NONBEVERAGE PRODUCTS...

TASTING,
CERTIFICATION, AND
COMMON MISTAKES
(OH MY!)

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Chemist

Nonbeverage Products Laboratory

OVERVIEW

Organoleptic Evaluation

How Would You Certify This?

Let's Play... You Find the Mistakes!

ORGANOLEPTIC EVALUATION

ORGANOLEPTIC EVALUATION

- Fit vs. Unfit
- A few things to think about when tasting a sample...
 - → Could the average person mistake this sample for an alcoholic beverage?
 - Not whether you like it!
 - → Do not try find flavor characteristics or identify the flavor!
 - Simply... is it fit or unfit?

TASTING PROTOCOL

- Samples with more than 15% alcohol (v/v) are diluted to that level with water.
 - → Dilution is based on the upper end of the range for alcohol content in box #10 on the TTB Form 5154.1.
- Samples that contain 15% alcohol (v/v) or less are tasted without dilution
- Need six or more panelists

TASTING PROTOCOL

- Two-thirds of the panelists must agree
- Record taste panel results in box #13 of TTB Form 5154.1.

"This product was found to be unfit for beverage purposes. It was subjected to organoleptic analysis by a taste panel of ___ panelists, ___ of whom agreed on the determination."

** This statement will be entered in box #18 when certifying. **

EXAMPLE # 1

The NPL determined this product to be <u>fit</u>.

DEPARTMENT OF THE TREASURY BUREAU OF ALCOHOL, TOBACCO AND FIREARMS					1. FORMULA NUMBER 25	
FORMULA AND PROCESS FOR NONBEVERAGE PRODUCT					2. KIND (e.g. Alcohol, Rum)	
(See instructions at	(See instructions attached-Prepare in triplicate, except if manufactured abroad)					
NAME OF PRODUCT.	NAME OF PRODUCT. 4. CHECK IF SAMPLE 5. NUMBER OF DAYS TO				DRAWBACK WILL BE CLAIMED.	
D	DI I	WILL BE	SUBMITTED	COMPLETE PROCESS	Alcohol 190 proof	
Propylene Glycol	Blender				8. FORMULAS SUPERSEDED.	
	6. NAME OF THE MANUFACTURER & ADDRESS WHERE PRODUCTS WILL BE 7. CHECK KIND OF PRODUCT:					
PRODUCED (if multiple production sites, lis	t other addresses on reve	rse).		/ MEDICINAL PREPARATION		
Malaus Flauss				AVORING EXTRACT		
We Love Flavors 6000 Ammendale Rd			9 FLIGIBLE	ABSOLUTE ALCOHOL	10. ALCOHOL CONTENT BY VOLUME	
Beltsville, MD 20705			NAME OF TAXABLE PROPERTY.	JSED. (See instructions)	OF FINISHED PRODUCT.	
Deltaville, WD 20700			VOLOIVIE			
44 IF MADE WITH BEGOVERED CRIDITO				14.6%	14.6 +/- 1	
ELIGIBLE PLUS RECOVERED ABSOLUTE	11. IF MADE WITH RECOVERED SPIRITS: ELIGIBLE PLUS RECOVERED ABSOLUTE ALCOHOL 12. IF FINISHED PRODUCT IS TO BE USED IN ALCOHOLIC BEVERAGES: A. DOES PRODUCT CONTAIN NATURAL FLAVORING? (YES OR NO)					
BY VOLUME USED. (See instructions).	A DOES FRO			TES OR NO) TIFICIAL FLAVORINGEXcluding Vanillin	n Ethyl Vaniiin Matol Ethyl Matoli 2	
	(Yes or No			The fact of the state of the st	, any ranning any manage.	
		RTS PER MILLION IN I	PRODUCT OF: VANIE	LIN	ETHYL VANILUN	
	SYNTHET	IC MALTOL		ETHYL MALTOL		
	D. DOES PR	DDUCT CONTAIN A CO	DLOR ADDITIVE?	IF YES, WHICH?		
	E. ARE ALLI	IGREDIENTS APPROV	/ED BY FDA FOR USE	WITHOUT LIMITATION OR RESTRIC	TION? (YES OR NO)	
13. FORMULA AND PROCESS (Use Additional Space on F	Reverse if Necessary) .					
Ethanol (190 proof)				12.50 lbs (1.84	gal)	
Propylene glycol				19.00 lbs		
Granulated sugar				1.00 lbs		
Water				67.5 lbs		
Total				100 lbs (11.99	gal)	
Mix well						
IVIIX WEII						
14. CONTACT PERSON (Include Area Code & Pr	one No.) 15. SIGNA	TURE & TITLE	OF APPLICATION	ON OR AUTHORIZED AGE	ENT. 16. DATE.	
APPLICANT: PLEASE MAKE NO ENTRY BELOW THIS LINE.						
17. LABORATORY SAMPLE NUMBER. 1	8. ACTION.	EASE MAKE N	O ENIKY BELL	JVV INIS LINE.		
THE EXPONENT ON WIFE MOINDER.	o. Aonon.					

EXAMPLE #2

The NPL determined this product to be <u>unfit</u>.

DEPARTMENT OF THE TREASURY BUREAU OF ALCOHOL, TOBACCO AND FIREARMS					UMBER 26	
FORMULA AND PROCESS FOR N	2. KIND (e.g. Alcohol,	Rum)				
(See instructions attached-Prepare in triplica	(See instructions attached-Prepare in triplicate, except if manufactured abroad)					
3. NAME OF PRODUCT.	4. CHECK IF		5. NUMBER OF DAYS TO	DRAWBACK WILL		
Education Discourse Discourse	WILL BE S	SUBMITTED	COMPLETE PROCESS	Alcoho	ol 190 proof	
Ethyl Butyrate Blender	>			1		
6. NAME OF THE MANUFACTURER & ADDRESS WHERE PROD		Committee of the Commit	ND OF PRODUCT:	8. FORMULAS	SUPERSEDED.	
PRODUCED (if multiple production sites, list other addresses on rev	erse).		/MEDICINAL PREPARATION			
We Love Flavors			AVORING EXTRACT			
6000 Ammendale Rd		9 FLIGIBLE	ABSOLUTE ALCOHOL	10. ALCOHOL CO	NTENT BY VOLUME	
Beltsville, MD 20705			JSED. (See instructions)	OF FINISHED		
Belleville, WB 20700		VOLOIVIL		Shitter and helicolycontens. 236		
			14.6%	14.6	6 +/- 1	
ELICIBLE BLUS RECOVERED ARSOLLITE ALCOHOL	D PRODUCT IS TO B					
IBY VOLUME USED. (See instructions)	ODUCT CONTAIN NATU					
B. DOES PR		ATER THAN 0.1% AR	TIFICIAL FLAVORINGEXcluding Vanilly	n, Ethyl Vanillin,Maltol, Ethyl	Marcoll?	
(Yes or N						
	RTS PER MILLION IN F TIC MALTOL	RODUCTOF: VANI		ETHYL VANILUN		
	ODUCT CONTAIN A CC	I OR ADDITIVE?	ETHYL MALTOL IF YES, WHICH?			
in the control and a final and			WITHOUT LIMITATION OR RESTRIC	TION? (YES OR NO)		
13. FORMULA AND PROCESS (Use Additional Space on Reverse if Necessary) .	my a Care In a California and California and Anni Anni Anni Anni Anni Anni Anni An	to president and a second of the control of the con	and Charleton with planes are as a second control to the second control was bringing and a charlet water.	Com Standard ON The was a parties Control Stand Pub.		
Ethanol (190 proof)			12.50 lbs (1.84	gal)		
Ethyl Butyrate			0.50 lbs	94.7		
E E						
Granulated sugar			5.00 lbs			
Water			82.00 lbs			
Total			100 lbs (12.00	(len		
1 otal			100 103 (12.00	gai		
Na: II						
Mix well						
	ALEST STREET, THE STREET,					
14. CONTACT PERSON (Include Area Code & Phone No.) 15. SIGNA	TURE & TITLE (OF APPLICATION	ON OR AUTHORIZED AGE	ENT. 16	B. DATE.	
ADDI IOANIT. DI	EACE MAKE N	S ENTRY RELA	DW/THIS LINE			
APPLICANT: PLEASE MAKE NO ENTRY BELOW THIS LINE. 17. LABORATORY SAMPLE NUMBER. 18. ACTION.						

EXAMPLE #3

The NPL determined this product to be <u>unfit</u>.

DEPARTMENT OF THE TREASURY FORMULA NUMBER BUREAU OF ALCOHOL, TOBACCO AND FIREARMS 112 FORMULA AND PROCESS FOR NONBEVERAGE PRODUCT KIND (e.g. Alcohol, Rum) (See instructions attached-Prepare in triplicate, except if manufactured abroad) PROOF OF SPIRITS ON WHICH 3. NAME OF PRODUCT 4. CHECK IF SAMPLE 5. NUMBER OF DAYS TO DRAWBACK WILL BE CLAIMED WILL BE SUBMITTED COMPLETE PROCESS N & A Pomegranate Flavor Alcohol 190 Proof Χ CHECK KIND OF PRODUCT: 8 FORMULAS SUPERSEDED 6. NAME OF THE MANUFACTURER & ADDRESS WHERE PRODUCTS WILL BE PRODUCED (if multiple production sites, list other addresses on reverse). ■ MEDICINE/ MEDICINAL PREPARATION FI AVOR/ FLAVORING EXTRACT Company Inc. ☐ FOOD PRODUCT PERFUME 1111 Road Way 9. ELIGIBLE ABSOLUTE ALCOHOL 10. ALCOHOL CONTENT BY VOLUME OF FINISHED PRODUCT. VOLUME USED. (See instructions) City, State 11111 74.35 74.35 ± 3.0 11. IF MADE WITH RECOVERED SPIRITS: 12. IF FINISHED PRODUCT IS TO BE USED IN ALCOHOLIC BEVERAGES ELIGIBLE PLUS RECOVERED ABSOLUTE A DOES PRODUCT CONTAIN NATURAL FLAVORING? (YES OR NO) ALCOHOL BY VOLUME USED. (See instructions) B. DOES PRODUCT CONTAIN GREATER THAN 0.1% ARTIFICIAL FLAVORING (Excluding Vanillin, Ethyl Vanillin, Maltol, Ethyl Maltol)? C. STATE PARTS PER MILLION IN PRODUCT OF: VANILLIN ETHYL VANILLIN SYNTHETIC MALTOL D. DOES PRODUCT CONTAIN A COLOR ADDITIVE? E. ARE ALL INGREDIENTS APPROVED BY FDA FOR USE WITHOUT LIMITATION OR RESTRICTION? (YES OR NO) 13. FORMULA AND PROCESS (Use Additional Space on Reverse if Necessary) Alcohol 190 Proof 74.87 a (91.97 mL) Pomegranate Juice 23.25 q N Benzaldehyde $0.28 \, q$ A Ethyl Butyrate $0.23 \, q$ N Benzyl Alcohol 0.23 aN Cinnamaldehyde 0.09 a N Allyl Butyrate 1.05 g Yield 100 g 117.51 mL SIMPLE MIXTURE This product was found to be <u>fit</u> for beverage purposes. It was subjected to organoleptic analysis by a taste panel of $\underline{6}$ panelists, $\underline{4}$ of whom agreed on the determination. 15. SIGNATURE & TITLE OF APPLICATION OR AUTHORIZED AGENT. 14. CONTACT PERSON (Include Area Code & Phone No.) 16. DATE. A. Discount III A. Discount III 6/21/2004 (123)456-7890 APPLICANT: PLEASE MAKE NO ENTRY BELOW THIS LINE. 17. LABORATORY SAMPLE NUMBER. 18. ACTION

ORGANOLEPTIC EVALUATION

- Things to Remember...
 - → Could the average person mistake the sample for an alcoholic beverage?
 - → Not whether you like it or not!

Even if you conduct your own taste panel and include the statement in box #13...

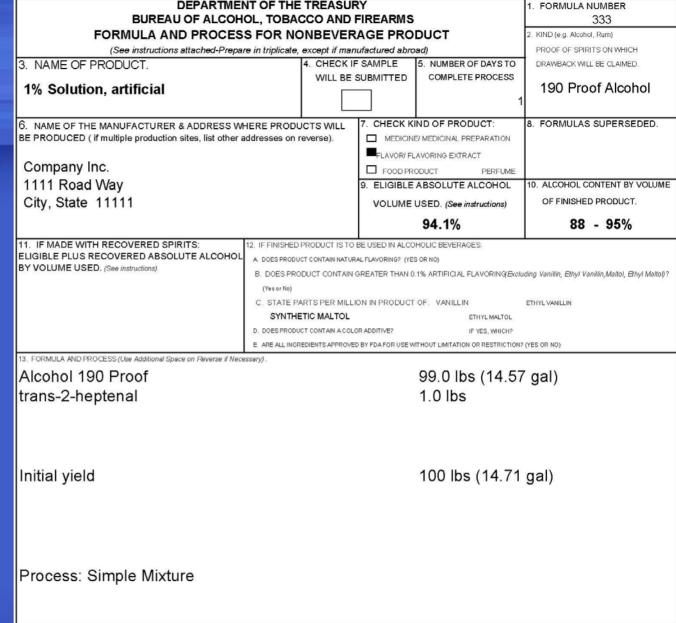
STILL SEND US A SAMPLE!!

HOW WOULD YOU CERTIFY THIS?

