

TTB Webinar: Domestic Wine Formulas

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TTB Disclaimer

Notice:

- This information is being presented to help the public to understand and comply with the laws and regulations that the Alcohol and Tobacco Tax and Trade Bureau (TTB) administers.
- It is not intended to establish any new, or change any existing, definitions, interpretations, standards, or procedures regarding those laws and regulations.
- In addition, this presentation may be made obsolete by changes in laws and regulations.
- Please consult the applicable laws and regulations for the most current requirements.





General Formula Background



Common Formula Questions

- What is a formula?
- Why is a formula required?
- When is a formula required?
- How is a formula submitted?



What is a Formula?

- A formula is a recipe.
- It must indicate a Total Yield, or Batch Size.
- It must have a quantitative list of ingredients.
- It must include a description of how the product is produced.
- It must provide the alcohol content of the finished product.



Why is a Formula required?

- Regulation requirement - 27 CFR 24.80
- Formula review finds a “home” for a product and assigns it a particular classification.
- A Statement of Composition describes the product in a generic fashion and identifies the base product and any added flavoring or coloring materials. For example “Grape Wine with Natural Flavors and Certified Colors.”



When are Formulas required?

- TTB Industry Circular 2007- 4 lists formula requirements for wine, distilled spirits, and malt beverages. Not all products require a formula and consulting these commodity-specific charts prior to submission clarifies if a formula is required.
- In general, a wine formula is required if:
 - Flavors with or without alcohol are added
 - Compounded flavors are added
 - Colors are added
 - Artificial sweeteners are used.
 - The base wine is not produced according to regulatory requirements.



How to Submit a Formula

- Electronic Submission - *Formulas Online* is part of TTB Online.
- Paper Submissions - use *TTB F 5100.51* and mail to TTB.



What TTB Looks For

- Correct designation (Class and Type) – Is the base produced according to the relevant regulation?
- Colors, flavors, and artificial sweeteners.
- Flavors and Flavor Ingredient Data (FID) sheets.
- GRAS (generally recognized as safe) ingredients.
- Restricted and Prohibited Ingredients.



Helpful Hints

- Supply a quantitative list of ingredients.
- Provide a complete method of manufacture.
- Flavor Ingredient Data Sheets (FIDS) should include a TTB number, a Flavor Product Number, and the TTB Approval status (Nonbeverage Lab Approval).
- Provide the common name and scientific name (genus and species) for any unusual herbal ingredients. Ensure that ingredients are GRAS (generally recognized as safe).





Wine Types



Wine Classes

Wine products can be grouped into several kinds of wine.

- *Natural Wine*
- *Special Natural Wine*
- *Other than Standard Wine/ Wine Specialty*
- *Agricultural Wine*

Wine standards of identity are defined in 27 CFR 4.21 while production requirements are stated in 27 CFR 24.





Natural Wine



Production Requirements

- A natural wine does not require a formula, provided the wine is produced according to the stated standards in the regulations.
- However, a natural wine base is often used in the production of a wine specialty product. Background information regarding natural wines useful when explaining Other than Standard Wines/Wine Specialty requirements.
- 27 Code of Federal Regulations (CFR) part 24: Wine
 - Subpart D: Establishment and Operations
 - Subpart F: Production of Wine
 - Subpart G: Production of Effervescent Wine
 - Subpart L: Storage, Treatment, and Finishing of Wine



Natural Wine Requirements

- Natural wine – Product of the juice or must of sound, ripe fruit and containing not more than 21 percent by weight of solids.
- Natural wine may be:
 - Ameliorated
 - Chaptalized
 - Sweetened
- Natural wine may be fortified.



Natural Grape Wine Requirements

- Crushing and fermentation
 - Added water cannot reduce Brix below 22 degrees (SG 1.092).
 - Before or during fermentation, you can add:
 - Water
 - Sugar or concentrated fruit juice from the same kind of fruit
 - Yeast
 - Yeast nutrients
 - Malo-lactic bacteria
 - Sterilizing agents



Natural Wine Requirements

- Brix is a measurement for sugar.
- 1 degree Brix = 1% sugar by weight
- Many wineries use specific gravity for their sugar measurements.
- Specific gravity is a measurement for density.
- 1.0 specific gravity – water
- Specific gravity to Brix calculators available online.



Natural Grape Wine Requirements

- Amelioration
 - Only for juice having a fixed acid level exceeding 5.0 grams per liter.
 - Grape Wines (tartaric acid)
 - $FA(g/L) = TA - 1.25*VA$
 - The fixed acid level of the final product cannot be less than 5.0 grams per liter.
 - If FA is 7.69 g/L or higher, a maximum of 538.4 liters of ameliorating material to 1000 liters of wine or juice.
 - Ameliorating materials are sugar, water, or a sugar-water solution.



Natural Grape Wine Requirements

- Chaptalization
 - Only pure dry sugar or concentrated fruit juice from the same fruit may be used.
 - Original density cannot be raised to more than 25 degrees Brix (SG 1.106).
 - If grape juice or grape wine is ameliorated after chaptalization, the sugar is counted as ameliorating material.



