

**DEPARTMENT OF THE TREASURY****Alcohol and Tobacco Tax and Trade Bureau****27 CFR Part 24**

[T.D. TTB-61; Re: T.D. TTB-17]

RIN 1513-AA96

**Materials and Processes Authorized for the Treatment of Wine and Juice (2004R-517P)****AGENCY:** Alcohol and Tobacco Tax and Trade Bureau (TTB), Treasury.**ACTION:** Final rule; Treasury decision.

**SUMMARY:** The Alcohol and Tobacco Tax and Trade Bureau is adopting as a final rule, with minor technical changes, temporary regulations that revised the list of materials authorized for the treatment of wine and juice and the list of processes authorized for the treatment of wine, juice, and distilling material. The regulatory amendments involved the addition of new materials and processes and changes to the limitations on the use of certain approved materials.

**DATES:** *Effective Date:* September 11, 2007.

**FOR FURTHER INFORMATION CONTACT:** Jennifer Berry, Alcohol and Tobacco Tax and Trade Bureau, Regulations and Rulings Division, P.O. Box 18152, Roanoke, Virginia 24014; telephone 540-344-9333.

**SUPPLEMENTARY INFORMATION:****Background**

Section 5382 of the Internal Revenue Code of 1986 (26 U.S.C. 5382) provides that proper cellar treatment of natural wine constitutes those practices and procedures that produce a finished product acceptable in good commercial practice. Section 5382 also authorizes the Secretary of the Treasury to prescribe, by regulation, limitations on the use of methods and materials for clarifying, stabilizing, preserving, fermenting, and otherwise correcting wine and juice.

The regulations administered by the Alcohol and Tobacco Tax and Trade Bureau (TTB) include, in 27 CFR part 24, provisions that implement these statutory requirements. Section 24.246 of the TTB regulations (27 CFR 24.246) lists materials authorized for the treatment of wine and juice; 27 CFR 24.247 lists materials authorized for the treatment of distilling material; and 27 CFR 24.248 lists processes authorized for the treatment of wine, juice, and distilling materials.

Industry members wishing to experiment with, or commercially use, a treating material or process not specifically authorized in part 24 may file an application with TTB requesting authorization to use the new material or process. Standards regarding the experimental use of a new material or process are set forth in § 24.249 (27 CFR 24.249). The provisions covering applications for commercial use of a new material or process are contained in § 24.250 (27 CFR 24.250). Applications for commercial use must show that the proposed material or process is a cellar treatment consistent with good commercial practice. In general, good commercial practice includes addressing the reasonable technological or practical need to enhance the keeping, stability, or other qualities of the wine, and achieving the winemaker's desired effect but not creating an erroneous impression about the character and composition of the wine.

**Publication of Temporary Rule**

Over the past few years, TTB received and approved a number of applications for experimental or commercial use of various wine and juice treating materials and processes. TTB concluded that there appeared to be enough analytical data or other information on those materials and processes to add them to the lists of authorized materials and processes contained in §§ 24.246 and 24.248. Since we had already given administrative approval for the use of these materials and processes to some industry members for bottling and sale of wine under § 24.249(e), or for commercial use under § 24.250, we decided to make these additions to the lists through a temporary rule. This would allow domestic winemakers to use these treatments in the production of standard wine, pending final regulatory action, without first having to file an application under § 24.249 or § 24.250.

Accordingly, on November 19, 2004, TTB published in the **Federal Register** (69 FR 67639) a temporary rule, T.D. TTB-17, revising the list of materials authorized for the treatment of wine and juice in § 24.246 and the list of processes authorized for the treatment of wine, juice, and distilling material in § 24.248. TTB also solicited comments from the public on the changes made by T.D. TTB-17. We discuss the submitted comments below under "Discussion of Comments."

The temporary rule added materials and processes, or revised existing listings, as follows.

*Wine and Juice Treating Materials in § 24.246***Acetaldehyde**

Acetaldehyde was added to the list. It is a natural byproduct of yeast metabolism and is used in grape juice to stabilize color prior to concentration. Residual acetaldehyde is removed during the concentration process so that the finished concentrate has no detectable level of acetaldehyde.

**Copper Sulfate**

Copper sulfate was already listed in § 24.246 for use in removing hydrogen sulfide and other mercaptans from wine. T.D. TTB-17 raised the allowable quantity of copper sulfate from 0.5 to 6 parts per million, but kept the allowable residual level at 0.5 part per million.

