

Additive Name	Additive Use	NIH Classification
Acacia (gum arabic)	To clarify and to stabilize wine	Irritant, Health Hazard
<u>Acetaldehyde</u>	For color stabilization of juice prior to concentration	Irritant, Flammable, Health Hazard
Activated carbon	To assist precipitation during fermentation, to clarify and to purify wine, and/or to remove color in wine and/or juice from which the wine was produced	Irritant, Health Hazard
Albumen (egg white)	Fining agent for wine	None
Alumino-silicates (hydrated) e.g., Bentonite (Wyoming clay) and Kaolin	To clarify and to stabilize wine or juice	Irritant, Health Hazard
Ammonium phosphate (mono- and di- basic) or Ammonium phosphate/ Diammonium phosphate	Fermentation aid: To facilitate fermentation of juice and wine	Irritant
Ascorbic acid iso-ascorbic acid (erythorbic acid)	To prevent oxidation of color and flavor components of juice and wine	Irritant
Bakers yeast mannoprotein	To stabilize wine from the precipitation of potassium bitartrate crystals	None
<u>Biotin</u> (vitamin B7)	To facilitate fermentation of juice and wine (fermentation aid)	None
Calcium carbonate (with or without calcium salts of tartaric and malic acids)	(1) To reduce the excess natural acids in high acid wine, and in juice prior to or during fermentation.(2) A fining agent for cold stabilization	Corrosive, Irritant
<u>Calcium pantothenate</u> (vitamin B5)	To facilitate fermentation of juice and wine (fermentation aid)	None
<u>Calcium sulfate</u> (gypsum)	To lower pH in sherry wine	Irritant
<u>Carbohydrase</u> (alpha-Amylase)	To convert starches to fermentable carbohydrates (enzyme)	Health Hazard
<u>Carbohydrase</u> (beta-Amylase)	To convert starches to fermentable carbohydrates (enzyme)	Health Hazard
<u>Carbohydrase</u> (Glucoamylase, Amylogluco-sidase)	To convert starches to fermentable carbohydrates (enzyme)	None

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Additive Name	Additive Use	NIH Classification
<u>Carbohydrase</u> (pectinase, cellulase, hemicellulase)	To facilitate separation of juice from the fruit (enzyme)	Irritant, Health Hazard
Carbon dioxide (including food grade dry ice)	To stabilize and to preserve wine	None
Casein, potassium salt of casein	To clarify wine	None
Catalase	To clarify and to stabilize wine (enzyme)	Irritant
Cellulase	To clarify and to stabilize wine and to facilitate separation of the juice from the fruit (enzyme)	Health Hazard
<u>Cellulase</u> (beta-glucanase)	To clarify and filter wine (enzyme)	Health Hazard
Chitosan from Aspergillus niger	To remove spoilage organisms such as Brettanomyces from wine	None
Citric acid	To correct natural acid deficiencies in wine To stabilize wine other than citrus wine	Irritant
Copper sulfate	To remove hydrogen sulfide and/or mercaptans from wine	Irritant
Dimethyl dicarbonate (DMDC)	To sterilize and to stabilize wine, dealcoholized wine, and low alcohol wine	Acute Toxin, Corrosive, Irritant, Flammable
<u>Dimethylpoly-siloxane</u>	To control foaming, fermentation adjunct (defoaming agent)	Irritant
Ethyl maltol	To stabilize wine	Irritant
Ferrous sulfate	To clarify and to stabilize wine	Irritant
Fractionated potato protein isolates	Fining agent for wine	None
Folic acid (folate)	To facilitate fermentation of juice and wine (fermentation aid)	Irritant
Fumaric acid	To correct natural acid deficiencies in grape wine To stabilize wine	Irritant
Gelatin (food grade)	To clarify juice or wine	None
Glucose oxidase	To clarify and to stabilize wine (enzyme)	Health Hazard
Glyceryl dioleate	To control foaming, fermentation adjunct (defoaming agent)	None
Glyceryl mono-oleate	To control foaming, fermentation adjunct (defoaming agent)	None
<u>Granular cork</u>	To smooth wine	None
Inositol (myo-inositol)	To facilitate fermentation of juice and wine (fermentation aid)	Irritant
<u>Isinglass</u>	To clarify wine	None
<u>Lactic acid</u>	To correct natural acid deficiencies in grape wine	Corrosive, Irritant
<u>Lysozyme</u>	To stabilize wines from malolactic acid bacterial degradation. (enzyme)	None
Magnesium sulfate	To facilitate fermentation of juice and wine (fermentation aid)	Irritant
Malic acid	To correct natural acid deficiencies in juice or wine	Corrosive, Irritant
Malo-lactic bacteria	To stabilize grape wine	None
Maltol	To stabilize wine	Irritant
Milk products (pasteurized whole, skim, or half-and-half)	Fining agent for grape wine or sherry To remove off flavors in wine	None
Niacin (vitamin B3)	To facilitate fermentation of juice and wine (fermentation aid)	Irritant
Nitrogen gas	To maintain pressure during filtering and bottling or canning of wine and to prevent oxidation of wine	None
Oxygen and compressed air	Various uses in juice and wine	None
<u>Pectinase</u>	To clarify and to stabilize wine and to facilitate separation of juice from the fruit (enzyme)	None

