N° 3434.

ÉGYPTE, FRANCE, NORVÈGE ET YOUGOSLAVIE

Convention internationale pour l'unification de la présentation des résultats d'analyse des matières destinées à l'alimentation de l'homme et des animaux. Signée à Paris, le 30 juin 1931.

EGYPT, FRANCE, NORWAY AND YUGOSLAVIA

International Convention regarding the Standardisation of the Methods of presenting the Results of the Analysis of Foodstuffs for Human Consumption and for Animals. Signed at Paris, June 30th, 1931.

[1] TRADUCTION. — TRANSLATION.

No. 3434. — INTERNATIONAL CONVENTION[2] REGARDING THE STANDARDISATION OF THE METHODS OF PRESENTING THE RESULTS OF THE ANALYSIS OF FOODSTUFFS FOR HUMAN CONSUMPTION AND FOR ANIMALS. SIGNED AT PARIS, JUNE 30TH, 1931.

French official text communicated by the Permanent Delegate of the Kingdom of Yugoslavia accredited to the League of Nations. The registration of this Convention took place June 7th, 1934.

THE SOVEREIGNS, HEADS OF STATES and GOVERNMENTS OF THE POWERS hereinafter enumerated, being desirous of introducing international rules for the unification of methods of analysis for foodstuffs on the bases laid down at the International Conference held in Paris on June 27th, 1910, and defined and amplified by the International Conference which met in Paris on May 13th, 1929, have resolved to conclude a Convention for that purpose and have agreed upon the following provisions as regards the rules for the standardisation of the methods of presenting the results of the analysis of foodstuffs :

NOTATION.

1. The notations shall be those adopted by the International Committee on Weights and Measures.

The atomic masses employed shall be those established by the International Commission on Atomic Masses.

With a view to simplifying calculation and assuring standardisation, the Permanent International Bureau of Analytical Chemistry for Foodstuffs for Human Consumption and for Animals is hereby instructed to request the International Commission on Atomic Masses to supply it with a list of practical atomic masses suitable for tests in air, the quantities to be stated in round numbers and published in an annex together with a table of multiples and sub-multiples of the units of measurement adopted by the International Committee on Weights and Measures and a list of the abbreviations recognised by that Committee.

MASS.

(Quantity of Matter.)

2. In conformity with the definition given by the General Conferences of Weights and Measures and inserted in the laws of the countries Parties to the Metric Convention, the practical unit for weighing is the gramme, being the one-thousandth part of the international kilogramme.

[1] Traduit par le Secrétariat de la Société des Nations, à titre d'information.

[1] Translated by the Secretariat of the League of Nations, for information.

[2] Ratification deposited in Paris: Yougoslavia, March 3rd, 1934.
Came into force November 13th, 1933.

3. For products the quantity of which is estimated by weighing, the results of the analysis, showing the composition, should be indicated in grammes or milligrammes per 100 grammes of the product. Such results should be indicated as follows :

g/100 g. or mg/100 g.

When the results are on the basis of 100 grammes of the dried product, that fact should be stated.

VOLUME.

4. The unit of volume is the litre, representing the volume of 1 kilogramme of pure water in the conditions defined by the General Conferences on Weights and Measures ; the practical unit for the measurement of volume is the thousandth part of the litre (ml.) or millilitre, being to all intents and purposes equivalent to one cubic centimetre (exactly, 1.000028).

5. At a temperature of t° the litre is represented by a volume of *g* grammes of distilled water weighed in air with brass weights. A table giving *g* for various temperatures is annexed to the present paragraph.

QUANTITIES

to be subtracted from 1 kg. to balance, in air and with weights of a specific mass equal to 8.5, 1 litre of distilled water at the temperatures and pressures indicated in the following table :

