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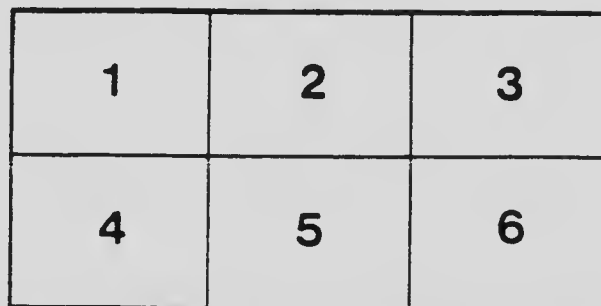
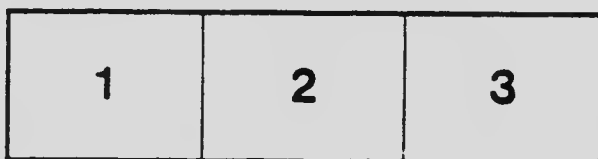
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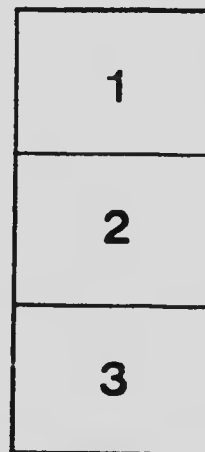
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LABORATORY
OF THE
INLAND REVENUE DEPARTMENT
OTTAWA, CANADA

BULLETIN No. 234

SWEET SPIRIT OF NITRE

LABORATORY
OF THE
INLAND REVENUE DEPARTMENT
OTTAWA, CANADA.

BULLETIN No. 234

SWEET SPIRIT OF NITRE

OTTAWA, February 15, 1912.

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

SIR,—I have the honour to report upon a collection of seventy-four (74) samples of sweet spirit of nitre purchased throughout Canada in October last.

Dunglison (Medical Dictionary, 23rd Edition) describes this drug as 'refrigerant, diuretic, antispasmodic and diaphoretic, and largely employed as an ingredient of fever mixtures.'

The National Dispensatory, 5th Edition, p. 1499, says of the drug: 'In febrile conditions it is much used to promote critical sweating, which it properly does by abating the morbid activity of the heart, and tension of the arteries. As a diuretic it is commonly employed to relieve strangury produced by calculous or inflammatory affections of the urinary apparatus, whether occasioned by calculous or inflammatory disorders, and in the various affections of the kidneys in which congestion of those organs and diminished secretion of urine occurs.'

I quote these authorities in order to emphasize the importance of this drug. It follows naturally that pharmacists who supply the article, are greatly to be blamed when sweet spirit of nitre, as furnished to physicians and to the public, is not of standard quality.

The British Pharmacopœia requires that, when fresh, it should contain 2½ per cent by weight of ethyl nitrite; and that it should never contain less than 1½ per cent of ethyl nitrite.

The United States Pharmacopœia (eighth revision) requires a minimum of 4 per cent of ethyl nitrite.

Sweet spirit of nitre deteriorates on keeping; and the British Pharmacopœia (1898) instructs that, 'the spirit of nitrous ether be kept in well closed vessels, preferably in a cool dark place, and in small bottles.'

This drug was inspected in 1908, and, the results of analysis are reported in Bulletin No. 167. At that time I took occasion to remark: 'It is well known that this preparation gradually loses its strength on keeping. The fact is expressly stated in the pharmacopœias. It follows that druggists should take proper precautions to enable

them to guarantee the article which they dispense, as meeting at least the minimum strength officially required.

In 1908, 63 per cent of the collection was found to be adulterated, 3 samples containing no nitrous ether whatever. The present collection shows 43 per cent adulterated with 5 samples containing no ethyl nitrite.

It is clear that the retail dealer is to be held responsible for the character of the drug in this case. He may be able to throw back responsibility upon the manufacturer if he holds a warranty under section 33 of the Act; but in this case he would naturally be required to prove that the article had not deteriorated while in his possession.

The following synoptical table shows the results of inspections in 1908 and 1911:—

Date.	Bulletin.	Total Samples.	Genuine.	Adulterated.	Percentage of Adulteration
1908	167	77	28	49	63
1911	234	74	42	32	43

In view of the unsatisfactory character of this important drug, as found on the Canadian retail markets, it is desirable that another inspection be made at an early date.