HOW WOULD YOU CERTIFY THIS?

- Certification Options
 - → General Use
 - → Unfit without a taste panel
 - Based on guidelines
 - → Unfit with a taste panel
 - → Fit

HOW WOULD YOU CERTIFY THIS?



Example #1

F	ABBI	CANT: PLEASE MAKE NO ENTRY BELOW THIS LINE.	
4	Dr. Incorp (123)456-7890	Dr. Incorp	6/21/2004
7	14. CONTACT PERSON (Include Area Code & Phone No.)	15. SIGNATURE & TITLE OF APPLICATION OR AUTHORIZED AGENT.	16. DATE.

17. LABORATORY SAMPLE NUMBER.

18. ACTION

1% Solution -General Use Formula

BUREAU OF ALCOHOL, TOBACCO AND FIREARMS					1. FORMUL	A NUMBER 333
FORMULA AND PROCESS FOR NONBEVERAGE PRODUCT					2. KIND (e.g. Alc	
(See instructions at	ttached-Prepare in triplicate,	except if man	ufactured abro	ad)	PROOF OF SI	PIRITS ON WHICH
3. NAME OF PRODUCT.		4. CHECK IF		5. NUMBER OF DAYS TO	DRAWBACK	MILL BE CLAIMED.
1% Solution, artificial		WILL BE	SUBMITTED	COMPLETE PROCESS	190 Pr	oof Alcohol
170 Gorddon, artinciai				1		001711001101
6. NAME OF THE MANUFACTURER &	ADDRESS WHERE PRODU	ICTS WILL	7. CHECK KI	ND OF PRODUCT:	8. FORMUL	AS SUPERSEDED.
BE PRODUCED (if multiple production si			☐ MEDICINE	E/ MEDICINAL PREPARATION		
			FLAVOR/ FL	AVORING EXTRACT		
Company Inc.			☐ FOOD PR	ODUCT PERFUME		
1111 Road Way			9. ELIGIBLE	ABSOLUTE ALCOHOL	10. ALCOHOL	CONTENT BY VOLUME
City, State 11111			VOLUME	USED. (See instructions)	OF FINISH	IED PRODUCT.
				94.1%	8	8 - 95%
11. IF MADE WITH RECOVERED SPIRI	AND THE PROPERTY OF THE PROPER	PRODUCT IS TO	BE USED IN ALCO	HOLIC BEVERAGES:		
ELIGIBLE PLUS RECOVERED ABSOLUT BY VOLUME USED. (See instructions).	A DOLLA PRODUCT		AL FLAVORING? (YES			
		DUCT CONTAIN	GREATER THAN 0.	.1% ARTIFICIAL FLAVORING/Exclu	iding Vanillin, Ethyl	Vanillin,Maltol, Ethyl Maltol)?
	(Yesor No) C. STATE PA	RTS PER MILLI	ON IN PRODUCT	OF: VANILLIN	ETHYL VANILLIN	
	SYNTHE	TIC MALTOL		ETHYL MALTOL		
	D. DOES PRODUC	CT CONTAIN A COLO	OR ADDITIVE?	IF YES, WHICH?		
		EDIENTS APPROVE	D BY FDA FOR USE W	THOUT LIMITATION OR RESTRICTION?	(YES OR NO)	
13. FORMULA AND PROCESS (Use Additional Space	on Heverse if Necessary).			00 0 lba /4.4 E7	7 a a l)	
Alcohol 190 Proof				99.0 lbs (14.57	gai)	
trans-2-heptenal				1.0 lbs		
Initial yield				100 lbs (14.71	(len	
initial yield				100 103 (14.71	gaij	
Process: Simple Mixture	e					
14. CONTACT PERSON (Include Area Code 8	Phone No.) 15. SIGNATU	JRE & TITLE	OF APPLICAT	ION OR AUTHORIZED AG	ENT.	16. DATE.
Dr. Incorp	Dr.	Incort	h			6/21/2004
(123)456-7890						0/2 1/2004
47 LABORATORY CAMPLE AND SE	APPLICANT: PLEA	SE MAKE N	O ENTRY BEL	OW THIS LINE.		
17. LABORATORY SAMPLE NUMBER.	18. ACTION.					
	1					

HOW WOULD YOU CERTIFY THIS?

BUREAU OF ALCOHO	1. PORIVIOLA NOIVIBER				
FORMULA AND PROCESS				DUCT	2. KIND (e.g. Alcohol, Rum)
(See instructions attached-Prepare	in triplicate,	4. CHECK IF		5. NUMBER OF DAYS TO	PROOF OF SPIRITS ON WHICH
3. NAME OF PRODUCT.		SOURCE MANUAL CONTRACTOR OF THE CONTRACTOR OF TH	SUBMITTED	COMPLETE PROCESS	DRAWBACK WILL BE CLAIMED.
		VVILL BE 3	OBMITTED	COMPLETE PROCESS	Alcohol 190 proof
Nat Flavor for Lemonade		L		1	
6. NAME OF THE MANUFACTURER & ADDRESS WHE	RE PRODU	JCTS WILL	7. CHECK KI	ND OF PRODUCT:	8. FORMULAS SUPERSEDED.
BE PRODUCED (if multiple production sites, list other ad	dresses on r	everse).	☐ MEDICINE	E/ MEDICINAL PREPARATION	
Company B			FLAVOR/ FL	AVORING EXTRACT	
6000 Ammendale Rd			☐ FOOD PR	ODUCT PERFUME	
Beltsville, MD 20705			9. ELIGIBLE	ABSOLUTE ALCOHOL	10. ALCOHOL CONTENT BY VOLUME
			VOLUME	USED. (See instructions)	OF FINISHED PRODUCT.
				57.8%	55.8 - 59.8%
11. IF MADE WITH RECOVERED SPIRITS: 12	. IF FINISHED	PRODUCT IS TO	BE USED IN ALCO	HOLIC BEVERAGES:	
ELIGIBLE PLUS RECOVERED ABSOLUTE ALCOHOL	A. DOES PRODU	CT CONTAIN NATUR.	AL FLAVORING? (YES	S OR NO) Yes	
BY VOLUME USED. (See instructions).	B. DOES PRODUCT CONTAIN GREATER THAN 0.1% ARTIFICIAL FLAVORING Excluding Vanillin, Ethyl Vanillin, Maltol, Ethyl Maltol)?				
	(Yes or No)	No			SON 20 0000 St. 50 We SH
	C. STATE PA	ARTS PER MILLI	ON IN PRODUCT	OF: VANILLIN	ETHYL VANILLIN 0
	SYNTHE	ETIC MALTOL	0	ETHYL MALTOL	0
	D. DOES PRODU	CT CONTAIN A COLO	R ADDITIVE?	Yes IF YES, WHICH?	Red #40
	E. ARE ALL INGR	EDIENTS APPROVE	BY FDA FOR USE W	THOUT LIMITATION OR RESTRICTION?	(YES OR NO) No
13. FORMULA AND PROCESS (Use Additional Space on Reverse if Necess	ary).				
Ethanol 190 proof				54.2 lbs (7.98 ga	al)
Citric Acid				6.9 lbs	•
Propylene Glycol				21.9 lbs	
Citral				0.6 lbs	
Water				16.4 lbs	
AC-11				400 0 11 /40 40	
Yield				100.0 lbs (13.12	gai)
Simple Mixture					
.					<u> </u>
14. CONTACT PERSON (Include Area Code & Phone No.)	5. SIGNATU	JRE & TITLE	OF APPLICAT	ION OR AUTHORIZED AG	SENT. 16. DATE.
APPLIC	ANT. DIEA	VCE MAKE NO	S ENTRY REL	OW THIS LINE.	<u>l</u>

Example #2

17. LABORATORY SAMPLE NUMBER.

18. ACTION.

As Unfit Based on Guidelines...

This product is unfit based on the level of Citric Acid

	3. NAME OF PRODUCT.	,	4. CHECK IF	SAMPLE	5. NUMBER OF DAYS TO COMPLETE PROCESS	DRAWBACK WILL BE CLAIMED.
	Nat Flavor for Lemonade		WILL BE		1	Alcohol 190 proof
	 NAME OF THE MANUFACTURER & ADDRESS WHER BE PRODUCED (if multiple production sites, list other addr Company B 			☐ MEDICINI	IND OF PRODUCT: E/ MEDICINAL PREPARATION AVORING EXTRACT	8. FORMULAS SUPERSEDED.
	6000 Ammendale Rd Beltsville, MD 20705			FOOD PR	ABSOLUTE ALCOHOL	10. ALCOHOL CONTENT BY VOLUME
•	Beltsville, IVID 20703				USED. (See instructions)	OF FINISHED PRODUCT.
					57.8%	55.8 - 59.8%
	ELIGIBLE PLUS RECOVERED ABSOLUTE ALCOHOL BY VOLUME USED. (See instructions).	DOES PRODUC B. DOES PRO (Yes or No)	CT CONTAIN NATURA DUCT CONTAIN O No	AL FLAVORING? (YES	.1% ARTIFICIAL FLAVORING Exclu	iding Vanillin, Ethyl Vanillin, Maltol, Ethyl Maltol)?
	D E	SYNTHE DOES PRODUC ARE ALL INGR	TIC MALTOL	0 R ADDITIVE?	ETHYL MALTOL Yes IF YES, WHICH? ITHOUT LIMITATION OR RESTRICTION?	0 Red #40
	FORMULA AND PROCESS (Use Additional Space on Reverse if Necessary). Ethanol 190 proof				54.2 lbs (7.98 ga	ıl)
	Citric Acid				6.9 lbs 21.9 lbs	
	Propylene Glycol Citral				0.6 lbs	
	Water				16.4 lbs	
	Yield				100.0 lbs (13.12	gal)
be	be ≥ [(0.1 × ethanol %) + 0.5] (g/100 mL)					
be	≥ [0.1 × ethanol %] (g/100 mL)					
	Amount of Citric Volume of Final	g / 100	mL of Ci	tric	ION OR AUTHORIZED AC	

Citric Acid

Ethanol ≤ 30% v/v – acid must

Ethanol > 30% v/v - acid must

	Alcohol Content (upper end of range in item 10)	Minimum Value Needed to Make Product Unfit
Ethanol ≤		0.50

	Alcohol Content (upper end of range in item 10)	Minimum Value Needed to Make Product Unfit
Ethanol > 30% v/v	59.8	5.98

Amount of Citric Acid (pounds)	Volume of Final Product (gallons)	g / 100 mL of Citric Acid
		8-

Amount of Citric Acid (pounds)	Acid Product	
6.8	13.12	6.21

LICATION OR AUTHORIZED AGENT. 16. DATE. Y BELOW THIS LINE

HOW WOULD YOU CERTIFY THIS?

FORMULA AND PROCESS FOR NONBEVERAGE PRODUCT KIND (e.g. Alcohol, Rum (See instructions attached-Prepare in triplicate, except if manufactured abroad) PROOF OF SPIRITS ON WHICH 3. NAME OF PRODUCT 4. CHECK IF SAMPLE NUMBER OF DAYS TO DRAWBACK WILL BE CLAIMED. WILL BE SUBMITTED COMPLETE PROCESS N & A Pomegranate Flavor Alcohol 190 Proof X CHECK KIND OF PRODUCT: 8. FORMULAS SUPERSEDED NAME OF THE MANUFACTURER & ADDRESS WHERE PRODUCTS WILL BE PRODUCED (if multiple production sites, list other addresses on reverse). ☐ MEDICINE/MEDICINAL PREPARATION FLAVOR/FLAVORING EXTRACT Company Inc. ☐ FOOD PRODUCT 1111 Road Way 9. FLIGIBLE ABSOLUTE ALCOHOL 10. ALCOHOL CONTENT BY VOLUME VOLUME USED. (See instructions) OF FINISHED PRODUCT. City, State 11111 74.35 74.35 ± 3.0 11. IF MADE WITH RECOVERED SPIRITS: 12. IF FINISHED PRODUCT IS TO BE USED IN ALCOHOLIC BEVERAGES: ELIGIBLE PLUS RECOVERED ABSOLUTE A DOES PRODUCT CONTAIN NATURAL FLAVORING? (YES OR NO) ALCOHOL BY VOLUME USED. (See instructions) B. DOES PRODUCT CONTAIN GREATER THAN 0.1% ARTIFICIAL FLAV ORING (Excluding Vanillin, Ethyl Vanillin, Maltol, Ethyl Maltol)? C. STATE PARTS PER MILLION IN PRODUCT OF: VANILLIN SYNTHETIC MALTOL ETHYL MALTOL D. DOES PRODUCT CONTAIN A COLOR ADDITIVE? E. ARE ALL INGREDIENTS APPROVED BY FDA FOR USE WITHOUT LIMITATION OR RESTRICTION? (YES OR NO) 13. FORMULA AND PROCESS (Use Additional Space on Reverse if Necessary Alcohol 190 Proof 74.87 g (91.97 mL) Pomegranate Juice 23.25 g $0.28 \, q$ N Benzaldehyde A Ethyl Butyrate $0.23 \, q$ N Benzyl Alcohol $0.23 \, a$ N Cinnamaldehyde $0.09 \, q$ N Allyl Butyrate 1.05 a Yield 100 g 117.51 mL SIMPLE MIXTURE

BUREAU OF ALCOHOL, TOBACCO AND FIREARMS

1. FORMULA NUMBER

Example #3

14. CONTACT PERSON (Include Area Code & Phone No.)	15. SIGNATURE & TITLE OF APPLICATION OR AUTHORIZED AGENT.	16. DATE.
A. Discount III (123)456-7890	A. Discount III	6/21/2004

APPLICANT: PLEASE MAKE NO ENTRY BELOW THIS LINE.

