホン化芳香族第一級アミン(アニリン)の分析方法について

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Studies on the Food Coloring Matter Tests Determination of Unsulfonated primary aromatic amines

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Abstract

The conditions of the coupling reaction in the method of examining USAA, impurities of Food Coloring Matter indicated by JSFA, were studied on and improved as following.

- 1) The rate of coloring about the Food Coloring Matter rose by about 3 times, changing sodium carbonate solution concentration 10% to 30%. Moreover, the Food Coloring Matter Aluminum Lake rose by about 5 times, changing sodium carbonate solution concentration 10% to 60%.
- 2) The temperature had no influence on the rate of coloring during the reaction.
- 3) The reaction wasn't completed in 15 minutes, when using 10 ml of 10% sodium carbonate solution, on the condition of measure in JSFA. However, when 10 ml of 30% sodium carbonate solution was used, which is the solution concentration we improved, the reaction was completed in the 15 minutes.
- 4) The recovery test was examined on the conditions we improved, from the beginning of method process on the Food Coloring Matter. The recovery rate ascended in any color, Food Yellow No. 4, Food yellow No. 5, Food Red No. 2, Food Red No. 102, and Food Red No. 40. The reproducibility also became good. (See figure.)

On the other hand, the recovery rate of Food Red No. 40 Aluminum Lake rose a little. Therefore further examinations, not only on coloring process but other processes are necessary.

Abbreviations:

USAA: Unsulfonated primary aromatic amines

JSFA: Japan's Specifications and Standards for Food Additives seventh edition, including changes published on February 27, 2004.

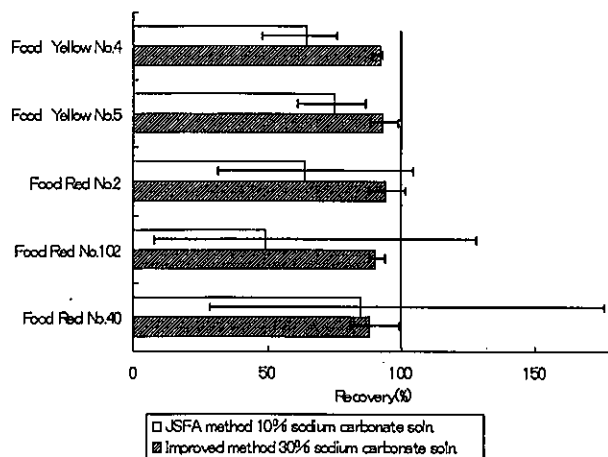


Fig. 1 Comparison of recovery rates of JSFA method and Improved method (N=3, means with min. and max.)

Keywords : 食用タール色素、非スルホン化芳香族第一級アミン、アニリン、第7版食品添加物公定書

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