One sample (No. 47847) contains 24.55 per cent of ethyl nitrite, and is therefore much too strong for safe administration as sweet spirit of nitre. I have judged this to be adulterated, since sold under the name quoted.

A concentrated solution of ethyl nitrite is mentioned by Squire (Companion to B. P., 18th edition, p. 1140) as sold under the name *Itrosyl*. It is said to keep better than the pharmacopœal spiritus, and is diluted with 95 per cent alcohol to proper strength for immediate preparation of this last.

I beg to recommend the publication of this report as Bulletin No. 234.

I have the honour to be, sir,

Your obedient servant,

A. MCGILL,

Chief Analyst.

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.	
				Quantity.	Cents.	Manufacturer.	Furnisher.
DISTRICT OF NOVA SCOTIA--							
Oct. 25	Spiritus Aetheris Nitrosi.	46731	Nat. Drug & Chem. Co., Halifax, N.S.	3 ozs.	25	.....	Manufacturers..
" 26	"	46732	Brown Bros. & Co., Halifax, N.S.	3 "	30	.....	" ..
" 26	"	46733	John R. Rawley, Halifax, N.S.	3 "	30	.....	" ..
" 26	"	46734	J. McD. Taylor, Halifax, N.S.	3 "	40	.....	" ..
" 26	"	46740	J. D. Walsh, Halifax, N.S.	3 "	30	Unknown	.....
DISTRICT OF PRINCE EDWARD ISLAND--							
1911.							
Oct. 14	Spiritus Aetheris Nitrosi.	46101	George E. Hughes, Charlottetown, P.E.I.	3 ozs.	36	.....	.....
" 16	"	46102	Johnson & Johnson, Charlottetown, P.E.I.	3 "	30	.....	.....
" 20	"	46103	Dr. F. W. Farline, Kensington, P.E.I.	3 "	30	.....	.....
" 20	"	46104	" " " "	3 "	30	.....	.....
DISTRICT OF NEW BRUNSWICK--							
Oct. 12	Spiritus Aetheris Nitrosi.	45535	Nat. Drug & Chem Co., St. John, N.B.	3 ozs.	30	.....	.....
" 20	"	45536	E. Clinton Brown, St. John, N.B.	3 "	30	.....	.....
Nov. 3	"	45537	Johnston & Johnston, St. Stephen, N.B.	3 "	15	.....	.....
" 7	"	45538	R. T. Mack, Fredericton, N.B.	3 "	30	Vendor	.....
" 15	"	45539	Fairweather Bros., Moncton, N.B.	3 "	30	.....	.....
DISTRICT OF QUEBEC--							
Oct. 11	Spiritus Aetheris Nitrosi.	36993	J. B. Giroux, 385 Rue St. Joseph, Quebec.	3 ozs.	35	.....	.....
" 11	"	36994	Alphonse Martineau, 734 Rue St. Valier, Quebec.	3 "	25	.....	.....
" 11	"	36995	Joseph Masson, 808 Rue St. Valier, Quebec.	3 "	25	.....	.....
" 11	"	36996	L. E. Martel, 79 Rue St. Joseph, Quebec.	3 "	30	.....	.....
" 11	"	36997	Estate G. P. Plamondon, 122 Rue St. Joseph, Quebec.	3 "	30	.....	.....

SPIRITUS ÆTHERIS NITROSI.

Inspector's Report (Is not an expression of opinion.)	RESULTS OF ANALYSIS.			No. of Sample.	Remarks and opinion of the Chief Analyst.
	Sp. gr. at 15°C.	Ratio of vol. of gas to vol. of liquid.	Ethyl Nitrite per cent by weight.		

R. J. WAUGH—INSPECTOR.

.....	0.8590	5.5	2.08	46731	Genuine,
.....	0.8443	5.6	2.08	46732	"
.....	0.8420	2.6	0.97	46733	Adulterated.
.....	0.8428	4.7	1.75	46734	Genuine.
.....	0.8438	3.0	1.12	46740	Adulterated.

WM. A. WEEKS—INSPECTOR.