As Unfit with a Taste Panel...

Results statement must be included.

DET NOBOCED (IT multiple production sites	, institution additional street,	MEDICINE INCOME PROPERTY.		
Company Inc.		FLAVOR/FLAVORING EXTRACT		
		9. ELIGIBLE ABSOLUTE ALCOHOL	10 ALCOHOL	CONTENT BY VOLUME
1111 Road Way		CLW-VOICE (CCS) NOTIFICATO		ED PRODUCT.
City, State 11111		VOLUME USED. (See instructions)	07.29 2/432/57/000	999 00000000000000000000000000000000000
		74.35	74.3	35 ± 3.0
11. IF MADE WITH RECOVERED SPIRITS: ELIGIBLE PLUS RECOVERED ABSOLUTE		BE USED IN ALCOHOLIC BEVERAGES:		
ALCOHOL BY VOLUME USED. (See instructions	A DOES PRODUCT CONTAIN NATURA		was Hawks Film	Allen Win Adeniel (Thursday Adenie)
	(Yes or No)	GREATER THAN 0.1% ARTIFICIAL FLAVORING (Exc.)	uding vanillin, Ethy	i vaniiin,maitoi, Ethyl maxoi)?
	1 1	N IN PRODUCT OF: VANILLIN	ETHYL VANILLIN	
	SYNTHETIC MALTOL	ETHYL MALTOL		
	D. DOES PRODUCT CONTAIN A COLO	and the second s		
13. FORMULA AND PROCESS (Use Additional Space on R	delice and a supplied of the supplied of the supplied of the	D BY FDA FOR USE WITHOUT LIMITATION OR RESTRICTION?	(YES OR NO)	
	topography annual Parada M. III			
Alcohol 190 Proof		74.87 g (91.97	mL)	
Pomegranate Juice		23.25 g		
N Benzaldehyde		0.28 g		
A Ethyl Butyrate		0.23 g		
N Benzyl Alcohol		0.23 g		
-	· ·			
N Cinnamaldehyde	0.09 g			
N Allyl Butyrate	1.05 g			
N:-1-I		400		
Yield		100 g		
		117.51 mL		
SIMPLE MIXTURE				
14. CONTACT PERSON (Include Area Code & Ph	one No.) 15. SIGNATURE & TITLE	OF APPLICATION OR AUTHORIZED A	GENT.	16. DATE.
A. Discount III	A. Discount III			6/21/2004
(123)456-7890	10.00 - 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00			3/21/2004
17. LABORATORY SAMPLE NUMBER. 18.	APPLICANT: PLEASE MAKE NO ACTION.	D ENTRY BELOW THIS LINE.		
		be unfit for beverage purpo		
	to organoleptic analysis by a taste panel of <u>6</u> panelists, <u>6</u> of whom agreed			
%	on the determination.			
20. ANALYST.				
21. DATE				

HOW WOULD YOU CERTIFY THIS?

BUREAU OF ALCOHOL, TOBACCO AND FIREARMS 111 FORMULA AND PROCESS FOR NONBEVERAGE PRODUCT . KIND (e.g. Alcohol, Rum) (See instructions attached-Prepare in triplicate, except if manufactured abroad) PROOF OF SPIRITS ON WHICH 4. CHECK IF SAMPLE 3. NAME OF PRODUCT. 5. NUMBER OF DAYS TO DRAWBACK WILL BE CLAIMED. WILL BE SUBMITTED COMPLETE PROCESS Nat Grape WONF Alcohol 190 Proof X CHECK KIND OF PRODUCT: 8. FORMULAS SUPERSEDED 6. NAME OF THE MANUFACTURER & ADDRESS WHERE PRODUCTS WILL BE PRODUCED (if multiple production sites, list other addresses on reverse). ■ MEDICINE/ MEDICINAL PREPARATION FLAVOR/FLAVORING EXTRACT Company Inc. ☐ FOOD PRODUCT 1111 Road Way 9. FLIGIBLE ABSOLUTE ALCOHOL 10. ALCOHOL CONTENT BY VOLUME OF FINISHED PRODUCT. VOLUME USED. (See instructions) City, State 11111 29.45 29.45 ± 1.5 11. IF MADE WITH RECOVERED SPIRITS: 12. IF FINISHED PRODUCT IS TO BE USED IN ALCOHOLIC REVERAGES: ELIGIBLE PLUS RECOVERED ABSOLUTE A DOES PRODUCT CONTAIN NATURAL FLAVORING? (YES OR NO) ALCOHOL BY VOLUME USED. (See instructions) B, DOES PRODUCT CONTAIN GREATER THAN 0.1% ARTIFICIAL FLAV OR ING (Excluding Vanillin, Ethyl Vanillin, Maltol, Ethyl Maitol)? C. STATE PARTS PER MILLION IN PRODUCT OF: VANILLIN ETHYL VANILLIN SYNTHETIC MALTOL ETHYL MALTOL D. DOES PRODUCT CONTAIN A COLOR ADDITIVE? IF YES, WHICH? E. ARE ALL INGREDIENTS APPROVED BY FDA FOR USE WITHOUT LIMITATION OR RESTRICTION? (YES OR NO) 13. FORMULA AND PROCESS (Use Additional Space on Reverse if Necessary) Alcohol 190 Proof 25.4 g (31.2 mL) Pomegranate Juice 10.4 g Grape Juice 26.3 a N Ethyl Propionate 0.6 aN Trans 2-hexenal $0.6 \, q$ Water 31.5 g Sugar 5.2 gYield 100 g 100.63 mL SIMPLE MIXTURE

DEPARTMENT OF THE TREASURY

Example #4

14. CONTACT PERSON (Include Area Code & Phone No.)
A. Discount III
(123)456-7890

15. SIGNATURE & TITLE OF APPLICATION OR AUTHORIZED AGENT.

A. Discount III

APPLICANT: PLEASE MAKE NO ENTRY BELOW THIS LINE.

17. LABORATORY SAMPLE NUMBER.

18. ACTION.

16. DATE. 6/21/2004

1. FORMULA NUMBER

As Fit...

Results statement must be included.

BE PRODUCED (If multiple production sites, list other	addresses on reverse).	MEDICINE/ MEDICINAL PREPARATION						
O a man a mar lin a		FLAVOR/FLAVORING EXTRACT						
Company Inc.		☐ FOOD PRODUCT PERFUME						
1111 Road Way		ELIGIBLE ABSOLUTE ALCOHOL VOLUME USED. (See instructions)	10. ALCOHOL CONTENT BY VOLUME					
City, State 11111		OF FINISHED PRODUCT.						
	29.45 29.45 ± 1.5							
11. IF MADE WITH RECOVERED SPIRITS: ELIGIBLE PLUS RECOVERED ABSOLUTE		BE USED IN ALCOHOLIC BEVERAGES.						
ALCOHOL BY VOLUME USED. (See instructions).	A DOES PRODUCT CONTAIN NATUR	AL FLAVORING? (YES OR NO) GREATER THAN 0.1% ARTIFICIAL FLAVORING <i>(Exc</i>	hudina Vanillin Ethul Vanillin Mallat Ethul Mallati?					
	(Yes or No)	OREATER THAN U.TW ARTIFICIAL PLAVORING(EXC	uding varium, Ethyr varium, mailor, Ethyr makor)?					
	C. STATE PARTS PER MILLIO	ON IN PRODUCT OF: VANILLIN	ETHYL VANILLIN					
	SYNTHETIC MALTOL	ETHYL MALTOL						
	D. DOES PRODUCT CONTAIN A COLO							
13. FORMULA AND PROCESS (Use Additional Space on Reverse if Nec		D BY FDA FOR USE WITHOUT LIMITATION OR RESTRICTION?	(YES OR NO)					
Alcohol 190 Proof		25.4 g (31.2 m	ıL)					
Pomegranate Juice		10.4 g						
Grape Juice		26.3 g						
N Ethyl Propionate		0.6 g						
N Trans 2-hexenal		0.6 g						
Water		•						
	31.5 g							
Sugar	5.2 g							
Yield		100 ~						
rieid		100 g						
		100.63 mL						
SIMPLE MIXTURE								
14. CONTACT PERSON (Include Area Code & Phone No.) A. Discount III		OF APPLICATION OR AUTHORIZED A	GENT. 16. DATE.					
(123)456-7890	A. Discount III		6/21/2004					
V	CANT: PLEASE MAKE NO	O ENTRY BELOW THIS LINE.	<u> </u>					
17. LABORATORY SAMPLE NUMBER. 18. ACTION								
This pr	oduct was found to	be <u>fit</u> for beverage purpose	s. It was subjected to					
		taste panel of 6 panelists,						
	ermination.	. —.	_					
%								
20. ANALYST.								
21. DATE								

ITS TIME TO PLAY... YOU FIND THE MISTAKES!

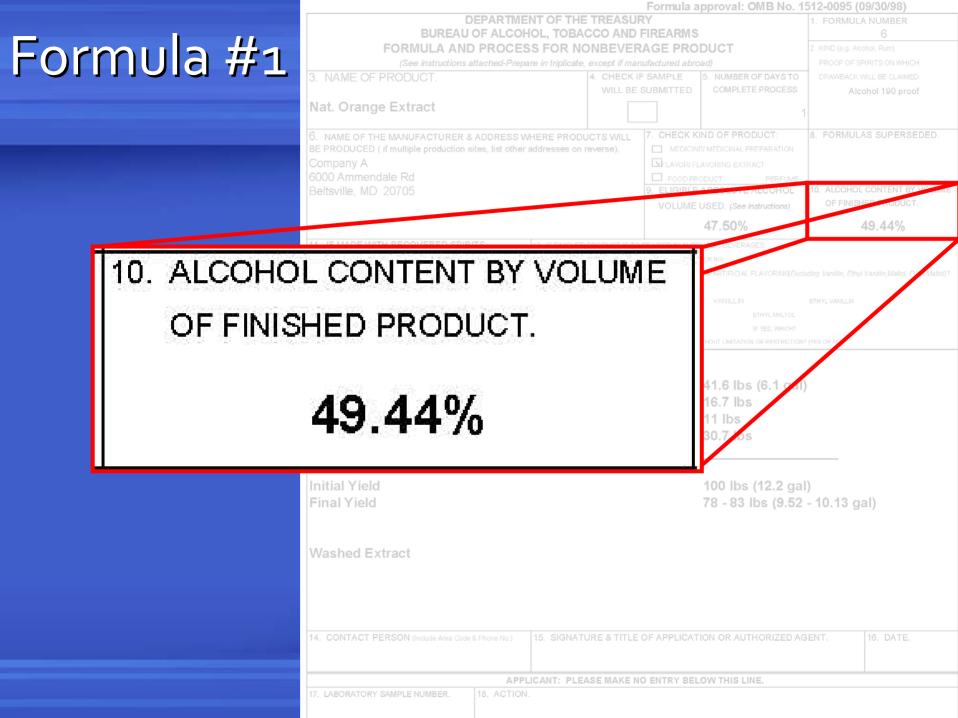
COMMON ERRORS

- Units
 - → No units or mixed / improper units
- Yield
 - → Not enough yield information
- Improper grouping of flavor chemicals
 - → **1-10%** of total formula → at least **20%** must be disclosed
 - \rightarrow **> 10%** of total formula \rightarrow at least **50%** must be disclosed
- Calculations of box #9 and #10
- Range in box #10

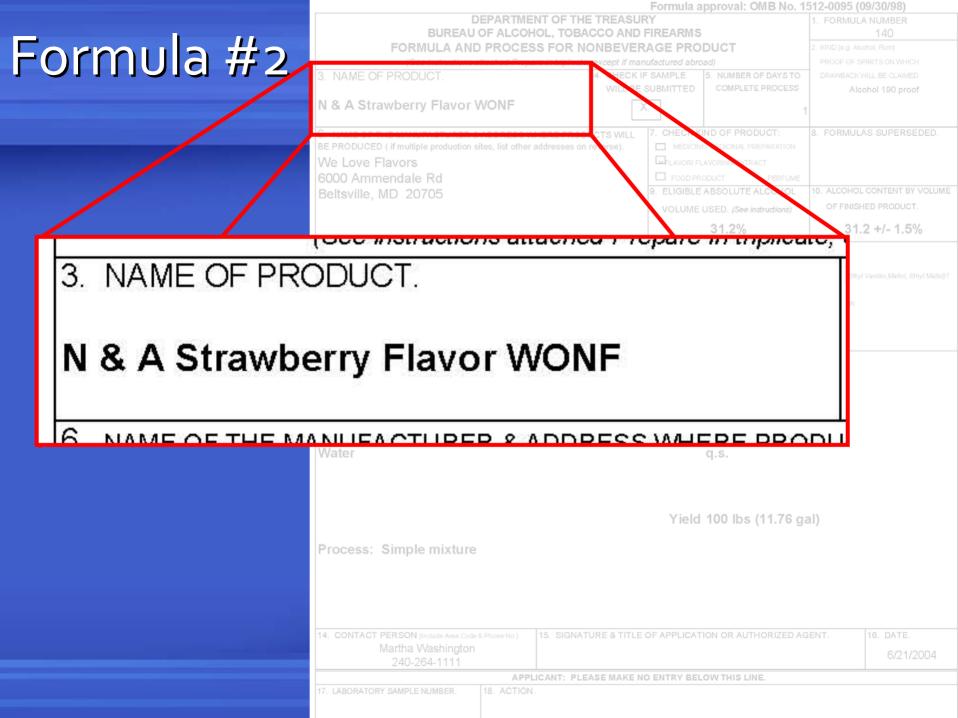
COMMON ERRORS

- Not enough information on purchased flavor intermediates
 - → TTB #, solvents, colors, limited ingredients, etc...
- Ingredients not classified as natural or artificial
 - Anything NOT classified is considered artificial
- Name
- Source of natural vanillin not provided
- Volume of alcohol-containing ingredients not provided

