



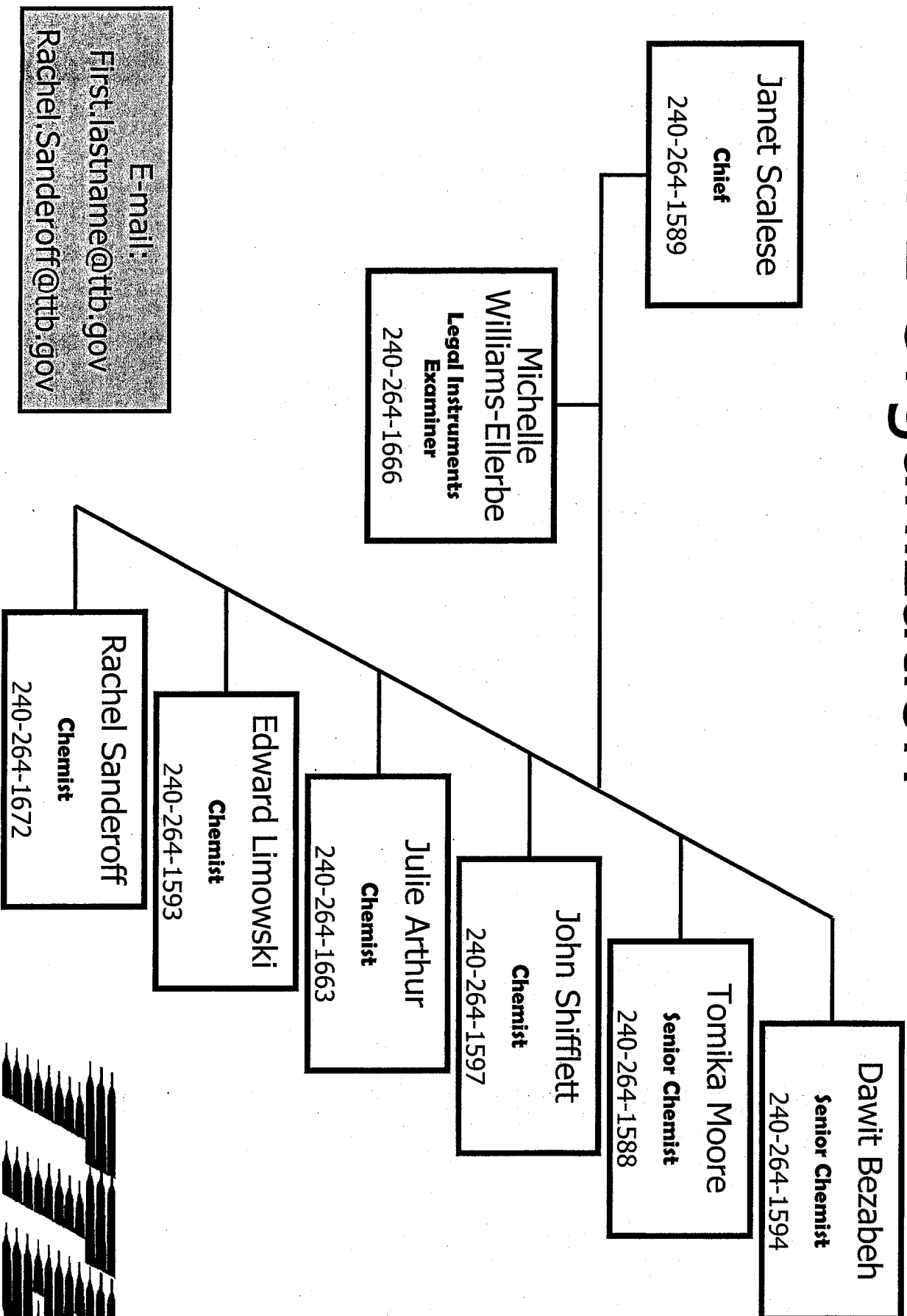
DEPARTMENT OF THE TREASURY
ALCOHOL AND TOBACCO TAX AND TRADE BUREAU
NATIONAL LABORATORY CENTER
6000 AMMENDALE ROAD
AMMENDALE, MD 20705-1250

AGENDA

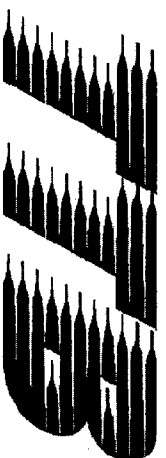
Nonbeverage Formula Seminar: The Present and Future