Temperature	Millimetres										
	70	71	72	73	74	75	76	77	78	79	80
10°C. .	1 g. 29	1 g. 30	1 g. 31	1 g. 33	1 g. 34	1 g. 36	1 g. 37	1 g. 38	1 g. 40	1 g. 41	1 g. 42
11 . .	1 » 38	1 » 39	1 » 41	1 » 42	1 » 43	1 » 45	1 » 46	1 » 47	1 » 49	1 » 50	1 » 52
12 . .	1 » 48	1 » 50	1 » 51	1 » 52	1 » 54	1 » 55	1 » 57	1 » 58	1 » 59	1 » 61	1 » 62
13 . .	1 » 60	1 » 61	1 » 63	1 » 64	1 » 65	1 » 67	1 » 68	1 » 70	1 » 71	1 » 72	1 » 74
14 . .	1 » 73	1 » 74	1 » 76	1 » 77	1 » 78	1 » 80	1 » 81	1 » 82	1 » 84	1 » 85	1 » 86
15 . .	1 » 87	1 » 88	1 » 90	1 » 91	1 » 92	1 » 94	1 » 95	1 » 96	1 » 98	1 » 99	2 » 01
16 . .	2 » 02	2 » 04	2 » 05	2 » 06	2 » 07	2 » 09	2 » 10	2 » 12	2 » 13	2 » 14	2 » 16
17 . .	2 » 19	2 » 20	2 » 21	2 » 23	2 » 24	2 » 25	2 » 27	2 » 28	2 » 29	2 » 31	2 » 32
18 . .	2 » 36	2 » 38	2 » 39	2 » 40	2 » 42	2 » 43	2 » 44	2 » 46	2 » 47	2 » 48	2 » 50
19 . .	2 » 55	2 » 56	2 » 57	2 » 59	2 » 60	2 » 61	2 » 63	2 » 64	2 » 65	2 » 67	2 » 68
20 . .	2 » 74	2 » 76	2 » 77	2 » 78	2 » 80	2 » 81	2 » 82	2 » 84	2 » 85	2 » 86	2 » 88
21 . .	2 » 95	2 » 97	2 » 98	2 » 99	3 » 00	3 » 02	3 » 03	3 » 04	3 » 06	3 » 07	3 » 08
22 . .	3 » 17	3 » 18	3 » 20	3 » 21	3 » 22	3 » 24	3 » 25	3 » 26	3 » 28	3 » 29	3 » 30
23 . .	3 » 40	3 » 41	3 » 43	3 » 44	3 » 45	3 » 46	3 » 48	3 » 49	3 » 50	3 » 52	3 » 53
24 . .	3 » 63	3 » 65	3 » 66	3 » 67	3 » 69	3 » 70	3 » 71	3 » 73	3 » 74	3 » 75	3 » 77
25 . .	3 » 88	3 » 90	3 » 91	3 » 92	3 » 94	3 » 95	3 » 96	3 » 98	3 » 99	4 » 00	4 » 01

6. For products measured by volume, the results of the analysis, showing the composition, should be indicated in grammes or in milligrammes per litre of the product as follows :

g/L or mg/L.

The results may be indicated in some other way at the same time.

TEMPERATURE.

7. Temperatures should be reduced to the normal scale adopted by the General Conferences on Weights and Measures, that is to say, the centigrade scale of the hydrogen thermometer having the following fixed points : the temperature of melting ice (C°) and that of the steam from distilled water in a state of ebullition (100°) under the normal atmospheric pressure.

Such temperatures shall always be expressed in centigrade degrees followed by the abbreviation C. Example : 15°C, 20°C.

As far as possible, boiling points and melting points should be indicated, after the usual corrections. Where corrected, they should be followed by the sign (Corr.).

(The method used in determining melting points should be stated.)

Calorimetric Measures.

8. Thermo-chemical results should be expressed in kilocalories, with the sign kcal (quantity of heat necessary to raise by one degree centigrade the temperature of a mass of 1 kg. of a substance, the specific heat of which is supposed to be equal to that of water at 15°C under normal pressure).

Pressure.

9. Pressures shall be indicated in millimetres of mercury at 0° and in normal conditions of gravity.

Specific Mass.

10. The specific mass at t° is an absolute value. It expresses the ratio of the volume of a substance at t° to the mass of the same volume of distilled water deprived of air at 4° and at the normal pressure. (The mass is deducted from the quantity weighed by reduction in a vacuum ; it should be indicated at 20°C.)

Density.

11. Density is a relative value. It expresses the ratio between two masses or two corresponding weights [1].

It is hereby decided to take the temperature of 20°C. as a working temperature ; but it should be observed that a large number of tables (alcoholic solutions, solutions of various acids, oils and essences more especially) give figures based on a temperature of 15°C. or 17.5°C., by comparison with water at the same temperature — so that the compilation of new tables will be necessary.

12. Density should not be stated in arbitrary units (Baumé, Tessa, Cartier degrees, etc.).

13. The alcoholic content of alcoholic liquids should be indicated in gr. of alcohol per litre or per decilitre, or 100 cubic centimetres, and at the same time in volumes of alcohol in accordance with the practice of the country, but preferably in volumes of absolute alcohol contained in 100 volumes of the liquid analysed (centigrade alcoometric degree), while at the same time indicating the temperature at which the observations were taken.

The specific mass of absolute alcohol is 0.78933 at 20°C. and 0.79367 at 15°C.

Refraction Index.

14. Refractometric deviations should be expressed in refraction indices as compared with air, for line D at a temperature of 20°C., but for fats at a temperature of 40°C. The temperature at which the observation has been taken shall always be indicated.

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[1] Density is not ascertained in the same conditions as specific mass. In the case of liquids, for example, density is stated in relation to water at 15° C., 40° C., etc., that is to say, T/t : 15/15° C., 40/40° C., and in the case of fatty solids, T/t : 100/50° C., 40/40° C., etc. These various conditions should all be indicated by the words : " Reduced in a vacuum (or not reduced in a vacuum) ".

