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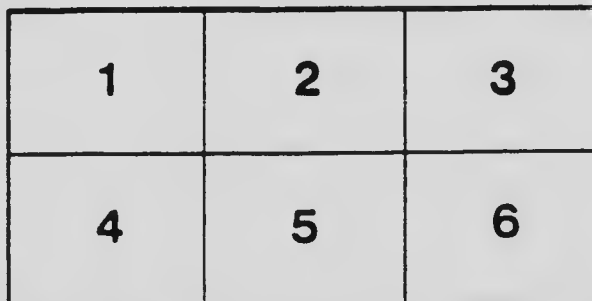
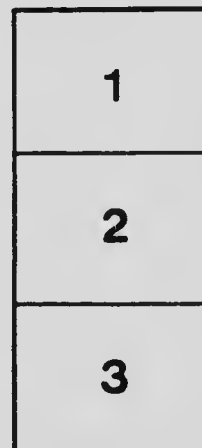
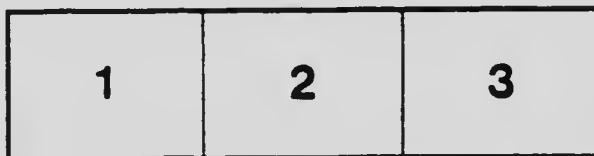
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O.H.M.S.

W. J. Gerald
Deputy Minister

LABORATORY
OF THE
INLAND REVENUE DEPARTMENT
OTTAWA, CANADA.

BULLETIN No. 199

FRIAR'S BALSAM (COMPOUND TINCTURE OF BENZOIN.)

LABORATORY
OF THE
INLAND REVENUE DEPARTMENT
OTTAWA, CANADA.

BULLETIN No. 199

FRIAR'S BALSAM, (COMPOUND TINCTURE OF BENZOIN)

OTTAWA, March 8, 1910.

W. J. GERALD, Esq.,
Deputy Minister of Inland Revenue.

Sir,—I have the honour to submit herewith the results of analysis of 70 samples of Friar's Balsam (Tinctura Benzoini Composita), collected throughout Canada in September and October of last year.

This tincture is very largely used as a remedy in bronchitis and is official in most pharmacopœias.

The composition of the Compound Tincture of Benzoin is nearly identical for the British and the United States Pharmacopœias, as follows:—

TO MAKE 1000 PARTS.

Materials from which made.	B. P.	U. S. P.
Benzoin.....	190	100
Aloes.....	18.2	20
Storax.....	75	80
Balsam of Tolu.....	25	40
Alcohol.....	q. s.	q. s.
	1000	1000

The tests prescribed by the British Pharmacopœia are:—

1. Specific gravity, about 0.900.
2. Total solids, 17 to 18 per cent,
3. Absolute alcohol, about 75 p.c.

Tinctures made in the laboratory according to B. P. directions gave results as follows:—

	Days.	Days.
Time of maceration	2	3½
Specific gravity	0.8981	0.8924
Total dry solids	14.6	15.4
Alcohol (vol. p. c.)	74.32	74.96

The fact that different varieties of benzoin have different solubilities may to some extent account for the varying solids found in the tinctures herein reported. It will be noted that even the tinctures made in this laboratory did not yield the amount of dry solids required (17-18 p.c.); and 17 p.c. is only reached by 7 samples out of 70 examined. Solids vary from 8.6 to 19.46 per cent., five (5) samples containing less than 10 per cent.

The alcohol used is generally of proper strength; and is genuine in 69 samples. One sample (No. 1255) is made with methyl alcohol, and is therefore adulterated.

This report shows Friar's Balsam as dispensed in Canada, to be generally somewhat below the pharmacopœial standard in dissolved solids.

I beg to recommend the publication of this report as Bulletin No. 199.

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

A. MCGILL,
Chief Analyst.

BULLETIN No. 199—FRIARS BALSAM (COMPOUND TINCTURE OF BENZOIN : TINCTURA BENZOINI COMPOSITA).