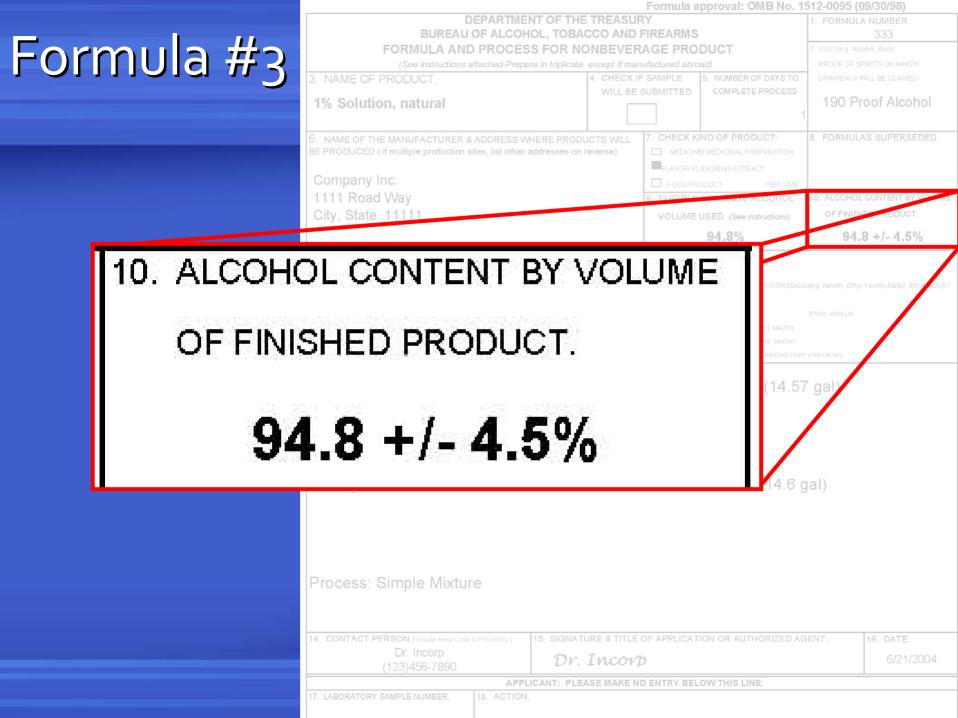
			Formula a	pproval: OMB No. 1	512-0095 (09/30/	98)		
DEPARTMEN				÷ #	1. FORMULA NUM	BER		
BUREAU OF ALCOH	6							
FORMULA AND PROCES					2. KIND (e.g. Alcohol, Rum)			
(See instructions attached-Prepar	e in triplicate,				PROOF OF SPIRITS O			
3. NAME OF PRODUCT.		4. CHECK IF		5. NUMBER OF DAYS TO	DRAWBACK WILL BE			
		WILL BE	SUBMITTED	COMPLETE PROCESS	Alcohol 19	0 proof		
Nat. Orange Extract		L		1				
6. NAME OF THE MANUFACTURER & ADDRESS WI	HERE PRODU	JCTS WILL	7. CHECK K	IND OF PRODUCT:	8. FORMULAS SUF	PERSEDED.		
BE PRODUCED (if multiple production sites, list other a	ddresses on r	everse).	☐ MEDICINI	E/ MEDICINAL PREPARATION				
Company A			SFLAVOR/FL	AVORING EXTRACT				
6000 Ammendale Rd			☐ FOOD PR					
Beltsville, MD 20705				ABSOLUTE ALCOHOL	10. ALCOHOL CONTE			
			VOLUME	USED. (See instructions)	OF FINISHED PRO	JDUCT.		
				47.50%	49.44%			
11. IF MADE WITH RECOVERED SPIRITS:	12. IF FINISHED	PRODUCT IS TO	BE USED IN ALCO	HOLIC BEVERAGES:	•			
ELIGIBLE PLUS RECOVERED ABSOLUTE ALCOHOL BY VOLUME USED. (See instructions).	A DOES PRODU	CT CONTAIN NATUR	AL FLAVORING? (YE	S OR NO)				
BT VOLONIE GOLD. (Gee marachons).	B. DOES PRODUCT CONTAIN GREATER THAN 0.1%			.1% ARTIFICIAL FLAVORING Exclu	uding Vanillin, Ethyl Vanillin,f	vialtol, Ethyl Maltol)?		
	(Yes or No)							
		N IN PRODUCT O	F: VANILLIN ETHYLMALTOL	ETHYL VANILLIN				
		TIC MALTOL						
D. DOES PRODUCT CONTAIN A COLOR ADDITIVE?				IF YES, WHICH?				
13. FORMULA AND PROCESS (Use Additional Space on Reverse if Nece	COLFORD DECEMBER	EDIENTSAPPROVE	DI FDA FOR USE W	ITHOUT EINITATION OF RESTRICTION	(TES OR NO)			
in the state of th	oodiyy.							
Ethanol 190 proof				41.6 lbs (6.1 gal)	1			
Propylene Glycol				16.7 lbs				
Orange Oil			11 lbs					
Water			30.7 lbs					
Initial Yield				100 lbs (12.2 gal)			
Final Yield			78 - 83 lbs (9.52 - 10.13 gal)					
				•				
Washed Extract								
Tradica Extradi								
14 CONTACT DEDSON (solve) Associate Street	15 SIGNATI	IDE Ø TIT! E	OE ARRIJOAT	ION OR AUTHORIZED AG	SENT. 16. D	ATE		
14. CONTACT PERSON (Include Area Code & Phone No.)	is. SIGNATO	JRE & IIILE	OF APPLICAT	ION OR AUTHORIZED AC	JEN 1.	AIE.		
APPLI	CANT: PLEA	ASE MAKE NO	D ENTRY BEL	OW THIS LINE.				
17 LABORATORY SAMPLE NUMBER 18 ACTION	-,							



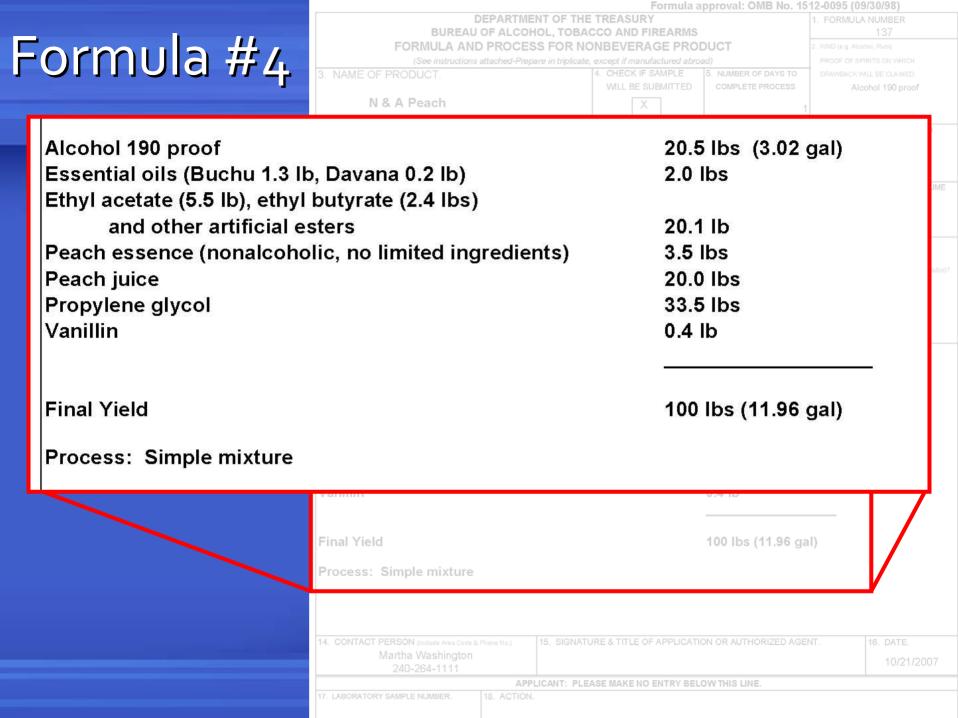
			Formula a	pprovai: ONB No. 1:	512-00 95 (0	19/30/98)			
DI BUREAU (1. FORMULA	NUMBER 140							
	PROCESS FOR N				2. KIND (e.g. Alc	3 7 7 3			
	tached-Prepare in triplicate				PROOF OF SE	PIRITS ON WHICH			
3. NAME OF PRODUCT. 4. CHECK IF				5. NUMBER OF DAYS TO	DRAWBACK V	WILL BE CLAIMED.			
WILL BE			SUBMITTED	COMPLETE PROCESS	Alc	ohol 190 proof			
N & A Strawberry Flavor WONF			(1					
6. NAME OF THE MANUFACTURER &	ADDRESS WHERE PROD	UCTS WILL	7. CHECK K	IND OF PRODUCT:	8. FORMULA	AS SUPERSEDED.			
BE PRODUCED (if multiple production sites, list other addresses on reverse).			☐ MEDICIN	E/ MEDICINAL PREPARATION					
We Love Flavors				AVORING EXTRACT					
6000 Ammendale Rd			☐ FOOD PR	ODUCT PERFUME					
Beltsville, MD 20705			9. ELIGIBLE	ABSOLUTE ALCOHOL	10. ALCOHOL	CONTENT BY VOLUME			
			VOLUME	USED. (See instructions)	OF FINISH	IED PRODUCT.			
				31.2%	31.2 +/- 1.5%				
11. IF MADE WITH RECOVERED SPIRI	TS: 12. IF FINISHE	D PRODUCT IS TO	BE USED IN ALCO	HOLIC BEVERAGES:					
ELIGIBLE PLUS RECOVERED ABSOLUT	TE ALCOHOL	UCT CONTAIN NATUR							
BY VOLUME USED. (See instructions).	B. DOES PF	ODUCT CONTAIN	GREATER THAN 0	.1% ARTIFICIAL FLAVORING/Exclu	ding Vanillin, Ethyl	Vanillin,Maltol, Ethyl Maltol)?			
	(Yes or No)	No							
	C. STATE	PARTS PER MILLIO	N IN PRODUCT C	F: VANILLIN	ETHYL VANILLIN				
	SYNTH	HETIC MALTOL		ETHYL MALTOL					
	D. DOES PRO	DUCT CONTAIN A COL	OR ADDITIVE?	IF YES, WHICH?					
	E. ARE ALL IN	GREDIENTS APPROVE	D BY FDA FOR USE W	THOUT LIMITATION OR RESTRICTION?	(YES OR NO)				
13. FORMULA AND PROCESS (Use Additional Space	on Reverse if Necessary).								
Alcohol 190 proof				26.23 lbs (3.86 g	ral)				
Strawberry juice (14.9 lbs)	and other fruit i	uicos	22.4 lbs						
	and other nuit j	uices	22.4 lbs						
Citric acid, anhydrous									
Art. Maltol			3.0 lbs						
Water				q.s.					
			Yield	100 lbs (11.76 ga	al)				
				, ,	,				
Process: Simple mixture									
	Total and the second					The same and appearance of			
			OF APPLICAT	ION OR AUTHORIZED AG	ENT.	16. DATE.			
Martha Washington						6/21/2004			
240-264-1111	ADDITIONAL	A O E 84 4 1/E	O ENTRY DE	OW THIS LINE		<u> </u>			
17 LABORATORY SAMPLE MINADED	APPLICANT: PLI 18. ACTION.	ASE MAKE N	O ENTRY BEL	OW THIS LINE.					
17. LABORATORY SAMPLE NUMBER.	IS. ACTION.								