9:00	Welcome	William Foster
9:15	Agenda/General Information	Janet Scalese
9:30-10:25	TTB/NPL Overview NPL Statistics The Path of a Formula	Rachel Sanderoff Julie Arthur Janet Scalese
10:25	Break	
10:40	Brighter Future of the NPL	Tomika Moore
11:30	Lunch	
12:30-3:15	Web-based Resources For Completing F5154.1	
	• Tutorial Part 1	Ed Limowski
	• Tutorial Part 2	John Shifflett
	• Automated form completion	Ed Limowski
3:15	Q&A/Closing	

NPL Organization



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Tolerances for Item #10

Alcohol Percentage	Simple Mixtures	Processes Other Than Simple Mixtures
(200° proof) > 95	93-100	91-100
(190° proof) >90	88-95	86-95
>80-90	+/- 3.5	+/- 4.5
>70-80	+/-3.0	+/- 4.0
>60-70	+/- 2.5	+/- 3.5
>40-60	+/- 2.0	+/- 3.0
>20-40	+/- 1.5	+/- 2.5
>1-20	+/-1.0	+/- 2.0
0.5-1.0	+/-0.5	+/- 0.5

Please note that the percentages are absolute. For example, at 18% alcohol by volume, the value in #10 for a simple mixture should be 18 +/- 1.0. In addition, the value in # 10 cannot be less than zero for any range.

Guidelines for Nonbeverage Product Formulation

In the absence of materials that will make the product more palatable (sugar, glycerin, high fructose corn syrup, etc.), the following commonly used ingredients when present in the stated amounts will, in most instances, make a product unfit for beverage purposes. This list is intended only as a guide and is not applicable to all products.

<u>Ingredient</u>	<u>Amount</u>
Black pepper powder	3.6g/100 ml @ 95% v/v ethanol
Citric acid	If the ethanol content is < 30%v/v, acid should be = $0.1 \times \text{ethanol} + 0.5$. If ethanol content is > 30%v/v, acid should be $0.1 \times \text{ethanol}$. Reported in g/100 mL (<i>the ethanol content is defined as the upper end of the range in item 10 on TTB Form 5154.1</i>)
Cocoa nibs	10.6 lbs/gal @ 95% v/v ethanol
Essential oils	Most essential oils are unfit at 3% wt/wt in 90% v/v ethanol for simple mixtures. Many 1% solutions of essential oils are unfit. An exception is anise oil.
Ethyl acetate	2.1% by volume @ 95% v/v ethanol
Ethyl maltol	5.3% by weight @ 95% v/v ethanol
Ethyl vanillin	1.3 av. oz./gal @ 95% v/v ethanol
Fusel Oil	1.6 g/100 ml @ 95% v/v ethanol
Lactic acid	9.5% by volume @ 95% v/v ethanol
Malic acid	If the ethanol content is < 30%v/v, acid should be = $0.14 \times \text{ethanol} + 0.5$. If ethanol content is > 30%v/v, acid should be $0.14 \times \text{ethanol}$. Reported in g/100 mL (<i>the ethanol content is defined as the upper end of the range in item 10 on TTB Form 5154.1</i>)
Maltol	5.3% by weight @ 95% v/v ethanol
Propylene glycol	Equal amounts by volume of ethanol and propylene glycol (<i>the amount of ethanol is</i>

*defined as the upper end of the range in item
10 on TTB Form 5154.1)*

Quassia powder

20.8 ppm @ 95% v/v ethanol

Quinine

950 ppm @ 95% v/v ethanol

Salt (sodium chloride)

6.8 g /100 ml @ 95% v/v ethanol

Tannic acid

1.6% by weight @ 95% v/v ethanol

Triethyl citrate

2.5% by weight @ 95% v/v ethanol

Vanillin

3.2 av. oz./gal @ 95% v/v ethanol

Flavoring Substances and Adjuvants Subject to Limitation or Restriction

Acacia - Gum arabic.....	20%
Acetic acid.....	0.15%
Aconitic acid.....	0.002%
Adipic acid.....	0.02%
Agar.....	0.25%
Ammonium alginate.....	0.1%
Artemisia - Wormwood.....	finished prod. thujone free
Bakers yeast extract.....	5%
Beeswax yellow & white.....	0.002%
Benzoic acid.....	0.1%
BHA - 0.02% edible fats & oils.....	0.5% of volatile essential oils
BHT (edible fats & oils).....	0.02%
Bitter Almond oil.....	Free from prussic acid
Brominated vegetable oil - BVO.....	15 ppm
Caffeine.....	200 ppm
Calcium acetate.....	0.0001%
Calcium alginate.....	0.3%
Calcium chloride.....	0.05%
Calcium phosphate, dibasic.....	0.5%
Calcium phosphate, monobasic.....	0.02%
Calcium phosphate, tribasic.....	0.5%
Calcium pyrophosphate.....	0.2%
Calcium sulfate.....	0.07%
Camphor tree.....	Safrole free
Caprylic acid.....	0.001%
Cedar, white (arborvitae)leaves & twigs.....	finished prod. thujone free
Cherry pits.....	25 ppm prussic acid
Cherry - laurel leaves.....	25 ppm prussic acid
Cinchona, red & yellow bark	
Total alkaloids.....	83 ppm
Corn silk & corn silk extract.....	4 ppm
Dithiols.....	1 ppm
EDTA.....	25 ppm
Elder tree leaves.....	25 ppm prussic acid in flavor
Ester gum	
(Glycerol ester of wood rosin).....	100 ppm
Ethyl trans 2 cis 4 decadienoate.....	10 ppm
Ethyl formate.....	0.01%
Guar gum.....	0.5%
Gum ghatti.....	0.1%
Gum tragacanth.....	0.1%
Isopropyl citrate.....	0.02%
Karaya gum.....	0.002%
Licorice and licorice derivatives	
as Glycyrrhizin.....	0.1%
Locust bean gum.....	0.5%