Date of Collection.	Nature of Sample.	No. of Sample.	Name and Address of Vendor.	Quantity.	Cost.	RESULTS OF ANALYSIS.											
						Name and Address of Manufacturer or Furnisher as given by the Vendor.	Sp. Gr. of Sample at 15° C.	Sp. Gr. of Tincture to equal Volume.	Alcohol.			Examination for Methyl Alcohol.			No. of Sample.		
									Weight.	Volume.	Proof Spirit.	Total Solids, grams per 100cc.	Density.	Alcohol by Weight.		Theory.	Found.
DISTRICT OF NOVA SCOTIA R. J. WAUGH, INSPECTOR.																	
1909.																	
Oct.	8 Friars Balsam.	41846	G. C. McDougall, 6 oz., Kentville, N.S.	60	Vendor	0.8707	0.8492	79.64	85.19	149.27	11.77	0.9616	27.50	64.6	64.4	0.2	41846
"	"	41847	H. E. Wilson, Wind-80, N.S.	60	"	0.8718	0.8514	78.76	84.47	148.03	13.61	0.9506	28.81	66.8	66.5	0.3	41847
"	"	41848	A. J. Crease, Ant-herst, N.S.	60	"	0.8880	0.8701	70.80	77.60	136.00	17.61	0.9614	27.64	64.8	64.6	0.2	41848
"	"	41849	R. C. Fuller & Co., Amherst, N.S.	50	Vendors	0.8739	0.8531	78.08	83.91	147.05	13.34	0.9514	33.82	74.1	73.8	0.3	41849
"	"	41850	Chow Bros, Truro, N.S.	55	"	0.8869	0.8649	73.08	77.61	139.52	14.40	0.9651	25.07	60.4	60.1	0.3	41850
DISTRICT OF NEW BRUNSWICK—J. C. FERGUSON, INSPECTOR.																	
Sept.	9 Friars Balsam.	39583	The Nat. Drug and Chem. Co., Ltd., St. John, N.B.	60	Vendors	0.8784	0.8647	73.08	79.61	139.52	12.81	0.9707	29.75	51.9	51.9	0.0	39583
"	"	39584	P. J. Donohoe, St. John, N.B.	60	Vendor	0.8830	0.8701	70.80	77.60	136.00	14.88	0.9745	17.67	45.8	45.9	0.1	39584
"	"	39585	R. T. Mack, Fredericton, N.B.	60	"	0.8799	0.8556	77.04	83.04	145.52	15.29	0.9663	24.15	58.1	58.2	0.2	39585
Oct.	6	39586	Fairweather Bros., Estate, Moncton, N.B.	60	Vendors	0.8913	0.8583	75.45	81.68	143.14	16.24	0.9617	27.43	61.4	64.2	0.2	39586
"	"	39587	A. W. G. Melbould, Campbellton, N.B.	40	Davis, Lawrence Co., Montreal.	0.8879	0.8791	70.80	77.60	136.00	10.06	0.9652	25.00	60.1	60.2	0.1	39587

DISTRICT OF QUÉBEC—E. BELAND, INSPECTOR.

Sept. 13	Friars Balsam.	36652	Dr. J. L. L. Hamelin, Louiseville.	6 oz.	60	Lynan Sons, Mont- real.	0 9463 0 8896	66 43	73 69 129 15	16 74 0 9641	25 79	61 5	0 0	36652
"	"	36653	L. A. Plante, Loui- seville.	6 "	60	Nat. Drug Co., Montreal.	0 8818 0 8701	70 86	77 60 136 00	11 37 0 9706	20 83	52 0	0 4	36653
"	"	36654	J. A. Peltier, Trois- Rivières.	6 "	60	Lymans, Ltd., Montreal.	0 8819 0 8683	71 54	78 25 157 14	11 37 0 9442	17 92	46 3	0 3	36654
"	"	36655	R. W. William, Trois- Rivières.	6 "	45	"	0 8651 0 8145	81 56	86 77 152 06	10 28 0 9705	20 12	52 3	0 3	36655
"	"	36656	Pharmacie Normand, Trois Rivières.	6 "	50	Lynan Knox, Montreal.	0 8896 0 8796	67 13	74 33 130 26	16 70 0 9645	25 50	61 0	0 3	36656

DISTRICT OF ST. HYACINTHE—J. C. ROULEAU, INSPECTOR.