.....	p. c.	p. c.	p. c.		
.....	0.8593	5.1	1.86	46101	Genuine.
Tincture obtained from Lyman, Ltd. & alcohol added by vendor to make the spirit.	0.8343	5.7	2.16	46102	"
.....	0.8580	5.5	2.02	46103	"
.....	0.8441	7.8	2.94	46104	"

J. C. FERGUSON—INSPECTOR.

.....	0.8471	7.5	2.79	45535	Genuine.
.....	0.8573	4.9	1.85	45536	"
.....	0.8269	10.9	4.23	45537	"
.....	0.8338	11.0	4.22	45538	"
.....	0.8449	2.6	0.99	45539	Adulterated.

F. X. W. E. BELAND—INSPECTOR.

.....	0.9509	0.0	0.0	36993	Adulterated. Contains no ethyl nitrite.
.....	0.8562	3.5	1.25	36994	Adulterated.
.....	0.8326	0.6	0.2	36995	"
.....	0.8251	0.9	0.34	36996	"
.....	0.8560	1.5	0.54	36997	"

Date of Collection	Name of sample	No. of Sample	Name and Address of Vendor	Cost		Name and Address of Manufacturer or Furnisher as given by the Vendor	
				Quantity	Cts.	Manufacturer	Furnisher
DISTRICT OF ST. HYACINTHE—							
Oct. 26	Spiritus Etheric Nitrosi		1165 De G. Verdon, Granby	3 oz	25		
Nov. 4			1166 F. F. Ansell, Sherbrooke	3 "	30		
" 8			1167 Dr. C. A. Coders, Megan Inc.	3 "	30		
" 9			1168 Pharmacia Drolet	3 "	30		
" 10			1169 J. F. Flink, Rock Island	3 "	24		Unknown
DISTRICT OF MONTREAL—							
1911.							
Oct. 16	Spiritus Etheric Nitrosi		40916 S. Maisan 661 St. Lawrence St., Montreal.	3 oz	45		
" 16			40917 Myers Freeman, 43 St. Catherine St., west, Montreal.	3 "	30		
" 16			40918 B. Fox, St. Lawrence Boulevard, Montreal	3 "	30		
" 16			40919 A. Lebeau, 465 St. James St., Montreal.	3 "	45		
" 16			40920 Standard Pharmacy, 549 St. James St., Montreal	3 "	25		
DISTRICT OF OTTAWA—							
Oct. 10	Spiritus Etheric Nitrosi		49006 W. J. Hughes, Carleton Place.	3 oz	30	Vendor	
" 14			49007 P. J. Nolan, Ottawa.	3 "	30	"	
" 16			49008 J. F. Patterson, Almonte.	3 "	30	Unknown	Unknown
" 24			49009 R. M. Arbuthnot, Ottawa.	3 "	30	Vendor	
" 26			49010 G. F. Brethour, Ottawa.	3 "	30	"	
DISTRICT OF KINGSTON—							
Nov. 2	Spiritus Etheric Nitrosi		48519 C. S. Prouse, Kingston.	3 oz	30		
" 2			48550 Geo. Mahood,	3 "	25		
" 2			48551 W. W. Gibson,	3 "	25	Vendor	
" 3			48552 L. T. Best,	3 "	30		
" 3			48553 J. B. McLeod,	3 "	40		

SPIRITUS ÆTHERIS NITROSI.

RESULTS OF ANALYSIS.

Inspector's Report (is not an expression of opinion.)	Sp. gr. at 15°C.	Ratio of vol. of gas to vol. of liq.	Ethyl Nitrite per cent by weight.	No. of Sample.	Remarks and Opinions of the Chief Analyst
J. C. ROULEAU, INSPECTOR.					
.....	0.9101	0.0	0.0	1165	Adulterated. Contains no ethyl nitrite.
.....	0.8608	1.0	0.35	1166	Adulterated.
Prepared according to U. S. P.	0.8332	7.0	51	1167	Genuine.
.....	0.8618	4.1	1.43	1168	Adulterated.
.....	0.8276	9.6	3.53	1169	Genuine.