**Calcium Pantothenate**

Calcium pantothenate was added to the list. It is a yeast nutrient used to facilitate the fermentation of apple wine. Calcium pantothenate is a salt of pantothenic acid, one of the B complex vitamins.

**Carbohydrase (Pectinase, Cellulase, Hemicellulase) Enzyme**

Carbohydrase (pectinase, cellulase, hemicellulase) enzyme was added to the list under enzymatic activity. It is a mixed carbohydrase (pectinase, cellulase, hemicellulase) enzyme preparation derived from a nonpathogenic, nontoxigenic strain of *Aspergillus aculeatus* used to facilitate the separation of juice from fruit. The enzyme disintegrates fruit cell walls, resulting in a quicker and more complete release of juice.

**Cellulase Enzyme Preparation**

Cellulase (beta-glucanase) was added to the list under enzymatic activity. It is a cellulase enzyme preparation derived from *Trichoderma longibrachiatum* used to facilitate the clarification and filtering of wine. The preparation is best suited to treat wines that are difficult to filter, such as those produced from *Botrytis*-infected grapes.

**Lysozyme**

*Lysozyme* was added to the list under enzymatic activity. It is an enzyme, derived from egg white, used to limit malolactic bacterial growth during wine fermentation. Unchecked, malolactic bacterial growth can adversely affect a wine's taste and can halt or slow down fermentation. Lysozyme attacks and degrades the cell walls of gram-positive bacteria, such as *Lactobacillus*, *Pediococcus*, and *Leuconostoc*. It can greatly reduce the need for sulfur

dioxide, which poses a health hazard to individuals allergic to sulfites.

#### Milk Products

Pasteurized whole or skim milk was already listed in § 24.246 as authorized for the fining of white grape wine or sherry. T.D. TTB-17 amended this listing to include half-and-half and to allow the fining of all grape wine, while keeping the approved usage rate at 0.2 percent of the volume of wine. T.D. TTB-17 also added as an authorized use the use of these milk products to remove off flavors in wine, subject to a usage rate not to exceed 1 percent of the volume of wine.

#### Silica Gel (Colloidal Silicon Dioxide)

Silica gel (colloidal silicon dioxide) was already listed in § 24.246 for use in clarifying wine. T.D. TTB-17 added the clarification of juice to its authorized uses, with the limitations on use remaining the same.

#### *Wine Treating Processes in § 24.248*

##### Electrodialysis

Electrodialysis was added to the list for use in removing excess tartrates from wine. The process consists of moving bulk wine past two membranes, one on either side of the wine. One membrane is selectively permeable to tartrate salts and the other, to calcium and potassium salts. As the wine passes between the two membranes, a water-based conductant passes on the other side of both membranes. As both liquids flow through the apparatus, a weak electrical current is introduced to cause the tartrate salts to migrate towards the positively charged membrane and the potassium and calcium salts to migrate toward the negatively charged membrane. As the tartrate, calcium, and potassium salts pass through the membranes, they enter the conductant stream and, when carried out of the apparatus, are discarded.

##### Metal and Sulfide Reducing Matrix Sheets

Metal and sulfide reducing matrix sheet processes were added to the list. The first of these two types of matrix filter sheets removes metals such as copper and iron from wine, while the second removes sulfides. Both types of sheets contain the active ingredient polyvinylimidazol (PVI), a terpolymer related to polyvinyl-poly pyrrolidone (PVPP), already listed as an approved material in § 24.246. The PVI is immobilized in a cellulose matrix sheet and constitutes, at most, 40 percent of the weight of the sheet. Wine is passed through these sheets at a controlled flow

rate using conventional filtering methods.

##### Nanofiltration

Nanofiltration was added to the list. It is used in combination with ion exchange to remove volatile acidity from bulk wine. The wine is drawn into a storage tank where it is pressurized and piped through a mechanical submicron filtration system using nanotechnology. The wine is separated into two streams: The first contains molecules of larger molecular weight, such as flavors, while the second contains molecules of smaller molecular weight, such as alcohol, water, and acetic acid. The second stream is passed through an ion exchange column, which selectively removes the acetic acid and allows the alcohol and water molecules to pass through. Upon exiting the ion exchange column, the second stream is recombined with the first stream.