Sept. 15	Friars Balsam.	1251	P. A. Berard, Drum- mondville.	6 oz.	75	Unknown	0 9442 0 8822	65 75	73 07 128 08	19 02 0 9738	18 23	47 0	0 4	1251
"	"	1252	J. B. Ledue, Marie- ville.	6 "	70	Lynan Knox Co., Montreal.	0 8969 0 8806	66 43	73 69 129 13	14 61 0 9597	28 75	66 8	0 1	1252
"	"	1253	Dr. Guy, St. Jean	6 "	60	Vendor	0 8909 0 8866	72 26	78 89 138 25	17 37 0 9706	20 83	52 4	0 2	1253
"	"	1254	Dr. Laumbly, Cooks- hire.	6 "	75	Lymans, Ltd., Montreal.	0 8931 0 8739	69 33	76 31 133 72	18 29 0 9645	28 26	65 9	0 4	1254
"	"	1255	Magog Pharmacy, Magog.	6 "	50	Unknown	0 8887 0 8384	83 92	88 64 155 34	12 56 0 9592	29 07	67 3	0 5	1255

DISTRICT OF MONTREAL—J. J. COSTIGAN, INSPECTOR.

Sept. 9	Friars Balsam.	40306	A. Monat, 29 St. Cath- erine W., Montreal.	6 oz.	40	"	0 9006 0 8806	66 43	73 69 129 15	15 53 0 9754	16 12	44 3	0 1	40306
"	"	40307	J. T. Lyons Co., suc- 577 St. Catherine W., Montreal.	6 "	50	"	0 8730 0 8611	74 64	80 96 141 89	12 03 0 9728	19 00	48 5	0 1	40307
"	"	40308	A. B. Scarff, 703 St. 6 Catherine W., Montreal.	6 "	65	Lynan Knox Co., Ltd.	0 9006 0 8823	65 71	73 03 127 96	15 35 0 9757	16 69	43 9	0 2	40308
"	"	40309	C. T. Milne, 721 St. 6 Catherine W., Montreal.	6 "	50	"	0 9015 0 8823	65 71	73 03 127 99	15 21 0 9751	17 17	44 8	0 2	40309
"	"	40310	O. Brault, 248 St. 6 Antoine St., Mont- real.	6 "	50	"	0 8988 0 8701	70 86	77 60 136 00	14 43 0 9622	27 07	63 8	0 0	40310

* Contains wood Alcohol—Adulterated.

BULLETIN No. 199—FRIARS BALSAM (COMPOUND TINCTURE OF BENZOIN ; TINCTURA BENZOINI COMPOSITA)

Date of Collection.	Nature of Sample.	No. of Sample.	Name and Address of Vendor.	Quantity.	Cost.	RESULTS OF ANALYSIS										
						Name and Address of Manufacturer or Furnisher as given by the Vendor.		Alcohol.		Examination for Methyl Alcohol.			No. of Sample.			
						Sp. Gr. of Sample at 15.6.	Sp. Gr. of Distillate to equal Vol.	Weight.	Volume.	Proof Spirit.	Total Solids Grams.	Density.	Alcohol by Weight.	Theory.	Pract.	Difference.

DISTRICT OF OTTAWA—J. A. RICEY, INSPECTOR

1909.	Sept. 22	Friars Balsam.	42831 E. H. Elvedge, Vank. 6 oz. Jack Hill.	70		0.8562	0.8896	83.38	88.22	154.60	9.40	0.9622	27.67	63.8	64.0	0.2	42831
	" 25	"	42832 W. S. Robertson, 6 " Perth.	60		0.8752	0.8836	77.88	83.74	146.75	13.87	0.9584	24.00	68.2	67.8	0.4	42832
	" 29	"	42833 John McLeister, 6 " Alexandria.	60		0.8911	0.8643	75.45	81.68	143.14	14.05	0.9631	26.47	62.7	62.4	0.3	42833
	Oct. 5	"	42834 R. M. Arbutnot, 6 " Ottawa.	75		0.8941	0.8701	70.80	77.60	136.00	13.78	0.9730	18.87	48.2	48.2	0.0	42834
	" 5	"	42835 Beattie & Argue, 6 " Ottawa.	75		0.8772	0.8556	77.04	83.04	145.52	15.34	0.9609	28.00	65.5	65.1	0.4	42835