J. J. COSTIGAN, INSPECTOR

	p. c.	l. c.	p. c.	
.....	0.8531	2.5	0.93	40916 Adulterated.
.....	0.8262	7.7	2.92	40917 Genuine.
.....	0.8433	2.3	0.85	40918 Adulterated.
.....	0.8564	2.1	0.77	40919 "
.....	0.8686	2.5	0.91	40920 "

F. A. RICKEY, INSPECTOR.

Made from concentrated spirit and alcohol.	0.8340	1.5	0.55	49006	Adulterated.
"	0.9192	0.0	0.0	49007	" Contains no ethyl nitrite.
"	0.8312	4.3	1.59	49008	Adulterated.
Made from concentrated spirit and alcohol.	0.8310	4.5	1.66	49009	" Slightly below standard limit.
"	0.8391	0.0	0.0	49010	" Contains no ethyl nitrite.

JAS. HOGAN, INSPECTOR.

.....	0.8422	4.3	1.58	48549	Adulterated.
.....	0.8641	23.8	8.60	48550	Genuine; but too strong.
.....	0.8344	10.4	3.83	48551	"
.....	0.8433	3.7	1.35	48552	Adulterated.
.....	0.8291	10.5	3.00	48553	Genuine.

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.	
				Quantity.	Cents.	Manufacturer.	Furnisher.

DISTRICT OF TORONTO—

1911.							
Oct.	16	Spiritus Ætheris Nitrosi.	49305	Blaicher & Reche, Main st., Hamilton.	3 oz.	25	
"	16	"	49306	T. F. O'Riley, 498 Queen st. East, Toronto.	3 "	27	
"	23	"	49307	T. F. & T. J. Brown, Orangeville.	3 "	25	
"	24	"	49308	Langs & Gilchrist, Owen Sound.	3 "	25	
Nov.	3	"	49309	Geo. Callard, Stouffville.	3 "	25	

DISTRICT OF LONDON—

Oct.	17	Spiritus Ætheris Nitrosi.	47813	W. M. Mutton, Ridge town.	3 oz.	30	
"	17	"	47820	Bawder Drug Store, Ridge town.	3 "	24	
"	18	"	47837	W. H. Willson, Leamington.	3 "	40	
"	19	"	47847	T. J. Stillman, Essex.	3 "	30	
"	20	"	47854	A. J. McCall & Co., Chatham.	3 "	30	

DISTRICT OF MANITOBA—

Nov.	6	Spiritus Ætheris Nitrosi.	47453	St. John's Pharmacy, Winnipeg.	3 oz.	35	Vendors.....
"	6	"	47468	Lincoln Park Drug Co., Winnipeg.	3 "	45	
"	7	"	47470	Norwood Drug Co., Norwood Grove.	3 "	25	Unknown..... Unknown
"	7	"	47471	W. G. Lang, Norwood Grove.	3 "	30	".....
"	9	"	47472	Elmwood Drug Store, (Elmwood), Winnipeg.	3 "	30	"..... Unknown

DISTRICT OF CALGARY—

Nov.	8	Spiritus Ætheris Nitrosi.	44015	E. M. Cawker, Medicine Hat.	3 oz.	50	
"	9	"	44016	C. S. Pingle, Medicine Hat.	3 "	50	Vendor.....
"	9	"	44017	B. F. Souch, Medicine Hat.	3 "	50	
"	14	"	44018	Nat. Drug & Chem. Co., Calgary.	3 "	50	
"	14	"	44019	C. A. Wallace, Calgary.	3 "	50	

SPIRITUS ÆTHERIS NITROSI—Continued.

Inspector's Report. (Is not an expression of opinion).	RESULTS OF ANALYSIS.			No. of Sample.	Remarks and Opinion of the Chief Analyst.
	Sp. gr. at 15°C.	Ratio of vol. of gas to vol. of liquid.	Ethyl Nitrite per cent by weight.		

H. J. DAGER, INSPECTOR.

	p. c.	p. c.	p. c.		
.....	0.8417	3.6	1.32	49305	Adulterated.
.....	0.8288	6.2	2.35	49306	Genuine.
.....	0.8260	7.3	2.76	49307	"
.....	0.8339	6.1	2.30	49308	"
.....	0.8520	4.4	1.60	49309	Adulterated.

JNO. TALBOT, INSPECTOR.