Natural Grape Wine Requirements

- Sweetening
 - Sugar, fruit juice, or concentrated fruit juice of the same kind of fruit may be used.
 - Natural grape wine, less than or equal to 14% abv.
 - Total solids cannot exceed 21 percent by weight
 - Natural grape wine, more than 14% abv
 - Total solids cannot exceed 17 percent by weight.



Natural Grape Wine Requirements

- Addition of acids in natural grape wine:
 - Before or during fermentation, tartaric or malic acid may be added
 - After fermentation, citric acid, fumaric acid, malic acid, lactic acid, or tartaric acid may be added.
 - Fixed acid level of finished wine cannot exceed 9.0 g/L.
 - If the wine contains more than 8.0 grams of total solids per 100 ml, finished wine cannot contain more than 11.0 g/L of fixed acid.



Wine Treating Materials

- All natural wines must be made with authorized treating material listed at 27 CFR 24.246 or the items administratively approved on TTB's website.
 - (http://www.ttb.gov/wine/wine_treating_materials.shtml)
- The use of an unapproved treating material may render the product an “other than standard wine.”



Adding Spirits

Domestic Products:

- Only domestic wine spirits (26 U.S.C. 5373) can be used.
- The spirit is produced only from natural wine, special natural wine, or fruit wine.
- Water cannot be added to reduce the spirit's proof.
- Spirit is distilled at 140 proof or higher, except that commercial brandy aged for at least two years may be stored at 100 proof or higher.



Adding Spirits

- Tax paid alcohol may not be used.
- Base wine must ferment to at least 0.5% abv.
- Added spirits cannot raise alcohol content above 24% abv.
- No requirements on the percentage of the total alcohol that must come from the wine.





Special Natural Wine



Special Natural Wine

- 27 CFR 24 Subpart H defines the production of a special natural wine.
- Prior to production, a special natural wine requires a formula.
- A special natural wine must contain a natural wine as its base.
- The flavoring added may include natural herbs, spices, fruit juices, natural aromatics, natural essences, or other natural flavorings. 27 CFR 24.195
- Only 100% natural flavors may be used for flavoring.
- Only caramel color may be used for coloring purposes.





Other than Standard Wine & Wine Specialty



Other than Standard/Wine Specialty

Classes of wine other than standard –
4.21(h)(2) / 24.218

- Includes wine treated with excess sugar and water.
- Wine made with sugar other than pure dry sugar, liquid pure sugar, and invert sugar syrup.
- Wine made with materials not authorized for use in standard wine.



Wine Specialty

- TTB provides a suggested statement of composition during formula review.
- TTB's suggestion is general; industry can choose to be more specific. Not a complete list of ingredients.
- FD&C Yellow #5 and carmine/cochineal extract must be explicitly listed.
- No statement of composition is provided for wines under 7% abv.



Statement of Composition

- For wine specialties, statements of composition must state:
 - 1)Source(s) of alcohol
 - If the spirits are added that are not from the same fruit, then they must be listed
 - 2)the flavors
 - 3)the colors
 - 4)the artificial sweeteners
- E.g., “Carbonated grape wine with orange brandy, artificial flavors, and cochineal extract.”



Statement of Composition

- Statements of composition do not state:
 - Water
 - Yeast or yeast nutrients
 - Sugar
 - Preservatives
 - Processing aids
 - Wine spirits from the same fruit as the base wine.



Statement of Composition

- If different fermentables are combined before fermentation, the SOC lists all of them followed with the word “wine.”
 - e.g., “Honey-apple-grape wine.”
- If different types of finished wine are combined, the SOC lists them as separate wines.
 - e.g., “A blend of Grape and Rhubarb wines.”



Wine Kits

- Ingredients for base wine must meet the requirements under 27 CFR part 24.
- Flavors are often referred to as “flavor packs” or “f packs.”
- These flavors are often compounded flavors that have flavor ingredient datasheets (FIDs) listing the concentration of limited ingredients.





Agricultural Wine



Class and Type Designations

- Agricultural Wine – 4.21(f) / 24.200
- Made from non-fruit agricultural products (except grain, cereal, malt, or molasses)
- Pure dry sugar may be added before fermentation, as long as the weight is less than the weight of the water and the agricultural product.
- May not be flavored or colored.
- May only be sweetened if the alcohol content is less than 14% abv.



Class and Type Designations

Formula review not required for these types of agricultural wine, as per TTB Ruling 2016-2:

- Honey Wine
- Carrot Wine
- Dried Fruit Wine
- Maple Syrup Wine
- Onion Wine
- Pepper Wine
- Pumpkin Wine
- Rhubarb Wine
- Sweet Potato Wine
- Tomato Wine





Nonbeverage Wine



Nonbeverage Wine

- Formulas required for salted wine and vinegar.
- Salted wine must contain at least 1.5 grams of salt per 100 ml of wine as per 24.215(b).



Summary & Questions