DISTRICT OF KINGSTON—JAS. HOGAN, INSPECTOR

Sept.	7	Friars Balsam.	42746 National Drug Co., 6 oz. Kingston.	50		0.8735	0.8720	70.04	76.94	134.84	14.47	0.9621	24.31	58.8	58.6	0.2	42746
"	8	"	42747 D. M. Waters, Belle-ville.	50		0.8850	0.8611	74.64	80.96	141.80	15.16	0.9598	28.00	66.3	66.4	0.1	42747
"	8	"	42748 O. G. John's, Co-bourg.	50		0.8772	0.8536	77.88	83.74	146.75	14.24	0.9594	28.94	66.6	66.8	0.2	42748
"	8	"	42749 A. J. Gould, Cobourg.	50		0.8643	0.8452	81.28	86.54	151.66	11.25	0.9535	31.31	70.8	70.5	0.3	42749
"	9	"	42751 E. S. Payne, Peterboro.	50		0.8741	0.8577	76.29	82.40	144.41	11.70	0.9750	17.25	45.0	44.8	0.2	42751

DISTRICT OF TORONTO H. J. PAGEH, INSPECTOR.

Sept. 23	Friars Balsam.	41392 Hawkins Ltd., 6 oz. 30	Hamilton.	0.8703 0.8492 79.64 85.19 149.27	13.65 0.9617 27.43	64.4	64.2	0.2	41392
"	"	41393 Littlewoods Pharmacy, Hamilton.	Wellington, Ont., Lon.	0.8818 0.8773 67.83 74.97 131.38	16.59 0.9774 15.33	41.2	41.3	0.1	41393
"	"	41394 W. H. Cummins, 6 oz. 25	Dundas.	0.8801 0.8356 77.04 83.04 145.52	15.81 0.9626 26.80	63.3	63.1	0.2	41394
"	"	41395 G. Tamblyer, Toronto, 6 oz. 50	Toronto.	0.8907 0.8936 72.26 78.89 138.25	15.39 0.9628 26.67	63.1	62.8	0.3	41395
"	"	41396 W. H. Worden, Toronto, 6 oz. 50	Toronto.	0.8895 0.8630 73.79 80.22 140.59	13.79 0.9564 29.78	70.0	69.9	0.1	41396

DISTRICT OF LONDON - T. KIDD, INSPECTOR.

Sept. 13	Friars Balsam.	30818 W. A. McIntyre, St. 6 oz. 60	Marysford.	0.8751 0.8293 73.45 81.68 143.14	12.98 0.9709 29.39	51.6	51.7	0.1	30818
"	"	30826 H. M. Myers, Stratford, 6 oz. 60	Stratford.	0.8941 0.8720 79.94 76.91 134.84	14.11 0.9728 19.60	48.5	48.2	0.3	30826
"	"	30850 Dunlop, Goderich, 6 oz. 60	Goderich.	0.9163 0.8841 64.56 72.34 126.78	16.24 0.9745 17.67	45.8	45.4	0.4	30850
"	"	30861 Walter McKibbin, Wingham, 6 oz. 60	Wingham.	0.9042 0.8805 65.48 73.73 129.22	16.32 0.9736 18.38	47.3	47.3	0.0	30861
"	"	30864 A. Steward, Guelph, 6 oz. 50	Guelph.	0.8816 0.8556 77.04 83.01 145.52	16.19 0.9623 21.30	63.7	63.6	0.1	30864

DISTRICT OF WINDSOR - JNO. TALBOT, INSPECTOR.