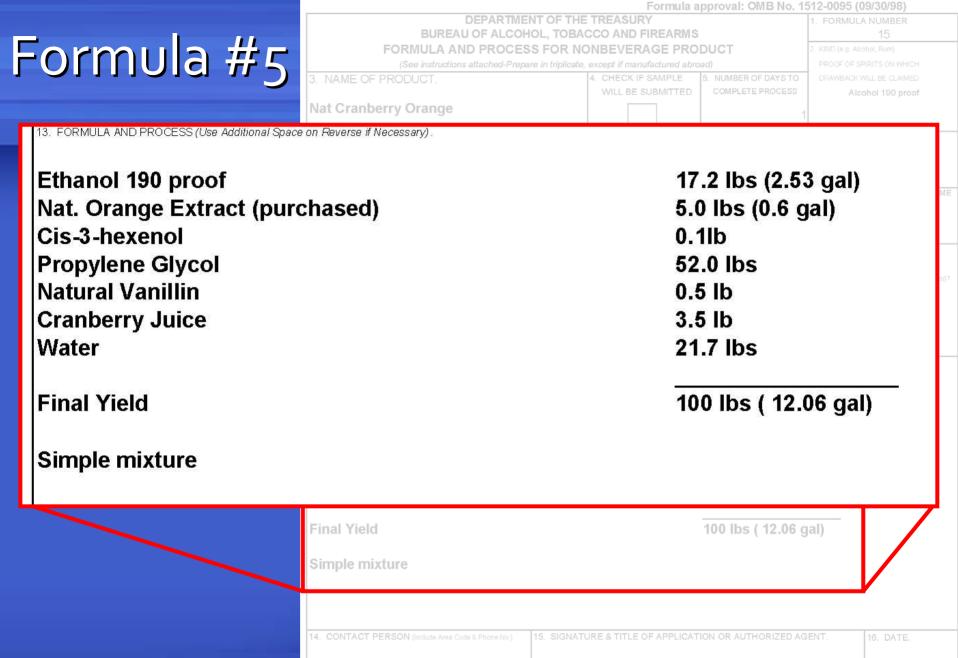
Formula approval: OMB No. 1512-0095 (09/30/98) DEPARTMENT OF THE TREASURY 1. FORMULA NUMBER BUREAU OF ALCOHOL, TOBACCO AND FIREARMS 333 FORMULA AND PROCESS FOR NONBEVERAGE PRODUCT 2. KIND (e.g. Alcohol, Rum) (See instructions attached-Prepare in triplicate, except if manufactured abroad) PROOF OF SPIRITS ON WHICH NAME OF PRODUCT 4. CHECK IF SAMPLE 5. NUMBER OF DAYS TO DRAWBACK WILL BE CLAIMED COMPLETE PROCESS WILL BE SUBMITTED 190 Proof Alcohol 1% Solution, natural 7. CHECK KIND OF PRODUCT: FORMULAS SUPERSEDED. NAME OF THE MANUFACTURER & ADDRESS WHERE PRODUCTS WILL BE PRODUCED (if multiple production sites, list other addresses on reverse). ■ MEDICINE/ MEDICINAL PREPARATION FLAVOR/ FLAVORING EXTRACT Company Inc. ☐ FOOD PRODUCT 1111 Road Way ELIGIBLE ABSOLUTE ALCOHOL 10. ALCOHOL CONTENT BY VOLUME City, State 11111 OF FINISHED PRODUCT. VOLUME USED. (See instructions) 94.8% 94.8 +/- 4.5% 11. IF MADE WITH RECOVERED SPIRITS: ELIGIBLE PLUS RECOVERED ABSOLUTE ALCOHOL A. DOES PRODUCT CONTAIN NATURAL FLAVORING? (YES OR NO BY VOLUME USED. (See instructions) B. DOES PRODUCT CONTAIN GREATER THAN 0.1% ARTIFICIAL FLAVORING Excluding Vanillin, Ethyl Vanillin, Maltol. Ethyl Maltoll? C. STATE PARTS PER MILLION IN PRODUCT OF: VANILLIN SYNTHETIC MALTOL D. DOES PRODUCT CONTAIN A COLOR ADDITIVE? ARE ALL INGREDIENTS APPROVED BY FDA FOR USE WITHOUT LIMITATION OR RESTRICTION? (YES OR NO) 13. FORMULA AND PROCESS (Use Additional Space on Reverse if Necessary) Alcohol 190 Proof 99.0 lbs (14.57 gal) Natural ethyl iso-butyrate 1.0 lbs Initial yield 100 lbs (14.6 gal) Process: Simple Mixture 14. CONTACT PERSON (Include Area Code & Phone No.) 15. SIGNATURE & TITLE OF APPLICATION OR AUTHORIZED AGENT. 16. DATE. Dr. Incorp Dr. Incorb 6/21/2004 (123)456-7890 APPLICANT: PLEASE MAKE NO ENTRY BELOW THIS LINE. 17. LABORATORY SAMPLE NUMBER 18. ACTION.



			Formula a	pprovai: OIVIB No. 18	712-0095 (09/30/96)		
DEPARTI	1. FORMULA NUMBER						
BUREAU OF ALC	THE PARTY OF THE PARTY OF THE				137		
FORMULA AND PROC	2. KIND (e.g. Alcohol, Rum)						
(See instructions attached-P	repare in triplicate			PROOF OF SPIRITS ON WHICH			
3. NAME OF PRODUCT.	SAMPLE	5. NUMBER OF DAYS TO	DRAWBACK WILL BE CLAIMED.				
			SUBMITTED	COMPLETE PROCESS	Alcohol 190 proof		
N & A Peach		×		1	(
6. NAME OF THE MANUFACTURER & ADDRESS	WHERE PRODUC	TS WLL BE	7. CHECK KI	ND OF PRODUCT:	8. FORMULAS SUPERSEDED.		
PRODUCED (if multiple production sites, list other ac	ldresses on revers	se).	☐ MEDICINE	MEDICINAL PREPARATION			
We Love Flavors			LAVOR/FL	AVORING EXTRACT			
6000 Ammendale Rd			☐ FOOD PRO	ODUCT PERFUME			
Beltsville, MD 20705			9. ELIGIBLE	ABSOLUTE ALCOHOL	10. ALCOHOL CONTENT BY VOLUME		
			VOLUME	USED. (See instructions)	OF FINISHED PRODUCT.		
				24.0%	24.0 +/- 1.5%		
11. IF MADE WITH RECOVERED SPIRITS:		PRODUCT IS TO B	E USED IN ALCOH	OLIC BEVERAGES:	-		
ELIGIBLE PLUS RECOVERED ABSOLUTE ALCOHO BY VOLUME USED. (See instructions).	A DOES PRODUC	CT CONTAIN NATURAL	FLAVORING? (YES 0	R NO) Yes			
See Instructions).	B. DOES PRO	DDUCT CONTAIN	GREATER THAN 0	.1% ARTIFICIAL FLAVORING/Excl	uding Vanillin, Ethyl Vanillin,Mallol, Ethyl Mallol)?		
	(Yes or No)						
	101000000000000000000000000000000000000		ON IN PRODUCT	OF: VANILLIN4000 ppm	ETHYL VANILLIN		
		ETIC MALTOL	1007150	ETHYLMALTOL			
	1.550.514.550.0014.510.	CT CONTAIN A COLOR		No IF YES, WHICH? OUT LIMITATION OR RESTRICTION? (YE	P OP NO.		
13. FORMULA AND PROCESS (Use Additional Space on Reverse if No	_ 15.07 26.07 61.07 61.07 61.07	EDIENTS APPROVED I	BY FDA FOR USE WITH	DOT LIMITATION OR RESTRICTION? (TE	S OR NO) No-pg		
13. PONINGER AND PROCESS (OSE AGUAGNAI SPACE OF NEVERSE IF NO	cessary) .						
Alcohol 190 proof				20.5 lbs (3.02 ga	al\		
the second secon	0 2 lb)		2.0 lbs				
Essential oils (Buchu 1.3 lb, Dava				2.0 IDS			
Ethyl acetate (5.5 lb), ethyl butyra	ate (2.4 lbs)						
and other artificial esters				20.1 lb			
Peach essence (nonalcoholic, no	limited ing	redients)		3.5 lbs			
Peach juice				20.0 lbs			
Propylene glycol				33.5 lbs			
Vanillin			0.4 lb				
Variation							
Final Yield			100 lbs (11.96 gal)				
i mai ricia				100 100 (11.00 g	,		
Process: Simple mixture							
11. 001/107 050001	45 0001:17	IDE A TITLE O	NE A BRUIGATO	NI OD ALITHODITES : CO	NT IN DATE		
14. CONTACT PERSON (Include Area Code & Phone No.) 15. SIGNATURE & TITLE			JE APPLICATIO	JN OK AUTHORIZED AGE	INT. 16. DATE.		
Martha Washington 240-264-1111					10/21/2007		
	PPLICANT: PLE	S ENTRY RELA	OW THIS LINE				
17. LABORATORY SAMPLE NUMBER. 18. ACTIO		ASE WARE NO	SENIKI BELL	JVV INIS LINE.			
III. AOTI	011.						



			Formula a	pproval: OMB No.	1512-009	5 (09/30/98)		
DEPARTME	NT OF THE	TREASUR	ΥY		1. FORM	ULA NUMBER		
BUREAU OF ALCOH	OL, TOBAC	CCO AND I	FIREARMS			15		
FORMULA AND PROCES	S FOR NO	NBEVER	AGE PRO	2. KIND (e.g	. Alcohol, Rum)			
(See instructions attached-Prepa	re in triplicate,	except if man	ufactured abro	PROOF OF SPIRITS ON WHICH				
. NAME OF PRODUCT.		4. CHECK IF	SAMPLE	5. NUMBER OF DAYS TO	DRAWBA	CK WILL BE CLAIMED.		
		WILL BE	SUBMITTED	COMPLETE PROCESS		Alcohol 190 proof		
lat Cranberry Orange					a			
,					1			
. NAME OF THE MANUFACTURER & ADDRESS W	HERE PRODU	JCTS WILL	7. CHECK K	IND OF PRODUCT:	8. FORM	ULAS SUPERSEDED.		
E PRODUCED (if multiple production sites, list other	addresses on r	reverse).	☐ MEDICINI	E MEDICINAL PREPARATION				
Company A			SFLAVOR/FL	AVORING EXTRACT				
000 Ammendale Rd			☐ FOOD PR	ODUCT PERFUME				
Beltsville, MD 20705		9. ELIGIBLE	ABSOLUTE ALCOHOL	10. ALCOH	OL CONTENT BY VOLUME			
		VOLUME	USED. (See instructions)	OF FIN	IISHED PRODUCT.			
			19.94%			2.4 +/- 1.5%		
- IEMARE WITH RECOVERED ORIDITO								
 IF MADE WITH RECOVERED SPIRITS: LIGIBLE PLUS RECOVERED ABSOLUTE ALCOHOL 	PROFESSION STREET, CONTRACTOR OF THE CONTRACTOR			HOLIC BEVERAGES:				
Y VOLUME USED. (See instructions).			AL FLAVORING? (YES	and the second s				
	B. DOES PRO (Yes or No)	DUCT CONTAIN	FREATER THAN U	.1% ARTIFICIAL FLAVORING Ex	duding Vanilin, i	Ethyl Vanillin,Maltol, Ethyl Maltol)?		
	NOTE DED MILL	ON IN DOODUGT	OF WANTEL BY					
	STATE PARTS PER MILLION IN PRODUCT OF: VANILLIN ETHYL VANILLIN SYNTHETIC MALTOL ETHYL MALTOL							
	200000000000000000000000000000000000000	D. DOES PRODUCT CONTAIN A COLOR ADDITIVE? IF YES, WHICH?						
	SELECTION AND A SECURE ASSESSED.	E ALL INGREDIENTS APPROVED BY FDA FOR USE WITHOUT LIMITATION OR RESTRICTION? (YES OR NO)						
B. FORMULA AND PROCESS (Use Additional Space on Reverse if Nec	essary).		y and manual sections and	STREET OF THE ST				
thanol 190 proof				17.2 lbs (2.53 g	al)			
lat. Orange Extract (purchased)		5.0 lbs (0.6 gal)						
Cis-3-hexenol			0.1lb					
Propylene Glycol			52.0 lbs					
latural Vanillin			0.5 lb					
Cranberry Juice								
Vater								
				21.7 lbs				
inal Yield			100 lbs (12.06 gal)					
				,	3,			
Simple mixture								
simple mixture								
4. CONTACT PERSON (Include Area Code & Phone No.)	15. SIGNATU	JRE & TITLE	OF APPLICAT	ION OR AUTHORIZED A	GENT.	16. DATE.		
	totakon terretakon terretakon							
APPL	ICANT: PLEA	ASE MAKE NO	ENTRY BEL	OW THIS LINE.				
7. LABORATORY SAMPLE NUMBER. 18. ACTION.								



APPLICANT: PLEASE MAKE NO ENTRY BELOW THIS LINE.

There are 5 errors in this formula...

Can you find them all?

