
LABORATORY
OF THE
INLAND REVENUE DEPARTMENT
OTTAWA, CANADA

BULLETIN No. 306

PEROXIDE OF HYDROGEN

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OTTAWA, Feb. 27, 1915.

J. U. VINCENT, Esq.,
Deputy Minister Inland Revenue.

SIR,—I beg to hand you a report of work done upon thirty-seven (37) samples of what is generally called Peroxide of Hydrogen. The article in question is really a solution of the per oxide (H_2O_2) and is known in the British Pharmacopoeia as *Liquor Hydrogenii Peroxidi*, and in the United States Pharmacopoeia as *Aqua Hydrogenii Dioxidi*.

These solutions are practically identical, and are required to contain about three per cent (3 per cent) of true Hydrogen Peroxide, corresponding to an available Oxygen content of about ten volumes.

The British Pharmacopoeia permits a marginal allowance of one per cent available oxygen in either direction, so that the article meets pharmacopoeal requirements when its available oxygen content lies between nine and eleven volumes (9-11).

It will be noted that most of the samples examined give results that fall within the specified limits; whilst those which indicate a slightly higher strength cannot be held to be in any sense objectionable for the purposes to which peroxide of hydrogen is usually applied (as an antiseptic wash, a hair bleach, or as a gargle.) Only one sample falls below legal strength, a fact which indicates care in preparation by the manufacturer, and in storage by the dispenser, since this article is very prone to decomposition and loss of strength.

It is usual to add a trace of phosphoric acid or of acetanilide, in order to give better keeping properties to the solution. Acetanilide is added in the proportion of 3/16 grain per ounce of solution; and is declared on the label when present.

Since this solution is a pharmacopoeal preparation, it is of course impossible that it should be made proprietary. Two samples (63561 and 63583) are named as Dioxogen

on the label. Except that these samples contain a slightly higher percentage of available oxygen than the maximum fixed by the pharmacopoeias, they are identical with the official peroxide. I think it open to question whether a name, not known to the pharmacopoeia, should be permitted use in this preparation, which, to all intents and purposes, is a pharmacopoeal article. Statements made in a pamphlet which accompanies each bottle, are misleading, and are not borne out by the facts. "There is nothing else, the same as dioxogen," is very questionable, and, indeed, is not true. Even if it be granted that its slightly higher content of oxygen, than that permitted for the pharmacopoeal peroxide, constitutes a point of difference, this entirely disappears in the use of the article, which is always diluted with water.

I beg to recommend publication of this report as Bulletin No. 306.

I have the honour to be, Sir,
Your obedient servant,

A. MCGILL,
Chief Analyst.

BULLETIN No. 306—HYDROGEN PEROXIDE.

Date of Collection.	Nature of Sample.	No. of Sample.	Name and Address of Vendor.	Cost.		Name and Address of Manufacturer or Furnisher as given by the Vendor.		Inspector's Report. (Is not an expression of opinion).	Results of Analysis.			Remarks and opinion of the Chief Analyst.
				Quantity.	Cents.	Manufacturer.	Furnisher.		One volume yields volume oxygen by P. test.	Test for Barium.	Residue on Re-precipitation.	

DISTRICT OF QUEBEC—F. X. W. E. BELAND, INSPECTOR.

1914.													
Nov. 10	Hydrogen Peroxide.	60749	Jos. Masson, 808 rue St. 3 bot. Valier, Quebec.	69	69	National Drug Co.			9.75	Negative	0.17	60749	Meets legal standard.
" 10	"	60750	G. B. Giroux, 387 rue St. Joseph, Quebec.	75	75	Henry K. Wampole Co.			10.05	"	0.19	60750	"
" 10	"	60751	W. Brunette & Cie, 138 1/2 rue St. Joseph, Quebec.	69	69	"			11.80	"	0.12	60751	Slightly above legal standard.
" 11	"	60752	A. Fournier, 516 rue St. Jean, Quebec.	75	75	"			11.00	"	0.18	60752	Meets legal standard.
" 11	"	60753	A. C. Francoeur, 379 1/2 rue St. Jean, Quebec.	75	75	"			9.65	"	0.20	60753	"

DISTRICT OF MONTREAL—D. J. KEARNEY, INSPECTOR.

Nov. 23	Hydrogen Peroxide.	62560	Mac Freedman, 1008 St. 3 bot. Lawrence Blvd., Montreal.	75	75	National Drug and Chemical Co.			9.65	Negative	0.09	62560	Meets legal standard.
" 23	"	62561	Lanciot & Beault, 820 St. Lawrence Blvd., Montreal.	45	45	Mallockreit Chem. Works, New York			11.1	"	0.13	62561	"
" 23	"	62562	A. F. Larose, 2 Sherbrooke St. E. Montreal.	30	30	Lyman's Ltd., Montreal.			9.83	"	0.10	62562	"
" 24	"	62563	W. Lossard, 1400 Wellington St. Verdun.	75	75	Dr. King Medicine Co., Toronto.			10.05	"	0.17	62563	"
" 24	"	62564	Dr. V. Rheau, 183 1/2 Church Ave., Verdun.	75	75	Parko Davis Co., Walkerville, Ont.			11.0	"	0.07	62564	"

DISTRICT OF OTTAWA—J. A. RICEY, INSPECTOR.

Oct. 24	Hydrogen Peroxide.	63556	Chas. A. Adams, Kempt-3 bot., Ottawa.	75	75	United Drug Co., Ottawa.			10.45	Negative	0.13	63556	Meets legal standard.
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DISTRICT OF OTTAWA—J. A. RICEY, INSPECTOR.