##### Osmotic Transport

Osmotic transport was added to the list. It is used to reduce alcohol content in wine. The process involves two liquids, typically water solutions, which have different water vapor pressures. The solution to be treated—the “feed” solution—contains volatile components that are soluble or miscible in the receiving solution, or “stripping” solution. The membrane must be completely hydrophobic to prevent the stripping solution from passing through the membrane into the feed solution. Wine is pumped along one side of a completely hydrophobic, microporous membrane with water on the other side. The wine and the stripping solution run tangential to, and are separated by, the thin membrane. The difference in vapor pressure of the alcohol in the wine and that of the water-based stripping solution separates the alcohol and the stripping solution. The higher vapor pressure of the alcohol in the wine causes some of the alcohol to evaporate, to pass through the microporous membrane, and then to condense in the water-based stripping solution. The stripping solution is usually circulated across the membrane until the alcohol content of the feed wine and the stripping solution are essentially equal. The process is performed at ambient temperature without elevated pressure, other than just enough pressure to pump the wine. Since the separation of alcohol from a fermented substance is considered to be a distilling process, the new listing specifies that osmotic transport operations must be conducted at a distilled spirits plant premises rather than at a winery.

#### Discussion of Comments

During the public comment period, which closed on January 18, 2005, TTB received five comments on the temporary rule.

The Enzyme Technical Association commented favorably on the addition of three new enzymes to the list of approved materials and provided additional technical information to support the use of these enzymes in wine. The association also noted two misspellings throughout T.D. TTB-17. The genus name of “*Aspergillus aculeatus*” was incorrectly spelled as “*Aspergilius*”; the species name of “*Trichoderma longibrachiatum*” was incorrectly spelled as “*longibrachiatu*.” We are correcting the regulatory text in this final rule.

BASF Corporation, which manufactures a product that removes heavy metals and sulfides from alcoholic beverages, submitted a comment requesting that no limit be placed on the amount of copper sulfate that may be added to wine, even though it supported retaining the specification at a residual level of copper sulfate in wine at 0.5 ppm. The commenter further requested that we not require that polyvinylimidazol (PVI), the active material in the sulfide and metal reducing matrix sheets, be used in sheets.

TTB does not have analytical data or other information to assess these requests at this time. We also believe that adoption of such requests should be the subject of public notice and comment procedures. Accordingly, we believe that it would not be appropriate to include them in this final rule document.

TTB received two comments regarding nanofiltration. The first commenter supported adding nanofiltration to the list of approved processes, stating that it has been safely used in several other countries for years. The second commenter opposed adding nanofiltration to the list, stating that it is a subcategory of reverse osmosis, an already approved process. The second commenter also stated that recognizing nanofiltration as a new technology will create confusion in the industry and “open a can of worms legally” because of the involved patents.

In response to the opposing comment, we note that while nanofiltration and reverse osmosis may have some operational similarities, they have different uses and limitations for the treatment of wine. TTB believes it is appropriate to list these two items as separate treatments in the regulations. TTB’s regulatory intent is to provide

clarity as to what treatments and materials are authorized under 26 U.S.C. 5382, and our decision to list nanofiltration and reverse osmosis separately as wine treatments should not be perceived as a determination or implication regarding the coverage or validity of any patents.

The E. & J. Gallo Winery submitted a comment opposing the regulatory requirement that osmotic transport be conducted at a distilled spirits plant rather than at a bonded winery. The winery stated that this requirement would preclude use of the technology by small wineries and in jurisdictions that do not allow distilling activities. Also, it noted that the alcoholic stripping solution is very low in alcohol, at times lower than 0.5 percent. Further, the commenter pointed out that in T.D. ATF-371, ATF allowed the use of reverse osmosis and ion exchange on bonded winery premises. That Treasury decision, states, in part:

Normally, reverse osmosis must be done on distilled spirits plant premises because it is considered a distilling process resulting in a distilled spirits by-product. However, in this case, the various components of wine will only be created temporarily in a closed system and will be immediately recombined in-line to reconstitute the original wine minus VA. Consequently, ATF has concluded that this type of reverse osmosis may be conducted on bonded winery premises since no separate distilled spirits product is created as a final product or by-product.

The winery contends that because the stripping solution could be either immediately disposed of or mixed with a wine byproduct, such as lees, it "would not be accumulated outside the closed system; it would be immediately destroyed or immediately rendered unpotable."