							2.2.2.1	
						1. FORMULA N	UMBER	
BUREAU OF ALCOHOL, TOBACCO AND FIREARMS						84		
FORMULA AND	PROCESS FOR NO)NBEVER/	AGE PROD	DUCT		2. KIND (e.g. Alcoho	(, Rum)	
(See instructions attached-Prepare in triplicate, except if manufactured abroad)						PROOF OF SPIRITS ON WHICH		
3. NAME OF PRODUCT.	3. NAME OF PRODUCT. 4. CHECK IF S				R OF DAYS TO	DRAWBACK WILL	BE CLAIMED.	
		WILL BE S	SUBMITTED	COMPLE	TE PROCESS			
Nat Cranberry Flavor						190 Pro	oof Alcohol	
_		-				4		
6. NAME OF THE MANUFACTURER & AL	DDRESS WHERE PRODUC	TS WILL BE	7. CHECK KI	ND OF PRO	DDUCT:	8. FORMULAS	SUPERSEDED.	
PRODUCED (if multiple production sites, lis	st other addresses on revers	e).	■ MEDICINI	E/ MEDICINAL	PREPARATION			
We Love Flavors			FLAVOR/F	LAVORING EX	TRACT			
6000 Ammendale Rd			☐ FOOD PR	ODUCT	PERFUME			
Beltsville, MD 20705			9. ELIGIBLE	ABSOLUTE	ALCOHOL	10. ALCOHOL CO	NTENT BY VOLUME	
			VOLUME	JSED. (See	instructions)	OF FINISHED	PRODUCT.	
				36.1%	g.	3	6.3%	
11. IF MADE WITH RECOVERED SPIRITS	12. IF FINISHED	PRODUCT IS TO	BE USED IN ALCO	HOLIC BEVER	RAGES:			
ELIGIBLE PLUS RECOVERED ABSOLUTE	ALCOHOL A DOES PRODU	JCT CONTAIN NATURA	AL FLAVORING? (YE:	OR NO)	Yes			
BY VOLUME USED. (See instructions).	B. DOES PR	DOUCT CONTAIN (GREATER THAN 0	1% ARTIFICIA	L FLAVORING/Exci	uding Vanillin, Ethyl Val	nillin,Maltol, Ethyl Maltol)?	
	(Yes or No)	No						
	C. STATE P	ARTS PER MILLIO	ON IN PRODUCT	OF: VANILL	.IN	0 ETHYL VANILLIN		
	SYNTHE	ETIC MALTOL	0		ETHYL MALTOL	0		
	D. DOES PROD	UCT CONTAIN A COLO						
		REDIENTS APPROVED	D BY FDA FOR USE W	THOUT LIMITAT	ION OR RESTRICTION	? (YES OR NO) No	, limited ingredients	
13. FORMULA AND PROCESS (Use Additional Space of	in Reverse if Necessary).							
						0		
190 Proof Alcohol					s (4.1 gal)	E.		
Nat Cranberry Type (3.5% a	alcohol)	7.5 lbs						
Acetic Acid		1.5 lbs						
Propylene Glycol		43.6 lbs						
Natural ketones		1.9 lbs						
Water								
Vater		q.s.						
				400.00	11 (100			
Total		100.00 lbs (10.8 gal)						
Mix all ingredients								
14. CONTACT PERSON (Include Area Code & F	Phone No.) 15. SIGNAT	JRE & TITLE C	F APPLICATION	ON OR AUT	HORIZED AGE	NT. 10	6. DATE.	
Martha Washington								
240-264-1111								
	APPLICANT: PLE	ASE MAKE NO	ENTRY BELO	OW THIS LI	NE.			
17. LABORATORY SAMPLE NUMBER.	18. ACTION.							
]]								

3. NAME OF PRODUCT.		4. CHECK IF	SAMPLE	5. NUMBER OF DAYS TO	DRAWBACK WILL BE CLAIMED.			
5. 1 or 11.05001.		VIDEOUS DE TALL DISCO	SUBMITTED	COMPLETE PROCESS	www.morenteetistecriss.chaptoristististecriss.amer.ph/00040103995000000000000000000000000000000000			
Nat Cranberry Flavor			1	190 Proof Alcohol				
6. NAME OF THE MANUFACTURER & ADDRESS WH	TS WILL BE	7. CHECK KI	ND OF PRODUCT:	8. FORMULAS SUPERSEDED.				
PRODUCED (if multiple production sites, list other addre	e).	☐ MEDICIN	E/ MEDICINAL PREPARATION					
We Love Flavors			FLAVOR/ F	LAVORING EXTRACT				
6000 Ammendale Rd			☐ FOOD PR					
Beltsville, MD 20705			9. ELIGIBLE	ABSOLUTE ALCOHOL	10. ALCOHOL CONTENT BY VOLUME			
			VOLUME	USED. (See instructions)	OF FINISHED PRODUCT.			
				36.1%	36.3%			
11. IF MADE WITH RECOVERED SPIRITS:	12. IF FINISHED	PRODUCT IS TO I	BE USED IN ALCC	HOLIC BEVERAGES:				
ELIGIBLE PLUS RECOVERED ABSOLUTE ALCOHOL BY VOLUME USED. (See instructions).	A. DOES PRODUCT CONTAIN NATURAL FLAVORING? (YES OR NO) Yes							
BT VOLOTAL COLD. (Gee matractions).	B. DOES PRODUCT CONTAIN GREATER THAN 0.1% ARTIFICIAL FLAVORING Excluding Vanillin, Ethyl Vanillin, Maltol, Ethyl Maltol)?							
	(Yes or No) No							
	C. STATE PARTS PER MILLION IN PRODUCT OF: VANILLIN 0 ETHYLVANILLIN 0							
	SYNTHETIC MALTOL 0 ETHYL MALTOL 0							
	D. DOES PRODUCT CONTAIN A COLOR ADDITIVE? N₀ IF YES, WHICH? E. ARE ALL INGREDIENTS APPROVED BY FDA FOR USE WITHOUT LIMITATION OR RESTRICTION? (YES OR NO) N₀, limited ingredients							
13. FORMULA AND PROCESS (Use Additional Space on Reverse if Nec					(Commission of the Commission			
190 Proof Alcohol				27.9 lbs (4.1 gal)				
Nat Cranberry Type (3.5% alcohol)			7.5 lbs					
Acetic Acid			1.5 lbs					
Propylene Glycol			43.6 lbs					
Natural ketones		1.9 lbs						
A TALL CONTROL AND CONTROL TO CONTROL								
Water			q.s.					
Total			100.00 lbs (10.8 gal)					

Mix all ingredients

There are multiple errors in this formula.

How many can you find????

				Formula a	pproval:	OMB No. 15	12-0095 (09	/30/98)		
DEPA		1. FORMULA NUMBER								
BUREAU OF A	ALCOHOL,	TOBAC	CCO AND F	IREARMS				84		
FORMULA AND PR	ROCESS FO	OR NO	NBEVER	AGE PROD	UCT		2. KIND (e.g. Alco	hol, Rum)		
(See instructions attached-Prepare in triplicate, except if manufactured abroad)						PROOF OF SPIRITS ON WHICH				
3. NAME OF PRODUCT.	NAME OF PRODUCT. 4. CHECK II					R OF DAYS TO	DRAWBACKW	ILL BE CLAIMED.		
			WILL BE S	SUBMITTED	COMPLE	TE PROCESS				
Peach Flavor				7 1			190 F	Proof Alcohol		
6. NAME OF THE MANUFACTURER & ADDR	TS MIL BE	7. CHECK KII	ND OF PRO	DDUCT:	8. FORMULA	S SUPERSEDED.				
PRODUCED (if multiple production sites, list oth				The state of the s		PREPARATION				
We Love Flavors				FLAVOR/F	AVORING EX	TRACT				
6000 Ammendale Rd				☐ FOOD PRO		PERFUME				
Beltsville, MD 20705				9. ELIGIBLE		ALCOHOL	10. ALCOHOL O	CONTENT BY VOLUME		
Beitsville, IVID 20703				VOLUME			OF FINISHE	ED PRODUCT.		
					23.9%		22.	0 - 24.5%		
11. IF MADE WITH RECOVERED SPIRITS:	12 IFI	FINISHED	PRODUCT IS TO	BE USED IN ALCO	HOLIC BEVER	AGES:				
ELIGIBLE PLUS RECOVERED ABSOLUTE ALC	001101			AL FLAVORING? (YES		Yes				
BY VOLUME USED. (See instructions).							ding Vanillin Ethyl	Vanillin,Maltol, Ethyl Maltol)?		
		es or No)			170 711 (111 1012	212110111114200	unig varinini, Eury	roman, monon, Emyr monoy.		
	1			ON IN PRODUCT	OF: VANILL	.IN 0	ETHYL VANILLIN	0		
	I		TIC MALTOL	0	ETHYL MALTOL	0				
	D. D.	DESPRODU	ICT CONTAIN A COLO	R ADDITIVE?	No	IF YES, WHICH?				
	E. AF	RE ALL INGR	REDIENTS APPROVE	BY FDA FOR USE W	THOUT LIMITAT	ION OR RESTRICTION?	(YES OR NO)	No, limited ingredients		
13. FORMULA AND PROCESS (Use Additional Space on Rev	verse if Necessary).									
Peach Essence				3.5 lbs						
Vanillin and Ethyl Vanillin		0.4 lbs								
Sodium Benzoate				0.1 lbs						
CHECK TO BE TAKEN TO				0.095 lbs						
Natural Esters				to the state of th						
N & A Peach Fortifier					1.905 I	bs				
Concentrated Fruit Juices				40.0 lbs						
190 Proof Alcohol				20.5 lbs						
Propylene Glycol				33. lbs						
Water				a s						
vater					q.s.					
Final Yield					100.00	lbs				
14. CONTACT PERSON (Include Area Code & Phone	JRE & TITLE C	F APPLICATION	N OR AUT	HORIZED AGE	NT.	16. DATE.				
Martha Washington										
240-264-1111										
	APPLICAN	T: PLE	ASE MAKE NO	ENTRY BELO	W THIS LI	NE.				
17. LABORATORY SAMPLE NUMBER. 18. /	ACTION.									

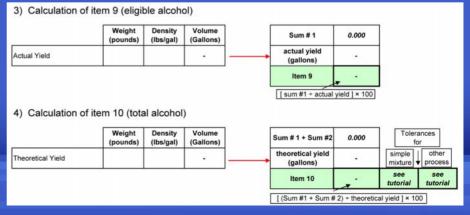
3. NAME OF PRODUCT.	377	4. CHECK IF	SAMPLE	5. NUMBER OF DAYS TO	DRAWBACK WILL BE CLAIMED.		
	WILL BE S	SUBMITTED	COMPLETE PROCESS				
Peach Flavor				1	190 Proof Alcohol		
6. NAME OF THE MANUFACTURER & ADDRESS WHERE PRODUCTS WILL BE			7. CHECK K	I IND OF PRODUCT:	8. FORMULAS SUPERSEDED.		
PRODUCED (if multiple production sites, list other address			Accordance - Proposition - Accordance - Acco	E/ MEDICINAL PREPARATION			
We Love Flavors			FLAVOR/ F	FLAVORING EXTRACT			
6000 Ammendale Rd			☐ FOOD PR	ODUCT PERFUME			
Beltsville, MD 20705			9. ELIGIBLE	ABSOLUTE ALCOHOL	10. ALCOHOL CONTENT BY VOLUME		
			VOLUME	USED. (See instructions)	OF FINISHED PRODUCT.		
				23.9%	22.0 - 24.5%		
11. IF MADE WITH RECOVERED SPIRITS:	12. IF FINISHED	PRODUCT IS TO	BE USED IN ALCO	HOLIC BEVERAGES:			
ELIGIBLE PLUS RECOVERED ABSOLUTE ALCOHOL BY VOLUME USED. (See instructions).	A DOES PRODU	CT CONTAIN NATUR	AL FLAVORING? (YE	S OR NO) Yes			
2 TO 25 THE COLD I (633 HIGH AGISTIS).		B. DOES PRODUCT CONTAIN GREATER THAN 0.1% ARTIFICIAL FLAVORING Excluding Vanillin, Ethyl Vanillin, Maltol, Ethyl Maltol)?					
	(Yes or No)						
		RRIS PER MILLI TIC MALTOL	ON IN PRODUCT	OF:: VANILLIN () ETHYL MALTOL	D ETHYL VANILLIN 0		
		CT CONTAIN A COLO	OR ADDITIVE?	No IF YES, WHICH?	. 0		
				VITHOUT LIMITATION OR RESTRICTION?	Y (YES OR NO) No, limited ingredients		
13. FORMULA AND PROCESS (Use Additional Space on Reverse if Nece	essary).				· ·		
Peach Essence				3.5 lbs			
Vanillin and Ethyl Vanillin			0.4 lbs				
Sodium Benzoate			0.1 lbs				
Natural Esters				0.095 lbs			
N & A Peach Fortifier				1.905 lbs			
Concentrated Fruit Juices			40.0 lbs				
190 Proof Alcohol				20.5 lbs			
Propylene Glycol							
			33. lbs				
Water				q.s.			
Final Yield				100.00 lbs			
Final field				201 00.00T			

IN CONCLUSION...

- Organoleptic Evaluation
 - → Could the average person mistake the sample for an alcoholic beverage?
- Certification
 - → Many ways to certify
- Can you find the mistakes?
 - → How did you do?
 - → Use the many resources available to help!

- Drawback Tutorial
- Calculation Worksheets
 - → Box #9 and #10
 - → Unfit Guidelines
- Pay.gov
- FONL (Fall 2009)





Drawback Tutorial



We are providing you with this tutorial to show a more effective way to fill out TTB Form 5154.1. Guidelines for submissions of nonbeverage product formulas to the Nonbeverage Products Laboratory and sample calculations for items 9 & 10 are provided for the most common types of submissions. We have found that roughly 80 to 90% of the submissions fall under two categories:

- 1. Simple mixtures (with and without filtration)
- 2. Washed extracts of essential oils

Compounded flavors are the most frequently encountered by the Laboratory and will serve as examples for simple mixtu calculations for washed extracts are also included. Even if your product does not strictly adhere to these formats, pleas calculations because much of the information can be applied to other types of products.

The first twelve topics cover an array of issues that should help you better understand the requirements for approval of product formula. The rest of the topics include example calculations for the scenarios discussed above.

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TTB F 5154.1

Important definitions

TTB actions on formulas

Naming nonbeverage products

Format of submissions (entries in item 13)

TTB Form 5154.1 - common mistakes

Classes of ingredients

What Makes a Product Unfit?

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.