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Additive Name	Additive Use	NIH Classification
Polyoxyethylene 40 monostearate	To control foaming, fermentation adjunct (defoaming agent)	None
Polyvinylpolypyrrolidone (PVPP)	To clarify and to stabilize wine and to remove color from red or black wine or juice	Corrosive, Irritant
Polyvinylpyrrolidone (PVP)/ Polyvinylimidazole (PVI) Polymer	To remove heavy metal ions and sulfides from wine	None
<u>Potassium bitartrate</u> (also known as cream of tartar)	To stabilize grape wine	None
Potassium carbonate and/or potassium bicarbonate	To reduce excess natural acidity in wine, and in juice prior to or during fermentation	Irritant
Potassium citrate	pH control agent and sequestrant in treatment of citrus wines	None
Potassium meta-bisulfite	To sterilize and to preserve wine	Corrosive, Irritant
Protease (Bromelin)	To reduce or to remove heat labile proteins (enzyme)	Irritant, Health Hazard
<u>Protease</u> (Ficin)	To reduce or to remove heat labile proteins (enzyme)	Irritant, Health Hazard
<u>Protease</u> (general)	To reduce or to remove heat labile proteins (enzyme)	Health Hazard
Protease (Papain)	To reduce or to remove heat labile proteins (enzyme)	None
Protease (Pepsin)	To reduce or to remove heat labile proteins (enzyme)	Irritant
<u>Protease</u> (Trypsin)	To reduce or to remove heat labile proteins (enzyme)	Irritant
Pyridoxine hydrochloride (vitamin B6)	To facilitate fermentation of juice and wine (fermentation aid)	Corrosive, Irritant
Silica gel (colloidal silicon dioxide)	To clarify wine or juice	Irritant, Health Hazard
Silicon dioxide	To control foaming, fermentation adjunct (defoaming agent)	Irritant, Health Hazard
Sodium carboxymethyl cellulose	To stabilize wine by preventing tartrate precipitation	None
Sorbic acid and potassium salt of sorbic acid	To sterilize and to preserve wine; to inhibit mold growth and secondary fermentation	Irritant
Sorbitan monostearate	To control foaming, fermentation adjunct (defoaming agent)	None
Soy flour (defatted)	Yeast nutrient to facilitate fermentation of wine	None
<u>Sulfur dioxide</u>	To sterilize and to preserve wine	Acute Toxin, Corrosive
<u>Tannin</u>	To adjust tannin content in apple juice or in apple wine, To clarify or to adjust tannin content of juice or wine (other than apple)	Irritant
Tartaric acid	To correct natural acid deficiencies in grape juice/wine and to reduce the pH of grape juice/wine where ameliorating material is used in the production of grape wine	Corrosive, Irritant
Thiamine hydrochloride	Yeast nutrient to facilitate fermentation of wine	None
<u>Urease</u>	To reduce levels of naturally occurring urea in wine to help prevent the formation of ethyl carbamate To reduce or to remove heat labile proteins (enzyme)	None
Yeast, autolyzed	Yeast nutrient to facilitate fermentation in the production of grape or fruit wine	None
Yeast, cell wall/membranes of autolyzed yeast	To facilitate fermentation of juice/wine	None

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