Oct. 4	Friars Balsam.	42669 C. H. Gunn & Co., Chatham, 6 oz. 50	Chatham.	0.9003 0.8756 68.34 75.69 132.49	19.40 0.9737 18.31	47.1	46.8	0.3	42669
"	"	42610 A. J. McCah, Chatham, 6 oz. 60	Chatham.	0.8757 0.8611 74.64 80.96 141.89	10.52 0.9735 19.63	47.7	47.5	0.2	42610
"	"	42622 H. O. F. Wright, Windsor, 6 oz. 75	Windsor.	0.8928 0.8883 71.54 78.25 137.14	16.44 0.9744 17.75	46.0	46.2	0.2	42622
"	"	42639 L. A. Willoughby, Leamington, 6 oz. 75	Leamington.	0.8750 0.8536 77.88 83.74 146.75	14.23 0.9681 22.77	33.7	33.9	0.2	42639
"	"	42641 F. M. Milton, Ridgeville, 6 oz. 60	Ridgeville.	0.8214 83.92 88.64 135.34	8.60 0.9569 28.62	66.6	66.7	0.1	42641

BULLETIN No. 199—FRIARS BALSAM (COMPOUND TINCTURE OF BENZOIN; TINCTURA BENZOINI COMPOSITA).

Date of Collection.	Nature of Sample.	No. of Sample.	Name and Address of Vendor.	Quantity.	Cost.	RESULTS OF ANALYSIS.											
						Sp. Gr. of Sample at 15° C.		Sp. Gr. of distillate to equal Volume.		Alcohol.		Total Solid Grams per 100cc.		Examination for Methyl Alcohol.		No. of Sample.	
						Weight.	Volume.	Proof Spirit.	Density.	Alcohol by Weight.	Theory.	Found.	Difference.				
DISTRICT OF MANITOBA—A. C. LARIVIERE, INSPECTOR.																	
1906.						P.C.	P.C.	P.C.	P.C.	P.C.							
Sept. 14	Friars Balsam.	39796	Gillespie & Campbell, Winnipeg.	6 oz.	50	0.8794	0.8774	66.29	82.40	144.41	12.35	0.9682	22.60	55.6	55.5	- 0.1	39796
"	"	39797	Colclough & Co., Winnipeg.	6 "	30	0.8804	0.8683	71.54	78.25	137.14	15.12	0.9720	19.67	49.8	50.3	+ 0.5	39797
"	"	39798	D. W. Bradshaw, Winnipeg.	6 "	60	0.8875	0.8630	73.79	80.25	140.89	14.63	0.9621	27.14	63.9	63.6	- 0.3	39798
"	"	39799	McCullough, Brandon.	6 "	65	0.8861	0.8611	74.64	80.96	141.89	16.99	0.9706	21.31	52.9	52.7	- 0.2	39799
"	"	39800	R. T. Hoskin, Winnipeg.	6 "	60	0.8757	0.8536	77.88	83.74	146.75	13.24	0.9670	23.62	57.4	57.6	- 0.2	39800
DISTRICT OF CALGARY—R. W. FLETCHER, INSPECTOR.																	
Sept. 10	Friars Balsam.	35632	J. J. Johnston, Lethbridge.	6 oz.	75	0.8877	0.8574	76.29	82.40	144.41	15.88	0.9594	28.94	67.1	66.7	- 0.4	35632
"	"	35633	F. M. Cawker, Hat.	6 "	75	0.8871	0.8611	74.64	80.96	141.89	15.78	0.9623	27.00	63.7	63.4	- 0.3	35633
"	"	35634	C. N. Pringle, Hat.	6 "	75	0.8766	0.8650	72.96	79.50	139.32	10.98	0.9733	18.62	47.7	47.8	+ 0.1	35634
"	"	35635	Curry & Co., Calgary.	6 "	75	0.8785	0.8611	74.64	80.96	141.89	13.62	0.9758	16.62	43.7	44.0	- 0.3	35635
"	"	35636	W. McLean, Calgary.	6 "	75	0.8801	0.8701	70.80	77.60	136.00	15.05	0.9728	19.00	48.5	48.4	- 0.1	35636