Ingredient	Amount
Black pepper powder	3.6 g/100 ml @ 95% v/v ethanol
Citric acid	If the ethanol content is $\le 30\% \text{ v/v}$, citric acid should be at least [(0.1 \times the ethanol content) + 0.5] g/100 mL. If ethanol content is $\ge 30\% \text{v/v}$, citric acid should be at least [0.1 \times the ethanol content] g/100 mL. (The ethanol content is defined as the upper end of the range in item 10 on TTB form 5154.1)
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.

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.

- Calculation Worksheets
 - → Box #9 and #10
 - Unfit Guidelines

Calculation of items 9 & 10

Simple mixture 1

Simple mixture 2 (including discussion about yield)

Simple mixture 3 (includes a disapproved intermediate formula)

Simple extract

Washed extract (with multiple sources of ethanol)

Dietary Supplements 1

Dietary Supplement 2

Calculation Worksheets



E-mail Updates

Drawback Tutorial

Back to Nonbeverage Products Laboratory page

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TTB F 5154.1

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Important information about 1. solutions

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Submitting samples with TTB Form 515

Revisions to Approved Formula:

Acids as flavoring chemicals

Food products containing ethanol

Vanilla Extracts and Vanilla Flavor

Botanicals allowed in flavors

What is density?

What is specific gravity?

Important unit conversion

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Simple mixture 1

Simple mixture 2 (including discussion about yield)

Simple mixture 3 (includes a disapproved intermediate formula)

Simple extract

Washed extract (with multiple sources of ethanol)

Dietary Supplements 1

Dietary Supplement



Worksheets for calculating items 9 and 10:

Simple Mixtures and Filtrations / Simple Mixture 1 / Simple Mixture 2 / Simple Mixture 3 / Extracts / Extracts 1 / Extracts 2 / Dietary Supplements / Dietary Supplements 1 / Dietary Supplements 2 / Return to Tutorial

Click here to download the instructions to use the worksheets

Simple Mixture 1

Example worksheet. Formula information on this example can be for

Simple Mix with Yields

Example worksheet. Formula information on this example can be fi

* Notice that this formula has a disapproved intermediate, and an a

1% Solution Example

Example worksheet. Formula information on this example can be

* You will see "see tutorial" in the tolerance for box#10. The value occurs with alcohol values 2 90% or \$0.5%. Click here to open th appropriate range for box #10.

Return to Top

Extracts:

Worksheets have been created using 2 sets of units. Click on the

pounds / gallons

Click here to download the instructions to use the worksheets

Extract 1

Example worksheet Formula information on this example can be

* The starting menstruum for this is only alcohol and water

Extract 2

Example worksheet. Formula information on this example can be

"The starting menstruum for this is alcohol, water, an intermediati

Return to Top

Dietary Supplements

Worksheets have been created using 2 sets of units. Click on the

calculation worksheel pounds / gallons

wf. gunces / fluid ounces

Click here to download the instructions to use the worksheets

Dietary Supplments 1

Example worksheet. Formula information on this example can be

* This is for a dry herb

Dietary Supplments 2

Simple Mixtures and Filtrations:

Worksheets have been created using 2 sets of units. Click on the appropriate set of units below to download the calculation worksheet.

pounds / gallons

kilograms / liters

Click here to download the instructions to use the worksheets.

Simple Mixture 1

Example worksheet. Formula information on this example can be found here in the tutorial.

Simple Mix with Yields

Example worksheet. Formula information on this example can be found here.

* Notice that this formula has a disapproved intermediate, and an actual and theoretical yield.

1% Solution Example

Return to Top

Example worksheet. Formula information on this example can be found here.

* You will see "see tutorial" in the tolerance for box#10. The value is out of the range the worksheet will calculate. This occurs with alcohol values ≥ 90% or ≤ 0.5%. Click here to open the tolerance table from the tutorial and find out the appropriate range for box #10.

* This is for a wet herb with a known moisture content. If there is a range in the moisture content, the average value

1) For sources of **ELIGIBLE** alcohol in your formula:

			1,50		
]	Col 2	Col 3	Col 4	Col 5	Col 6
Formula Component	Weight (pounds)	Density (Ibs/gal)	Volume (Gallons)	Alcohol Content	Absolute Gallons of Ethanol
Eligible Alcohol Sources			Col 2 ÷ Col 3	as decimal	Col 4 × Col 5
190 Proof Alcohol	25	6.79434	3.680	0.95	3.496
Raspberry Fl. #12 (disapprov	4.1	8.039	0.510	0.05	0.026
Source 3			•		•
Source 4					
Source 5			101		
Sum of Absolute Gallons of Ethanol for Eligible Alcohol (Sum #1)					3.521

2) For sources of other (INELIGIBLE) alcohol:

Formula Component	Weight (pounds)	Density (lbs/gal)	Volume (Gallons)	Alcohol Content	Absolute Gallons of Ethanol
Other Alcohol Sources			Col 2 ÷ Col 3	as decimal	Col 4 × Col 5
Source 1			10.7		-
Source 2			.50		
Source 3			-		-
Source 4					
Source 5			-		
Sum of Absolute Gallons of Ethanol for other sources of alcohol (Sum # 2)					0.000

3) Calculation of item 9 (eligible alcohol)

	Weight (pounds)	Density (Ibs/gal)	Volume (Gallons)	Sum # 1	3.521
Actual Yield	97	8.7	11.149	actual yield (gallons)	11.149
				Item 9	31.581

4) Calculation of item 10 (total alcohol)

	Weight (pounds)	Density (Ibs/gal)	Volume (Gallons)	Sum # 1 + Sum #2	3.521	Toleran item	200
Theoretical Yield	100	8.7	11.494	theoretical yield (gallons)	11.494	simple mixture	other process
				Item 10	30.633	± 1.5	± 2.5

[(Sum #1 + Sum #2) + theoretical yield] × 100

DEPARTMENT OF THE TREASURY FORMULA NUMBER BUREAU OF ALCOHOL, TOBACCO AND FIREARMS FORMULA AND PROCESS FOR NONBEVERAGE PRODUCT (See instructions attached-Prepare in triplicate, except if manufactured abroad) PROOF OF SPIRITS ON WHICH 3 NAME OF PRODUCT CHECK IF SAMPLE 5. NUMBER OF DAYS TO DRAWBACK WILL BE CLAIMED COMPLETE PROCESS WILL BE SUBMITTED Alcohol 190 Proof Natural Raspberry Flavor WONF Disapproved # 12 CHECK KIND OF PRODUCT: FORMULAS SUPERSEDED 6. NAME OF THE MANUFACTURER & ADDRESS WHERE PRODUCTS WILL BE PRODUCED (if multiple production sites, list other addresses on reverse). ☐ MEDICINE/ MEDICINAL PREPARATION FLAVOR/ FLAVORING EXTRACT Company Inc. ☐ FOOD PRODUCT 9. ELIGIBLE ABSOLUTE ALCOHOL 10. ALCOHOL CONTENT BY VOLUME 1111 Road Way OF FINISHED PRODUCT. VOLUME USED. (See instructions) City, State 11111 31.44 30.6 ± 2.5 11. IF MADE WITH RECOVERED SPIRITS ELIGIBLE PLUS RECOVERED ABSOLUTE ALCOHOL BY VOLUME USED. (See instructions). B. DOES PRODUCT CONTAIN GREATER THAN 0.1% ARTIFICIAL FLAVORING/Excluding Vanilin, Ethyl Vanilin, Mattol, Ethyl Mattol C. STATE PARTS PER MILLION IN PRODUCT OF: VANILLIN ETHYL VANELER SYNTHETIC MALTOL D. DOES PRODUCT CONTAIN A COLOR ADDITIVE? IF YES WHICH F. ADE ALL INCREDIENTS APPROVED BY FINA FOR USE WITHOUT LIMITATION OR DESTRICTIONS AYES OR NO Alcohol 190 Proof 25.0 lbs (3.68 gal) 55.8 lbs Propylene glycol Citric acid, anhydrous 8.7 lbs Tannic acid 6.3 lbs Raspberry Flavor (5% alcohol, disapproved # 12) 4.1 lbs (0.51 gal) Ethyl Butyrate (0.05 lbs) and other natural esters 0.09 lbs Trans-2-Hexenal 0.01 lbs theoretical vield 100 lbs (11.5 gal) actual yield 97 lbs (11.2 gal) FILTRATION 15. SIGNATURE & TITLE OF APPLICATION OR AUTHORIZED AGENT 16. DATE. A. Discount III A. Discount III 6/21/2004 (123)456-7890 APPLICANT: PLEASE MAKE NO ENTRY BELOW THIS LINE. 17. LABORATORY SAMPLE NUMBER. 19. ALCOHOL BY VOLUME. 20. ANALYST 21. DATE

Simple Mixtures and Filtrations

	Col 2	Col 3	Col 4	Col 5	Col 6
Formula Component	Weight (pounds)	Density (Ibs/gal)	Volume (Gallons)	Alcohol Content	Absolute Gallons of Ethanol
Eligible Alcohol Sources	-63-		Col 2 ÷ Col 3	as decimal	Col 4 × Col 5
190 Proof Alcohol	55	6.79434	8.095	0.95	7.690
Source 2			-		-
Source 3			-		2
Source 4			-		-
Sum of Absolute Gallons of Ethanol for Eligible Alcohol (Sum #1)					7.690

For sources of other (INELIGIBLE) alcohol Weight Density Volume Alcohol Absolute Gallons of

23

volume of starting menstruum = sum of volumes of soluble components

9.79

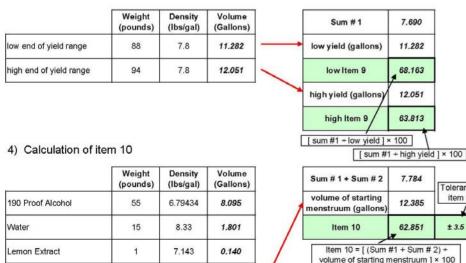
Formula Component	(pounds)	(lbs/gal)	(Gallons)	Content	Ethanol
Ineligible Alcohol Sources			Col 2 ÷ Col 3	as decimal	Col 4 × Col 5
Lemon Extract TTB#8180	1	7.143	0.140	0.671	0.094
Source 2			•		•
Source 3			-		-
Source 4		8	-		-
Sum of Absolute Gallons of Ethanol for other sources of alcohol (Sum # 2)					0.094

3) Calculation of item 9

Glycerin

menstruum

Volume of starting



2,349

12.385



1) For sources of EL	IGIBLE a	lcohol in v	our formula:			DEPARTMEN OF ALCOHO				L	1. FORMULA	NUMBER 85
.,			our rommuna.		FORMULA AND					DUCT	2. KIND (e.g. Alcol	
3	Col 4	Col 5	Col 6	ı	(See instructions a							IRITS ON WHICH
	Volume	Alcohol	Absolute fl oz of		3. NAME OF PRODUCT.		4	. CHECK IF	SAMPLE	5. NUMBER OF DAYS TO	DRAWBACK WI	ILL BE CLAIMED.
Formula Component	200000000000000000000000000000000000000				Llawhal Estraat			WILL BE S	SUBMITTED	COMPLETE PROCESS	Alcohol	190 Proof
Eligible Alcohol Sources	(fl oz)	Content as decimal	Ethanol Col 4 × Col 5		Herbal Extract					1	Alcohol	130 1 1001
	7	7			6. NAME OF THE MANUFACTURER & A	ADDRESS WHE	RE PRODUC	CTS WILL		D OF PRODUCT:	8. FORMULA	S SUPERSEDED.
Source 1	80.000	0.95	76.000		BE PRODUCED (if multiple production site	tes, list other add	dresses on re	verse).	☐ MEDICINE/N	MEDICINAL PREPARATION ORING EXTRACT		
Source 2			0.000		Company Inc. 1111 Road Way				9. ELIGIBLE AI	DCT PERFUME BSOLUTE ALCOHOL	10. ALCOHOL O	CONTENT BY VOLUME
Source 3			0.000		City, State 11111				100000	ED. (See instructions)	0.0000000000000000000000000000000000000	ED PRODUCT.
20			2000 TODA TODA TO		11. IF MADE WITH RECOVERED SPIRIT	re: In	IE EINIEHED DE	PODLICT IS TO E	69.8 BE USED IN ALCOHO	86 - 79.86	65.2	205 +/- 5
Source 4			0.000		ELIGIBLE PLUS RECOVERED ABSOLUT BY VOLUME USED. (See instructions).	TE ALCOHOL ,	A DOESPRODUCT	CONTAIN NATURA	L FLAVORING? (YES O	R NO)		
Sum of Absolute fl oz of					***************************************		B. DOES PROD	UCT CONTAIN G	REATER THAN 0.1%	ARTIFICIAL FLAVORING/Excluding	y Vanillin, Ethyl Vanil	In,Mattol, Ethyl Mattol(?
Ethanol for Eligible Alcohol			76.000				C. STATE PAR	RTS PER MILLIO	N IN PRODUCT OF	F VANILLIN	ETHYL VANILLIN	
(Sum #1)		5						IC MALTOL		ETHYL MALTOL		
						1.5	D. DOES PRODUCT			IF YES, WHICH? OUT LIMITATION OR RESTRICTION? (YE	E OR MAIL	
2) Calculation of iten	n 9			cum #1 : low viold 1 v 100	13. FORMULA AND PROCESS (Use Additional Space of			JEHI SAFFROVED	BT FUNTOR GGC WITH		o on woy	
				sum #1 + low yield] × 100	Alcohol 190 proof Herb					80 fl. oz. 35 oz.		
	Volume	1 1	Sum # 1	76.000	Moisture Content of Her					19.5 +/- 2%		
-2	(fl oz)		Cuit # 1	70.000		ID						
high end of yield range	108.790		low Item 9	69.859	Water					30 fl. oz.		
low end of yield range	95.168		high Item 9	79.859	Yield					95.168 - 108.7	9 fl. oz.	
			Lourn #1 + high viol	11 × 100								
			[sum #1 + high yiel	1] * 100]	14. CONTACT PERSON (Include Area Code &	Phone No.) 15	5 SIGNATUE	RE&TITLE	OF APPLICATIO	N OR AUTHORIZED AGEN	т Т	16. DATE.
3) Calculation of iten	n 10				Mr. Taxtrade (123)456-7890	2000 CONT.	Mr. 7ax				1000	9/6/2002
-,					71	APPLI	CANT: PLEA	ASE MAKE N	O ENTRY BEL	OW THIS LINE.		
	Volume]			17. LABORATORY SAMPLE NUMBER.	18. ACTION.						
	(fl oz)											
Aleshal	00.000	1 1	0	70.000	19. ALCOHOL BY VOLUME.							
Alcohol	80.000		Sum # 1	76.000 Tolerance for	%							
Water	30.000	_	volume (fl oz)	116.555 item #10	20. ANALYST.							
Total Volume	116.555		Item 10	65.205 +/- 5	21. DATE							
** If your herb has a k	nown mois	sture conte	Item 10 = [(Sum liquid compo		calculator below.		ADE ABSOLETE					

If your herb has a known moisture content, make sure to use the moisture content calculator below.

