TELEPHONE SEYMOUR 3270

Health Department
CITY HALL
VANCOUVER, B. C.

No 1
Maple Syrup

Maple Syrup = or Sugar is made by simply boiling down the Sap to the proper consistency —

Composition = Maple Syrup = should contain
not more than 32.0 % water
not less than 0.45 ash
not less than 1.19 Lead number
malic acid

Refined Sugar = determine the, total ash. Lead No, malic acid value, and ash contents

Adulterants — Brown & Molasses Sugar, and white & refined Sugar, and Syrup from Cane Sugar — Molasses, Glucose

Standard = Water is usually 32 %
Lead. Sub acetate ppt - on dry Substance 2 % not less
Ash _____ on dry Substance 0.50 not less
Malic Acid Value. on dry Substance 0.40 not less

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Brown Sugar = contains .59 to 4.33 % total ash
The ratio of insol to sol ash is commonly higher in brown than in maple products

Cane Sugar = demonstrates the ash and other constituents

Analysis =

Water	32 %
Lead No	1.45
Total Ash	0.60
Sol "	.38
Insol "	.23
alk sol ash	.50
" insol "	.54
ratio of insol to sol ash	= 1.70
Lochin reaction	none
Malic Acid value	.78

Moisture ~~(Spun 2)~~ Leach 613 = place about 15 grams of Sand and glass rod in dish and weigh. add 2-4 grams of the material & sufficient H2O to permit thorough mixing dry on a water bath with stirring and finally in a water oven until the loss in wt in 1 hour is not more than 3 mg at least 8 hours is usually required.

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Moisture = wing dish + S + R + Syrup = 22.121 grm
" " " S + R —— 20.104

2.017 = Sample Taken

after drying 6 hours = 21.119 grm

22.121 − 21.119 = 1.002 Loss on moisture

$\frac{1.002 \times 100}{2.017}$ = 49.67% moisture

Ash = weigh 5 grams (2 Gram) in pt dish and evaporate to dryness on water bath. then Continue over low flame until frothing has ceased (add a few drops of olive oil to stop frothing). and increase the flame to a low red heat. and continue until the ashes white.

Pot & Sol Ash = to the pt dish containing ash add 40 cc H_2O hot and boil gently for two minutes. filter and wash with hot water until filtrate amounts to 100 cc. ignite the filter on a low heat & weigh.

Alkalinity of Sol Ash = Cool filtrate from above & titrate c̄ $\frac{N}{10}$ HCl Methyl orange

Alkalinity of Insol Ash = to the insol residue add 10-15 cc $\frac{N}{10}$ HCl and heat to the point of boiling over asbestos pad allow to cool and titrate excess of HCl c̄ $\frac{N}{10}$ NaOH — Methyl-orange

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Morphine Sulph

Express absolutely in each case with the No of cc of $\frac{N}{10}$ acid used on the basis of 1 gram of sample.

Malic Acid Value – Weigh 6.7 grams of sample into a 200 cc beaker and add H_2O to mark bot 20 cc. add 2 drops of NH_4OH (Spgr. .90). 1 cc of a 10% soln of Calcium Chloride and 60 cc of 95% alcohol. cover beaker, with watch glass. heat for ½ hour on water bath. then turn off steam and allow the beaker to stand over night – filter through a good filter. wash the ppt. & bot 75% alcohol until filtrate measures 100 cc. dry & ignite. add from 15 to 20 cc $\frac{N}{10}$ HCl to ignited residue, thoroughly dissolve by heating carefully to just below the boiling point. cool and titrate excess of acid with $\frac{N}{10}$ NaOH – methyl-orange. $\frac{1}{10}$ the No of cc. neutralized by the ignited residue represents malic acid value. Run blank determination on reagents using same amounts portions of NH_4OH and make correction – 6 2) Stock.

Lead Sub Acetate ppt

Weigh 25 grams and transfer by means of water into a 100 cc flask. add 25 cc of Standard Lead Subacetate soln. fill to the mark. stoppe. allow to stand at least 3 hours and filter through a dry filter. From the clear filtrate pipette off 10 cc dilute to 50 cc

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Morphia Syrup

add a mortar full of 1½ Syr and 100 cc of 95% alcohol - let stand overnight. filter on a Gooch crucible wash with 95% alcohol. dry at a moderate heat. ignite at low redness for few minutes. Tarry can be over the reducing cone gets flame. Cool & weigh. Calculate the amount of lead in the ppt. using the factor 0.6825 subtract this from the amount of lead in 25 cc. of the standard soln. multiply the remainder by 100 and divide by ~~##~~ 2.5 this obtaining the lead number.

Lead Sub Acetate Soln

Boil for ½ hour. 430 grams Lead Acetate
130 grams Litharge
Water 1000 cc

allow to cool and settle when the supernatant is diluted to 1.25 Sp gr. with recently boiled water.

Standard Lead Subacetate

dilute one part of above with 4 volumes of H_2O filtering if not clear. Standardize by using 25 cc as above