Malic acid	0.7%
Mannitol	2.5%
Methylcellulose	0.003%
Methylparaben	0.1%
Mustard (allyl isothiocyanate)	0.02%
Mustard (brown/black/oriental)	1.0%
Mustard (yellow/white)	1.7%
Oak moss	finished prod thujone free
Oak chips	Labeling requirement
Oil of Rue	4 ppm
Peach leaves	25 ppm prussic acid
Potassium alginate	0.01%
Potassium metabisulfite	0.06%
Potassium sorbate	0.1%
Propylene glycol	5%
Propylparaben	0.1%
Quinine	83 ppm
Quinine bisulfate (as quinine)	83 ppm
Quinine hydrochloride (as quinine)	83 ppm
Quinine sulfate (as quinine)	83 ppm
Rue	2 ppm
Sassafras leaves	safrole free
Silicone	10 ppm
Sodium acid pyrophosphate	0.3%
Sodium alginate	1.0%
Sodium aluminosilicate	2.0%
Sodium benzoate	0.1%
Sodium calcium aluminosilicate hydrated	2.0%
Sodium carboxymethylcellulose	0.8%
Sodium hexametaphosphate	0.05%
Sodium phosphate, dibasic	0.5%
Sodium phosphate, monobasic	0.08%
Sodium phosphate, tribasic	0.07%
Sodium thiosulfate (alc. bev. only)	0.00005%
Sorbic acid	0.2%
Sorbitol	12%
St. Johnswort leaves, flowers & caulis	hypericin free
Stannous chloride	0.0015%
Stearyl citrate	0.15%
Sucrose acetate isobutyrate (SAIB)	300 ppm
Sulfur dioxide	10 ppm
Sulfuric acid	0.014%
Tagetes	as oil only
Tannic acid	0.015%
Tansy	finished prod. thujone free
Woodruff, sweet	5 ppm coumarin
Yarrow	finished prod. thujone free

Notice of Procedural Change

Effective Date: November 13, 2006.

In order to more quickly alert you to issues relating to your submissions, the Alcohol & Tobacco Tax & Trade Bureau's (TTB) Nonbeverage Products Laboratory (NPL) is implementing a change in procedure relating to the processing of TTB Form 5154.1 – "Formula and Process for Nonbeverage Product." Under the new procedure, the NPL will identify errors and ambiguous information contained in the formula and return the form to you for correction. The NPL will no longer make corrections to the form. Currently, NPL chemists spend a great deal of time correcting errors on submissions which takes time away from processing those formulas that were submitted without error. With the new system, NPL chemists will devote the majority of their time on quickly processing those formulas that contain all of the required information and are without mistakes. Please visit the NPL's [Drawback Tutorial](#) for extensive guidance for completing an error-free TTB Form 5154.1.

Drawback Tutorial Website: <http://www.ttb.gov/ssd/drawbacktutorial.shtml>

Your formula will be returned for any of the following reasons:

- A sample is needed.
[NOTE: DOMESTICALLY PRODUCED PRODUCTS WHICH MEET THE GUIDELINES POSTED ON THE DRAWBACK TUTORIAL DO NOT REQUIRE SAMPLE SUBMISSION. PLEASE SEE THE SECTION ENTITLED "SUBMITTING SAMPLES WITH TTB FORM 5154.1" FOR MORE INFORMATION CONCERNING SAMPLE SUBMISSIONS.]
- The alcohol content by analysis is inconsistent with what is stated on the formula.
- Errors in the formula submission, including, but not limited to:
 1. Incorrect name given to product.
 2. Flavor chemicals not clearly identified as either natural or artificial.
 3. Weight equivalent for all materials is not provided.
 4. The predominant ingredient in a chemical grouping has not been disclosed and quantified by weight.
 5. Flavor chemicals are grouped in excessively large quantities.
 6. Flavor chemicals are grouped incorrectly.
 7. Volume equivalent for ingredients containing alcohol is not provided.
 8. Alcohol content of components containing alcohol is not provide or is listed incorrectly.
 9. Item 9 and/or Item 10 appear to be incorrect.
 10. The range for Item 10 is not provided or appears to be incorrect.
 11. Information in Item 12 is inconsistent with information in Item 13.
 12. Yield information for the finished product by weight and volume is not provided.
 13. Sub-formula / intermediate has not been submitted or it has been returned.
 14. The botanical source of natural vanillin has not been declared.
 15. Limited ingredients are grouped with other flavor chemicals, not disclosed, or weights are missing:
- In addition to minimizing errors and ambiguity, customers can ease the burden on the NPL if they list:
 - A. The component making the product unfit for beverage purposes. Please specifically reference the guideline as listed in the Drawback Tutorial.
 - B. Internal customer taste panel information as outlined on the Drawback Tutorial. Please see the section entitled "MNBP Protocol for Organoleptic Analysis."

Primer for Naming Nonbeverage Products

In general, products are named based on the U.S. Food and Drug Administration's (FDA) regulations. Those guidelines are listed first. If flavors are used in alcoholic beverages, TTB has slightly more liberal guidelines for labeling of flavors used in alcoholic beverages. Those are listed second.

FDA Guidelines

- Natural Flavors: must contain a natural source of the named material and must be an all-natural product. Any flavor materials present must be derived from the named ingredient. For example, a natural strawberry flavor must contain a natural source of strawberry and all flavor materials must be derived from strawberry.
- Natural Flavors WONF: must contain a natural source of the named material but may also contain other natural flavor materials. These other natural flavors do not need to be derived from the named material. For example, a natural strawberry flavor WONF must contain a natural source of strawberry but may also contain natural flavor chemicals not necessarily derived from strawberry (e.g. natural ethyl butyrate).
- Natural & Artificial Flavors: must contain a natural source of the named material but may also contain artificial flavor materials.
- Natural Type Flavors, Natural Bases and Natural Keys: natural flavors that do not contain the named ingredient. For example, natural strawberry type flavor contains all natural ingredients but does not contain a natural source of strawberry.
- Artificial Flavors: predominant flavor is from artificial ingredients.

TTB Guidelines

- Natural & Artificial Flavors with 0.1% artificial topnote: flavors containing not more than 0.1% artificial topnote are considered natural when used in alcoholic beverages. The calculation of the amount of artificial material does not include artificial vanillin, ethyl vanillin, artificial maltol nor ethyl maltol.
- When flavors are submitted for drawback of tax, the name should comply with FDA requirements (i.e. Natural & Artificial) even though TTB will consider them natural when they are used in alcoholic beverages.
- Natural & Artificial Flavors with greater than 0.1% artificial topnote: considered for alcoholic beverage labeling purposes to be artificial.
- Other considerations: TTB has limitations for artificial vanillin, ethyl maltol, artificial maltol and ethyl maltol in alcoholic beverages. If these limitations are exceeded, the finished beverage will be considered an artificial product.

Vanillin: 40 ppm
Ethyl vanillin: 16 ppm
Maltol: 250 ppm
Ethyl maltol: 100 ppm

Keep in mind that these limitations are in the finished alcoholic beverage; not in the flavor. The actual amount present in the beverage will be calculated based on the use rate of the flavor.

- Wines containing < 7% by volume ethanol are subject to the FDA labeling guidelines listed above.



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Thank you for participating in the TTB Formula Seminar. Please take a few minutes to complete this survey so that we can improve future seminars and our service to you, our customers.

1. How did you find out about the TTB Formula Seminar? Circle one.

TTB Website TTB Flyer Other (please specify) _____

2. How frequently should seminars such as these be presented?

Do you recommend that they be given on a regular basis? _____

Please suggest topics that should be covered.

3. Please rate the following on a scale of 1-5 with 5 as the best and 1 as the worst:

Ease of checking in	1	2	3	4	5
Location	1	2	3	4	5
Accessibility to transportation	1	2	3	4	5
Usefulness of information presented	1	2	3	4	5
Quality of presentations	1	2	3	4	5
Length of presentations	1	2	3	4	5
Knowledge of presenters	1	2	3	4	5

4. Regarding the Nonbeverage Products Lab presentation on future initiatives, do you foresee that the change in nonbeverage processing will positively affect your company? If so, how? If not, why not?

5. Please feel free to make any comments, list concerns or suggestions.

Thank you for attending. We want to support our customers in the best way possible.

TTB's Nonbeverage Products Lab