The volume calculated will be automatically added to the total volume.**

	Col 4	Col 5	Col 6
			fl oz of Water from Moisture Content of Herb
Moisture Content of Herb	35.000	0.195	6.555

col 4 ×col 5 = wt oz H_2O from herb wt oz H_2O / 1.04125 wt oz/fl oz = col 6

Dietary Supplements

- Calculation Worksheets
 - → Box #9 and #10
 - Unfit Guidelines

Important information about solid extracts

Artificial versus natural vanillin

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<u>Ingredient</u>	Amount	
Black pepper powder	3.6 g/100 ml @ 95% v/v ethanol	
Citric acid	If ethanol ≤ 30% v/v – acid must be ≥ [0.1 × ethanol % + 0.5] (g/100mL)	
	Quassia powder	20.8 ppm @ 95% v/v ethanol
Cocoa nibs	Quinine	950 ppm @ 95% v/v ethanol
Essential oils	Salt (sodium chloride)	6.8 g /100 ml @ 95% v/v ethanol
Ethyl acetate Ethyl maltol		** exception for salted wines (1.5 g/100mL) - refer to 21 CFR 24.215(b) **
Ethyl vanillin	PAY 16 NO.2	
Fusel Oil	Tannic acid	1.6% by weight @ 95% v/v ethanol
Lactic acid	Triethyl citrate	2.5% by weight @ 95% v/v ethanol
Malic acid	Vanillin	3.2 av. oz./gal @ 95% v/v ethanol
Maltol		unfit at 1% by weight are presented on the lists for <u>artificial</u> and <u>natural</u> flavors. a product unfit (at the prescribed levels) in the absence of masking agents
Propylene glycol	such as sweeteners.	a product a ma (at the processor to total) in the about to the about t
		is available for download. This worksheet will calculate the amount needed of
Quassia powder		thanol content and the amount of that ingredient, in the units used in the table,
Quinine	that is in the product.	
Salt (sodium chloride)	Download Calculation Worksheet pounds / gallons	
Tannic acid	grams / milliliters	
Triethyl citrate	uy weigni @ عتم ww etnanui	
Vanillin	3.2 av. oz./gal @ 95% v/v ethanol	
	cals that make a formula unfit at 1% by weight are presented on the lists for <u>artificial</u> and <u>natural</u> flavors. s on these lists will make a product unfit (at the prescribed levels) in the absence of masking agents	
	on the above guidelines is available for download. This worksheet will calculate the amount needed of duct unfit based on the ethanol content and the amount of that ingredient, in the units used in the table,	
Download Calculation Workshopounds / gallons grams / milliliters	pet .	

What Makes a Product Unfit?

In the absence of materials that will make the product more palatable (sugar, glycerin, high fructose com 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.

This list is intended only as a guide and is not applicable to all produ	
Ingredient	Amount
Black pepper powder	3.6 g/100 ml @ 95% v/v ethanol
Citric acid	If ethanol \leq 30% v/v – acid must be \geq [0.1 × ethanol % + 0.5] (g/100mL) If ethanol $>$ 30% v/v – acid must be \geq [0.1 × ethanol %] (g/100mL) (The ethanol content is defined as the upper end of the range in item 10 on TTB Form 5154.1)
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 ethanol \leq 30% v/v – acid must be \geq [0.14 × ethanol % + 0.5] (g/100mL) If ethanol > 30% v/v – acid must be \geq [0.14 × ethanol %] (g/100mL) (The ethanol content is defined as the upper end of the range in item 10 on TTB Form 5154.1)"
Maltol	5,3% by weight @ 95% v/v ethanol
Propylene glycol	Equal amounts by volume of ethanol and propylene glycol (the amount of ethanol is 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 *** exception for salted wines (1.5 g/100mL) – refer to 21 CFR 24.215(b) ***
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

Calculation Worksheets for Guidelines Units: pounds and gallons

Black Pepper Powder

3.6 g/100 mL at 95% ethanol v/v

Alcohol Content	Minimum Value	
(upper end of	Needed to Make	
range in item 10)	Product Unfit	
	0.00	

Amount of Black	Volume of Final	g / 100 mL of
Pepper Powder	Product	Black Pepper
(pounds)	(gallons)	Powder
		-

Citric Acid

Ethanol $\leq 30\%$ v/v – acid must be $\geq [(0.1 \times \text{ethanol }\%) + 0.5]$ (g/100 mL)

Ethanol > 30% v/v - acid must be ≥ [0.1 × ethanol %] (g/100 mL)

	Alcohol Content (upper end of range in item 10)	Minimum Value Needed to Make Product Unfit
Ethanol ≤ 30% v/v		0.50

Amount of Citric Acid (pounds)	Volume of Final Product (gallons)	g / 100 mL of Citric Acid

	Alcohol Content (upper end of range in item 10)	Needed to Make
Ethanol > 30% v/v		0.00

Amount of Citric Acid (pounds)	Volume of Final Product (gallons)	g / 100 mL of Citric Acid

Cocoa Nibs

10.6 lbs/gal at 95% ethanol v/v

Alcohol Content	Minimum Value	
(upper end of	Needed to Make	
range in item 10)	Product Unfit	
	0.00	

Amount of Cocoa Nibs (pounds)	Volume of Final Product (gallons)	Ibs/gal Cocoa Nibs

Essential Oils

Most essential oils are unfit at 3%

See tutorial for more information on extracts

Alcohol Content	Minimum Value	
(upper end of	Needed to Make	
range in item 10)	Product Unfit	
	0.00	

Amount of Essential Oil (pounds)	Weight of Final Product (pounds)	% by weight of Essential Oil
		2

Ethyl Acetate

2.1% by volume at 95% v/v ethanol

Alcohol Content	Minimum Value
(upper end of	Needed to Make
range in item 10)	Product Unfit
	0.00

Amount of Ethyl Acetate (pounds)	Volume of Final Product (gallons)	% by volume of Ethyl Acetate

Triethyl Citrate

2.5% by weight at 95% v/v ethanol

Alcohol Content	Minimum Value
(upper end of	Needed to Make
range in item 10)	Product Unfit
	0.00

Amount of Triethyl Citrate (pounds)	Weight of Final Product (pounds)	% by weight of Triethyl Citrate
		-

Vanillin

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

Alcohol Content	Minimum Value
(upper end of	Needed to Make
range in item 10)	Product Unfit
43.8	1.48

Amount of Vanillin (pounds)	Volume of Final Product (gallons)	av.oz. / gal of Vanillin
2.2	12.8	2.75

Flavor Chemicals unfit at 1%

1% by weight at 95% v/v ethanol

Alcohol Content (upper end of range in item 10)	Needed to Make
	0.00

Amount of Flavor Chemical (pounds)	Weight of Final Product (pounds)	% by weight of Flavor Chemical	
		-	

* Denotes a Required Field

OMB No. 1513-0021 (07/31/2008)

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ALCOHOL AND TOBACCO TAX AND TRADE BUREAU FORMULA AND PROCESS FOR NONBEVERAGE PRODUCT					1. FORMULA NUMBER						
					111						
			pare in triplica					*2. KIND (ON WHICH	e.g. Alcohol, Run I DRAWBACK W	n) & PROOF O	F SPIRI ED.
3. NAME OF PRODUCT Natural Raspberry Flavor We	ONF			CK IF SAME BE SUBMITT		# OF DAY: MPLETE P		190 Proof	Ethanol		
6, NAME OF MANUFACTURE WILL BE PRODUCED (If multi)			ERE PRODU).	C		MEDICINAL	PREPARATIO			EDED
*NAME : Company Inc.					-	FOOD PRO	-	ALCOHOL	10.ALCOHOL		0
'ADDRESS 1111 Road W	ay					VOLUME (ALCOHOL	OF FINISHED		
ADDRESS 2						IC MADE	HITU DEC	79	30,53 IRITS: ELIGIBLE		%
CITY: City									USED (See Inst		VEREU
STATE: MD					1			0.0	0 %		
ZIP 11111 CO	UNTRY: U	SA									
B. DOES PRODUCT CONTAI C. STATE PARTS PER MILLI D. DOES PRODUCT CONTAI E. ARE ALL INGREDIENTS A	ON IN PROD	OUCT OF OR ADD	: Synthetic V	anillin <u>0.0</u>	F YES, W	thyl Vanillin VHICH?	0.0	Synthetic N		_Ethyl Maltol	NO 0.0
13. FORMULA AND PROCESS	S Please se	elect if yo	u will be using	English or I	Metric for	measurem	ents.	English	O Metric		
Alcoholic Components/ Compounded Flavors	Wt	Vol gals	Eligible Alcohol %	Total Alcohol %	Colors	Limited Ingred.	TTB#		Information		
190 Proof Ethanol	25.000	3.680	95.000	95.000	NO	NO	NO				
Raspberry Essence	4.100	0.510	0.000	3.000	NO.	NO	YES	TTB #100			
Propylene Glycol	55,800	5.466	0.000	0.000	NO	YES	NO	PG			
	0.000	0.000	0.000	0.000				1			
	0.000	0.000	0.000	0.000							
	0.000	0.000	0.000	0.000							
	0.000	0.000	0.000	0.000				1			
	0.000	0.000	0.000	0.000				1			
	0.000	0.000	0.000	0.000							
	0.000	0.000	0.000	0.000				1			
*The formula/process is a: (Re for Yield fields)			inal Product		ical Yield	- L	1.500	gals 'A	ctual Yield Vol	11,500	gals
Simple Mixture	8.0	596	lbs/gals	_ *Theoret	ical Yield	w E	00.000	ths 'A	ctual Yield Wt	100.000	lbs
4. CONTACT PERSON (Included)	*Last Name			Signatur			F APPLICA	NT OR AUT	H. AGENT	16. DATE	
Annualment			APPLICANT	PLEASE MAX	E NO EN	TRY BELOW	THIS LINE			-1	
17. LABORATORY SAMPLE N	IUMBER		1	18. ACTION							
19. ALCOHOL BY VOLUME			%								
20. ANALYST											
21. DATE											
TTB F 5154.1 (5/2005) (Formerly a EDITIONS OBSOLETE	ATF F 678 (55	30.5)) PRI	EVIOUS								

Flavor		

The non-alcoholic components of the formula should be disclosed in the tables below. Flavor materials may be grouped together by chemical class or may be listed individually. Limited ingredients must be listed individually. Solvents (such as water and glycerin) should also be listed as individual ingredients. Ingredients Sig Group:

Natural or Artificial	Name of Predominant Flavor Chemical	FEMA# of Predominant Flavor	Weight of Predominant Flavor Chemical Its	Flavor Chemical Class (e.g.: natural aldehydes, artificial ketones, etc.)	Total Wt of Class lbs
Nat.	Ethyl Butyrate	2427	0.050	Natural Esters	0.090
			0.000		0.000
		_	0.000		0.000
		_	0.000		0.000
7		_	0.000		0.000
		_	0.000		0.000
		_	0.000		0.000
		_	0.000		0.000
_			0.000		0.000
			0.000		0.000

Individual Ingredients

Natural or Artificial	Name of Ingredient	Additional Information	Weight
Nat.	Trans-2-Hexenal		0.010
	Citric Acid		8.700
	Tannic Acid		5.300
			0.000
			0.000
			0.000
			0.000
			0.000
			0.000
			D.000
			0.000
			0.000
			0.000
			0.000
			0.000
			0.000
			0.000
			0.000
			0.000
			0.000

Provide a textual description of the process or details

This product is unfit based on the level of PG.

PG = 56.22% by volume which is greater then the alcohol content.

- Formulas Online (FONL)
 - → Online submission
 - → Automatic Calculations
 - → And other exciting features!

Fall 2009!

ANY QUESTIONS??

For more information go to: www.ttb.gov/ssd



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