Oct. 24	Hydrogen Peroxide.	63556	Chas. A. Adams, Kemptville, Ont.	3 bot.	75	United Drug Co., Toronto.	10-45	Negative	0-13	63556	Meets legal standard.
Nov. 4	"	63557	The Ottawa National Pharmacy Ltd., Ottawa.	3 "	75	Wampole Ltd., Perth Ont.	11-55	"	0-12	63557	Slightly above legal strength.
" 7	"	63558	E. J. Durocher, Ottawa.	3 "	75	Lyman's Ltd., Montreal.	10-3	"	0-07	63558	Meets legal standard.
" 7	"	63559	"	3 "	75	National Drug Co., Ottawa.	13-7	"	0-06	63559	Above legal strength.
" 7	"	63560	J. A. Musgrove, Ottawa.	3 "	75	N. Y. & London Drug Co., N. York.	12-3	"	0-08	63560	"
" 7	"	63561	N. W. Campbell, Ottawa.	3 "	75	Oakland Chemical Co., New York.	14-4	"	0-03	63561	"
Mar. 1	"	63583	T. T. Beattie, Ottawa.	3 "	75	"	14-1	"	0-09	63583	"

DISTRICT OF TORONTO—H. J. DAGGER, INSPECTOR.

Mar. 16	Hydrogen Peroxide	63154	Jury & Gregory, Kingwood.	3 bot.	75	United Drug Co., Toronto.	10-7	Negative	0-18	63154	Meets legal standard.
" 18	"	63155	P. A. McDonald, Penetang.	3 "	45	St. Regis Chem. Co., Toronto.	10-7	"	0-15	63155	"
" 19	"	63156	J. S. Fraleigh, Midland.	3 "	75	"	11-2	"	0-17	63156	"
Nov. 19	"	63157	H. Cooke & Co., Orillia.	3 "	75	H. K. Wampole, Perth, Ont.	10-60	"	0-22	63157	"
" 25	"	63163	Owl Drug Stores, Ltd., 282 College St., Toronto.	3 "	40	Nat. Drug and Chem. Co., of Canada.	10-60	"	0-09	63163	"

DISTRICT OF HAMILTON—H. J. DAGGER, ACTING INSPECTOR.

Nov. 2	Hydrogen Peroxide.	64552	C. V. Jeffers, Orangeville.	3 bots.	75	"	11-2	Negative	0-15	64552	Meets legal standard.
" 2	"	64553	J. D. Campbell, 917 2nd ave., E. Owen Sound.	2 "	45	F. Stearns & Co., Windsor.	6-7	"	0-49	64553	Below legal strength.
" 5	"	64554	J. Ball, Hanover.	3 "	75	Lyman's Ltd., Montreal.	10-0	"	0-20	64554	Meets legal standard.
" 6	"	64555	A. P. Sieveright, Kerton.	3 "	75	H. K. Wampole, Perth.	10-9	"	0-16	64555	"
" 9	"	64556	Parke & Parke, 282 College St., Hamilton.	3 "	45	Mallinckrodt Chem. Works, St. Louis.	10-75	"	0-18	64556	"

BULLETIN No. 306.—HYDROGEN PEROXIDE.

Date of Collection.	Nature of Sample.	No. of Sample.	Name and Address of Vendor.		Cost.		Name and Address of Manufacturer or Furnisher as given by the Vendor.		Inspector's Report. (Is not an expression of opinion.)	Results of Analysis.			Remarks and Opinion of the Chief Analyst.
			Quantity.	Cents.	Manufacturer.	Furnisher.	Test for barium.	Residue on evaporation.		One volume yields oxygen by P. test.	Test for barium.	No. of Sample.	

DISTRICT OF MANITOBA—A. C. LARIVIERE, INSPECTOR

1914.														
Oct. 30	Hydrogen Peroxide.	53296	J. K. Hill, druggist, 12 ozs.	75	Parke, Davis Co., Walkerville, Ont.					10.7	Negative.	0.02	53296	Meets legal standard.
Nov. 3	"	53297	Portage la Prairie, Brandon.	75	Mallinckrodt Chem. Works, New York.					10.8	"	0.12	53297	"
" 3	"	53298	McCullough Drug Store, Brandon.	12 "	Parke, Davis Co., Walkerville, Ont.					9.9	"	0.08	53298	"
" 4	"	53299	Roberson & Co., druggists, Brandon.	12 "	E. G. West & Co., Toronto.					10.9	"	0.12	53299	"
" 10	"	53300	F. W. Humphries, Druggist, Carman.	3 pgs.	Nat. Drug and Chem. Co.					9.8	"	0.09	53300	"

DISTRICT OF VANCOUVER—E. J. MORGAN, INSPECTOR.

Oct. 31	Hydrogen Peroxide.	55136	Wm. Harrison & Co., Ltd., Granville st. and 7th Ave., Vancouver.	3 bots.	75	The Arthur Chem. Co., New Haven, Conn.				11.1	Negative.	0.10	55136	Slightly above legal strength.
" 31	"	55137	H. McFarlane, Eburne, B.C.	3 "	75	National Drug and Chem. Co., Montreal.				10.30	"	0.11	55137	Meets legal standard.
Nov. 2	"	55138	F. W. Woolworth Co., Ltd., 669 Hastings st., Vancouver.	3 "	45	Middletown Chem. Co., Brooklyn, N. Y.				10.75	"	0.15	55138	"
" 2	"	55139	F. W. Woolworth Co., Ltd., 389 Hastings st., Vancouver.	3 "	46	National Peroxide Co., New York.				11.1	"	0.20	55139	"
" 3	"	55140	T. Hill, 628 Columbia st., New Westminster.	3 "	75	Mallinckrodt Chem. Works, New York.				11.1	"	0.14	55140	"