.....	0.8285	17.2	6.47	47813	Genuine; too strong.
.....	0.8373	0.0	0.00	47820	Adulterated. Contains no ethyl nitrite.
.....	0.8250	8.4	3.16	47837	Genuine.
.....	0.8413	66.4	24.55	47847	Genuine; but too concentrated. Adulterated.
.....	0.8258	8.0	3.03	47854	Genuine.

A. C. LARIVIERE, INSPECTOR.

.....	0.8345	9.1	3.45	47453	Genuine.
.....	0.8265	7.5	2.85	47465	"
.....	0.8864	9.8	3.48	47470	"
.....	0.8858	6.9	2.44	47471	"
.....	0.8273	7.0	2.66	47472	"

R. W. FLETCHER, INSPECTOR.

.....	0.8492	5.7	2.14	44015	Genuine.
.....	0.8282	10.8	4.17	44016	"
.....	0.8512	2.2	0.79	44017	Adulterated.
.....	0.8466	4.5	1.69	44018	Adulterated; slightly below standard limit.
.....	0.8654	.....	trace.	44019	Adulterated.

Date of Collection.	Nature of Sample.	No. of Sample.	Name and Address of Vendor.	C. ST.		Name and Address of Manufacturer or Furnisher as given by the Vendor.	
				Quantity.	Cents.	Manufacturer.	Furnisher.
DISTRICT OF NELSON—							
1911.							
Oct. 19	Spiritus Aetheris Nitrosi.	48415	McLean Drug & B. Co., Fernie, B. C.	3 ozs.	45		
" 19	"	48446	N. E. Suddaby, Fernie, B. C.	3 "	30		
" 27	"	48451	Goolove Bros., Rossland, B. C.	3 "	45		
" 28	"	48484	Canada Drug & B. Co., Nelson, B. C.	3 "	25		
" 28	"	48486	Poole Drug Co., Nelson, B. C.	3 "	40		
DISTRICT OF VANCOUVER—							
Oct. 17	Spiritus Aetheris Nitrosi.	38205	W. E. Almas, Pender St., Vancouver.	3 ozs.	45		
" 17	"	38206	Manhattan Pharmacy, Rossion St., Vancouver.	3 "	75		
" 17	"	38207	Le Patourel & McRae, Granville St., Vancouver.	3 "	50		
" 17	"	38208	L. G. Henderson, Granville St., Vancouver.	3 "	59		
" 18	"	35209	Ferguson's Drug Store, Granville St., Vancouver.	3 "	75		
DISTRICT OF VICTORIA—							
Nov. 20	Spiritus Aetheris Nitrosi.	47671	W. Jackson & Co., Victoria.	3 ozs.	35		
" 20	"	47672	Hali & Co., Victoria.	3 "	35		
" 22	"	47673	W. S. Terry, Victoria.	3 "	35		
" 22	"	47674	Ivil's Pharmacy, Victoria.	3 "	35		
" 22	"	47675	F. J. Williams, Victoria.	3 "	35		

SPIRITUS ÆTHERIS NITROSI.

Inspector's Report (Is not an expression of opinion.)	RESULTS OF ANALYSIS.			No. of Sample.	Remarks and opinion of the Chief Analyst.
	Sp. gr. at 15°C.	Ratio of vol. of gas to vol. of liquid.	Ethyl Nitrite per cent by weight.		

THOS. PARKER, INSPECTOR.

	p. c.	p. c.	p. c.	
.....	0.8266	5.2	2.02	48445 Genuine.
.....	0.8568	3.4	1.24	48446 Adulterated.
.....	0.9047	5.6	1.91	48451 Genuine.
.....	0.8601	9.4	3.37	48484 "
.....	0.8237	1.5	0.55	48486 Adulterated

J. F. POWER, INSPECTOR.

Made from compound...	0.8295	8.3	3.10	38205	Genuine.
" "	0.8273	7.5	2.53	38206	"
.....	0.8117	3.9	1.51	38207	Adulterated.
.....	0.8316	8.8	3.30	38208	Genuine.
.....	0.8399	6.5	2.42	38209	"

D. O'SULLIVAN, INSPECTOR.

.....	0.8723	2.3	0.86	47671	Adulterated.
.....	0.8441	4.8	1.80	47672	Genuine.
.....	0.8266	9.4	3.63	47673	"
.....	0.8273	6.0	2.33	47674	"
.....	0.8284	8.9	3.43	47675	"