TTB does not agree that the osmotic transport process is sufficiently similar to the reverse osmosis and ion exchange process cited in T.D. ATF-371 so as to support the commenter's suggestion. The stripping solution is not recombined inline with the wine as in reverse osmosis and ion exchange, but instead is accumulated outside the system. TTB agrees that it may be appropriate in future rulemaking to reexamine the core issue raised in the comment, which is whether TTB should continue to require that processes that separate spirits from wine be conducted only at distilled spirits plants. TTB would give careful consideration to a petition requesting rulemaking on this

subject. Such a petition should be addressed to the Administrator, Alcohol and Tobacco Tax and Trade Bureau, 1310 G Street, NW., Washington, DC 20220.

#### TTB Finding

After careful review of the comments received, TTB has decided to adopt as a final rule the temporary regulations set forth in T.D. TTB-17, with the spelling corrections discussed above. In addition, we are making a small technical correction to the entry for "Milk products" in the table in § 24.246. For the sake of consistency, we are adding the word "product" after "pasteurized milk" in the "Reference or limitation" column.

#### Inapplicability of the Delayed Effective Date Requirement

Because these regulations relieve a restriction by authorizing additional materials and processes for the treatment of wine and because they are already in effect, it has been determined, pursuant to 5 U.S.C. 553(d)(1) and (3), that good cause exists to issue these regulations without a delayed effective date.

#### Regulatory Flexibility Act

We certify that this regulation will not have a significant economic impact on a substantial number of small entities. This regulation provides greater flexibility to wine producers without imposing any new reporting, recordkeeping, or other administrative requirements. Therefore, no regulatory flexibility analysis is required.

#### Executive Order 12866

This rule is not a significant regulatory action as defined by Executive Order 12866 (58 FR 51735). Therefore, it requires no regulatory assessment.

#### Drafting Information

The principal author of this document was Jennifer K. Berry, Regulations and Rulings Division, Alcohol and Tobacco Tax and Trade Bureau. However, other personnel participated in its development.

#### List of Subjects in 27 CFR Part 24

Administrative practice and procedure, Claims, Electronic fund transfers, Excise taxes, Exports, Food additives, Fruit juices, Labeling, Liquors, Packaging and containers, Reporting and recordkeeping

requirements, Research, Scientific equipment, Spices and flavoring, Surety bonds, Vinegar, Warehouses, Wine.

#### The Regulatory Amendment

■ For the reasons discussed in the preamble, the temporary rule published in the **Federal Register** at 69 FR 67639 on November 19, 2004, as T.D. TTB-17, is adopted as a final rule with the changes discussed above and set forth below:

#### PART 24—WINE

■ 1. The authority citation for part 24 continues to read as follows:

**Authority:** 5 U.S.C. 552(a); 26 U.S.C. 5001, 5008, 5041, 5042, 5044, 5061, 5062, 5081, 5111-5113, 5121, 5122, 5142, 5143, 5173, 5206, 5214, 5215, 5351, 5353, 5354, 5356, 5357, 5361, 5362, 5364-5373, 5381-5388, 5391, 5392, 5511, 5551, 5552, 5661, 5662, 5684, 6065, 6091, 6109, 6301, 6302, 6311, 6651, 6676, 7011, 7302, 7342, 7502, 7503, 7606, 7805, 7851; 31 U.S.C. 9301, 9303, 9304, 9306.

#### § 24.246 [Amended]

■ 2. In the table in § 24.246:

■ a. Under the heading for "Enzymatic activity," in the entry for "Carbohydrase (pectinase, cellulase, hemicellulase)," in the column headed "Reference or limitation," the word "*Aspergillus*" is removed and the word "*Aspergillus*;" is added in its place;

■ b. Under the heading for "Enzymatic activity," in the entry for "Cellulase (beta-glucanase)," in the column headed "Reference or limitation," the word "*longibrachiatu*" is removed and the word "*longibrachiatum*" is added in its place; and

■ c. In each entry under "Milk products," in the column headed "Reference or limitation," the word "product" is added after the words "pasteurized milk" wherever they appear.

Signed: March 14, 2007.

**John J. Manfreda,**  
Administrator.

Approved: March 27, 2007.

**Timothy E. Skud,**  
Deputy Assistant Secretary (Tax, Trade, and  
Tariff Policy).

**Editorial Note:** This document was received at the Office of the Federal Register on September 6, 2007.

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