At the same time, in the event of its proving impossible to operate at the temperatures of 20°C. or 40°C. as stated above, the index may be taken at another temperature t°; the latter being, however, indicated in the form " Index (t°C) ".

Polarimetric Deviation.

15. Polarimetric deviation should be indicated in degrees of an arc, with centesimal fraction, for the 10 cm. tube, at a temperature of 20°C. for yellow light (D). The length of the tube used in taking the observation shall always be indicated, together with the temperature at which the observation was made.

In the case of solids, the nature of the dissolvent and the concentration of the solution should be indicated.

Acidity.

16. Whatever the nature of the acids (fixed or volatile, free or partially combined), acidity should always be expressed by the number of cubic centimetres of normal fluid, to one or two decimal places, corresponding to 100 gr. of solid or one litre of liquid, with the notation N/1, N/10, N/100.

In the case of butters and fats, the figures for acidity should be based on 100 gr. of fatty substance.

At the same time, the results may be given in gr. of acetic, tartaric, malic, etc. acid according to the nature of the substance, or arbitrarily in sulphuric acid, or in any other way.

Furthermore, the method and indicator employed should always be mentioned. It is desirable that the concentration in H ions (representing the true reaction of the vehicle) should also be indicated whenever possible.

17. The saponification index should be expressed in cubic centimetres of normal fluid corresponding to 100 gr. of fatty substance.

It may be accompanied by the indication of Köttsdorfer's number.

Alkalinity.

18. Whatever the nature of the bases, the alkalinity should be indicated by the number of cubic centimetres of normal fluid, to one or two decimal places, corresponding to 100 gr. or one litre of the product analysed by means of the notation N/1, N/10, N/100.

The alkalinity may be indicated in some other way at the same time.

Furthermore, the method and indicator employed should always be stated. It is desirable that the concentration in H ions (representing the true reaction of the vehicle) should also be indicated whenever possible.

19. The alkalinity of the ashes of a product, expressed in the manner stated above, should be based upon 100 gr. or one litre of the product.

Reducing Sugars.

20. The reducing sugars, the nature of which is not stated, should be estimated in gr. of anhydrous-glucose on the basis of 100 gr. or one litre of the product analysed.

INDEX OF IODINE, BROMIDE, ETC.

21. The indices of iodine or of bromide show the number of grammes of halogen calculated in iodine or bromide respectively, which are fixed by 100 gr. of the product.

In the case of butters and fats, the results should be based upon 100 gr. of fatty substance.

The method employed should be stated.

PROTEIC SUBSTANCES.

22. When a factor other than 6.25 is employed for calculating proteic substances in relation to nitrogen, that factor should be indicated in parentheses.

ANALYSIS OF SPIRITS.

(Special Rule.)

23. Ethers are estimated in acetic ether ; aldehydes in ethylic aldehyde ; higher class spirits in isobutylic alcohol or in isoamylic alcohol, stating which of the two has been employed ; volatile acids in acetic acid.

They are expressed in milligrammes per litre of spirits, and at the same time in milligrammes per 100 cubic centimetres of absolute alcohol contained in the spirits analysed.

The extractive substances and fixed acidity (calculated in acetic acid) are expressed in grammes per litre of spirits.

24. The letters C. I. may be used to indicate that the analytic results have been obtained in accordance with the foregoing rules.

25. The Contracting Governments shall instruct the competent authorities to adopt the measures recommended by the International Conference.

The aforementioned Governments undertake severally to adopt measures with a view to bringing into general use the employment of the methods of presenting the results of analyses adopted by the Conference.

26. Governments which have not signed the present Convention shall be entitled to accede thereto. Any Power desiring to accede shall notify its intention in writing to the Government of the French Republic, transmitting at the same time its instrument of accession, which shall be deposited in the archives of the aforesaid Government. The said Government shall immediately transmit to all the other Contracting Powers a certified copy of the notification and of the instrument of accession, stating the date on which such notification was received.

27. The present Convention shall be ratified and the ratifications deposited in Paris as soon as possible.

It shall be brought into force immediately on publication in accordance with the laws of the signatory States.

28. The present Convention, dated May 13th, 1929, shall be open for signature in Paris until July 1st, 1931, by the Plenipotentiaries of the Powers represented at the International Conference which met in Paris on May 13th, 1929.

In faith whereof the respective Plenipotentiaries have signed the present Convention and have thereto affixed their seals.

Done in Paris on June 30th, 1931, in a single copy, which shall be deposited in the archives of the Government of the French Republic, certified copies being transmitted to the Contracting Powers through the diplomatic channel.

On behalf of Egypt :
M. FAKHRY.

On behalf of France :
A. BRIAND.

On behalf of Norway :
Ulrich STANG.

On behalf of Yugoslavia :
M. SPALAIKOVITCH.