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SCIENTIFIC COMMITTEE ON FOOD

CS/ADD/EMU/176 final
24 March 1999

Opinion on
ethylhydroxyethyl cellulose (Addendum to the "Opinion on re-
evaluation of five modified celluloses" of 13 March 1992)
(expressed on 24 March 1999)

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Terms of Reference

To evaluate the safety of ethylhydroxyethyl cellulose (2-hydroxyethyl ether of ethyl cellulose) in use as a thickening, dispersing and emulsifying agent in food.

Background

Ethylhydroxyethyl cellulose is intended to be used in a wide range of food products as a thickening, dispersing and emulsifying agent (1) as are several closely related modified celluloses already on the market. Ethylhydroxyethyl cellulose has been used on the Swedish market for several years.

Ethylhydroxyethyl cellulose is cellulose in which, to varying degrees, both ethyl (0.7 - 1.5 degree of ethyl substitution) and hydroxyethyl (0.5 - 2.5 molar hydroxyethyl substitution) groups are attached to the anhydroglucose units by ether linkages (2).

When the Committee in 1992 evaluated the five now approved modified celluloses (E461, E463, E464, E465 and E466), information on ethylhydroxyethyl cellulose was included in the overall background, but not included in the final evaluation as an opinion on this specific cellulose was not requested at the time (3). At this occasion an Acceptable Daily Intake of "not specified" for the group of the five celluloses was allocated.

Ethylhydroxyethyl cellulose was evaluated by the Joint FAO/WHO Expert Committee on Food Additives (JECFA) in 1985 (4) where ethylhydroxyethyl cellulose was included in the group ADI of 0-25 mg/kg already allocated for other modified celluloses. In 1989 the numerical group ADI was changed to a group ADI "not specified".

Discussion

In its previous evaluation the Committee already has considered the total set of data covering all the 7 modified celluloses, included in the JECFA ADI, including ethylhydroxyethyl cellulose. Considering the very close structural and functional similarities between these different celluloses, the Committee is of the opinion that safety data on various substances can be used for the safety evaluation of the group. Some studies have been performed specifically on ethylhydroxyethyl cellulose (6-8).

Conclusion

The Committee, therefore, accepts the inclusion of ethylhydroxyethyl cellulose in the group ADI "not specified" already allocated for five other modified celluloses when used for technological purposes (normally between 0.2-3% of the foodstuff). The same comments on potential laxative effect of modified celluloses made in the earlier opinion (3) also apply in this case.

References

1. Application for using ethylhydroxyethyl cellulose in food products as a thickening, dispersing and emulsifying agent. SCF Dossier EC 157.01 (1996), submitted by OFCA, Netherlands.
2. Joint FAO/WHO Expert Committee on Food Additives. Specifications for identity and purity of certain food additives. WHO Food Additives Series 34:73-79, 1986.
3. Commission of the European Communities. Opinion on re-evaluation of five modified celluloses (Opinion expressed on 13 March 1992); Reports of the Scientific Committee for Food, Thirty-second series., OPOCE, Cat. N° CO-80-93-589, Luxembourg, 1993.
4. Joint FAO/WHO Expert Committee on Food Additives. Toxicological Evaluation of Certain Food Additives. WHO Food Additives Series 21:139-141, 1987.
5. Joint FAO/WHO Expert Committee on Food Additives. Toxicological Evaluation of Certain Food Additives. WHO Food Additives Series 26:83-85, 1990.
6. Tomenius J. Ethylhydroxyethyl cellulose (Etulos). Effect on functional intestinal disturbances. American Journal of Digestive Diseases 2, 508-517, 1957.
7. Huntingdon Research Centre. The effects of continuous dietary administration of ethylhydroxyethyl cellulose to rats for ninety days. Unpublished Report No. BKI 45/85708/ST, 1985. Huntingdon, Cambridge, UK.
8. Inveresk Research International. Report on the safety testing of four modocolls. Unpublished Report No. 317, 1975. IRI, Musselburgh, Scotland, UK.