
GOVERNMENT NOTICES GOEWERMENTSKENNISGEWINGS

DEPARTMENT OF HEALTH DEPARTEMENT VAN GESONHEID

No. R. 127

17 February 2011

FOODSTUFFS, COSMETICS AND DISINFECTANTS ACT, 1972

(ACT NO. 54 OF 1972)

REGULATIONS RELATING TO *TRANS*-FAT IN FOODSTUFFS

The Minister of Health has, in terms of section 15 (1) of the Foodstuffs, Cosmetics and Disinfectants Act, 1972 (Act No. 54 of 1972) made the regulations in the Schedule.

SCHEDULE

1. Definitions

In these regulations-

“conjugated linoleic acid (CLA)” means bacterial metabolites mainly found in products from ruminant animals, e.g. dairy products and beef, that comprise a family of geometric and positional isomers of linoleic acid with two conjugated double bonds, of which there are two major forms, namely *cis*⁹, *trans*¹¹-CLA (*c*⁹,*t*¹¹-CLA) and *trans*¹⁰, *cis*¹²-CLA, (*t*¹⁰,*c*¹²-CLA);

“industrially produced *trans*-fatty acids” means all the geometrical isomers of monounsaturated fatty acids with one *trans* double bond, i.e. C₁₄:1, C₁₆:1, C₁₈:1, C₂₀:1, C₂₂:1, and polyunsaturated fatty acids with one or more *trans* double bonds, i.e. C₁₈:2, C₁₈:3, C₂₀:2, C₂₂:2 having non-conjugated, interrupted by at least one methylene group, carbon-carbon double bonds in the *trans* configuration and excludes natural *trans*-fatty acids;

“natural *trans*-fatty acids” means an unsaturated fatty acid with one or more isolated or non-conjugated double bonds, interrupted by at least one methylene group, in a *trans*-configuration consisting mainly of vaccenic acid (VA) [18:1(n-7)] or conjugated linoleic acid (CLA);

“the Act” means the Foodstuffs, Cosmetics and Disinfectants Act, 1972 (Act No. 54 of 1972), and any expression to which a meaning has been assigned in the Act shall bear such meaning;

“*Trans*-Fat” has a corresponding meaning as “industrially produced *trans*-fatty acids”;

“vaccenic acid (VA)” means 18:1 *trans*-11 [18:1(n-7)] and is a geometric and positional isomer of oleic acid with a single double bond and is the precursor of conjugated linoleic acid (CLA).

2. **Maximum *Trans*-Fat content of foodstuffs**

(1) In line with section 2(1)(a)(iv) of the Act, the sale, manufacturing and importation of any oils and fats, including emulsions with fat as the continuous phase, either alone or as part of processed foods, which are intended for human consumption or assumed to be intended for human consumption, in the retail trade, catering businesses, restaurants, institutions, bakeries et cetera, of which the content of *Trans*-Fat exceeds 2 grams per 100 grams of oil or fat, is prohibited.

(2) Subject to sub-regulation 2(1) and regulation 4, in cases where *Trans*-Fat in the end product may be deriving from both partially hydrogenated fat or oil in an ingredient or additive, as well as from ingredients from ruminant animal origin, the *Trans*-Fat content per individual ingredient at the mixing bowl stage-

- (a) shall be kept on record for the purpose of compliance with these Regulations;
and
- (b) subject to regulation 3, where the claim “*Trans*-Fat free” is made, the *Trans*-Fat content which shall be declared in the table with nutritional information on the label shall, be the sum of analytical values per individual ingoing ingredient, excluding natural *trans*-fatty acids.

3. *Trans-Fat* free claim

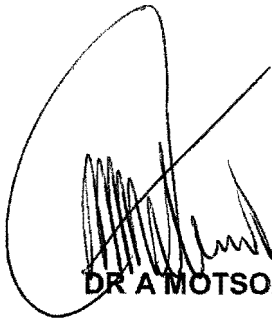
Where a claim that a foodstuff is "*Trans-Fat* free" is made on the label or in an advertisement, the content of *Trans-Fat* shall be less than 1 gram per 100 grams of the total fat or oil in the final product.

4. Methodology

The methodology to analyse for *Trans-Fat* content as referred to in Annexure 1 shall be used.

5. Commencement

These regulations shall come into operation six (6) months after the date of final publication.



DR A MOTSOLEDI, MP

MINISTER OF HEALTH

DATE: 6/2/2011

ANNEXURE 1**METHODOLOGY FOR THE DETERMINATION OF *TRANS*-FATTY ACIDS IN FOODSTUFFS**

1. The preferred method for analyzing the content of *trans* fatty acids in foodstuffs, other than those from ruminant animals, shall be the latest updated version of AOAC 996.06 or AOCS Ce 1h-05; or a combination thereof.

2. The preferred GC column shall be at least 100 m in length with a highly polar stationary phase containing at least 70 – 100% cyanopropyl silicone. Column performance must match the *cis/trans* fatty acid methyl esters (FAME) separation criteria specified in AOCS Method Ce 1h-05. Current recommended columns that meet the above requirements are the CP-Sil 88 (part no. CP7489, Varian, Walnut Creek, CA, USA), HP-88 (part no. 112-88A7, Agilent/J&W, USA), SP-2560 (part no. 24056, Sigma-Aldrich/Supelco Inc., Bellefonte, PA, USA), BPX-70 (part no. 054624, SGE, SGE Inc., Austin Texas, USA).

3. An internal standard shall be used for quantification eg: C11:0, C13:0, C17:0, C21:0.

4. The molecular weights of free fatty acids, FAME and tricylglycerols required for calculating the theoretical flame ionization detector correction factor (TCF) relative to a specific internal standard are listed in Table 3 of the following reference:

De Vries JW, Kjos L, Groff L, Martin B, Cernohous K, Patel H, Payne M, Leichtweis H, Shay M and Newcomer L. 1999. Studies in improvement of official method 996.06. Journal of AOAC International, 82(5): 1146-1155.

5. To avoid chromatographic artefacts, it is recommended to adhere to the shelf-life of the specific transesterification reagent used, i.e. hydrogen chloride in methanol, sulphuric acid in methanol or boron trifluoride in methanol (BF₃-MeOH).

Refer to: Christie WW. 1989. The preparation of derivatives of fatty acids. In: Gas chromatography and lipids. The Oily Press, Bridgwater, UK, pp 64-84;

and;

Ratnayake WMN and Cruz-Hernandez C. Analysis of *trans* fatty acids of partially hydrogenated vegetable oils and dairy products. 2009. In: Trans Fatty Acids in Human Nutrition. 2nd Edition. Eds. Destailats F, Sebedio J-L, Dionisi F, Chardigny J-M. The Oily Press, Bridgwater, UK, pp 105-146.