

Wine Treatment additives

A summary of the most useful materials used in wine production is given in the following tables.

The word GRAS in the tables mean Generally Recognized As Safe by the World Health Organization - WHO.

<i>Fining materials</i>		
Material	Used For	Limitations
Bentonite (aluminosilicate)	Protein stabilization	GRAS. At 5% water slurry, not to exceed 1% water of the wine volume.
Carbon (activated)	Removes odors and colors	GRAS. Up to 3 g/l.
Casein	Reduces tannin content	GRAS.
Copper Sulfate	Removes H ₂ S.	Not to exceed 0.5 mg/l as Cu. Wine must be <0.2 mg/l.
Egg-white (albumin)	Reduces tannin content	GRAS.
Gelatin	Reduces tannin content	GRAS.
Ferrocyanide (cufex)	Removes Cu.	GRAS. Wine cannot exceed 1 mg/l.
Isinglass	Reduces tannin content	GRAS.
Milk (pasteurized)	Reduces tannin content	Not to exceed 0.2% v/v of the wine.
Oak chips	To add oak flavor and tannin	GRAS.
PVPP (polyvinylpolypyrrolidone)	Reduces tannin content	Not to exceed 7.2 g/l. Should remove by filtration.
Potassium bitartrate	Cold stabilization agent	GRAS. Not to exceed 4.2 g/l.
Silica gel	Used with gelatin, reduces tannin.	GRAS. Not to exceed 2.4 g/l as SiO ₂ .
Ascorbic acid	Anti-oxidant agent	GRAS.
Erythorbic acid (ascorbic isomer)	Anti-oxidant agent	GRAS.
Dimethyl dicarbonate	Antimicrobial agent	Not to exceed 200 mg/l.
Fumaric acid	Inhibit malolactic fermentation	Not to exceed 2.4 g/l.

<i>Fining materials</i>		
Material	Used For	Limitations
Sorbic acid & its potassium salts	To inhibit fermentation	Not to exceed 300 mg/l as sorbic acid
Sulfur dioxide, KMS, NaMS	Ant-oxidant & anti-microbial agent	Not to exceed 350 mg/l
<i>Acidity Correction Materials</i>		
Material	Used For	Limitations
Calcium carbonate	To reduce excess acidity.	GRAS. TA not reduced below 5 g/l.
Calcium sulfate (gypsum)	To lower the pH	Sulfate not > 2.0 g/l, expressed as potassium sulfate.
Tartaric acid	To increase the acidity	GRAS.
Fumaric acid	To increase the acidity	Not > 2.4 g/l.
Lactic acid	To increase the acidity	GRAS.
Malic acid	To increase the acidity	GRAS.
Citric acid	To increase the acidity & iron haze	US limit <0.7 g/l
Potassium carbonate & bicarbonate	To reduce excess acidity.	GRAS. TA not reduced below 5 g/l.
<i>Yeast nutrient materials</i>		
Material	Used For	Limitations
Diammonium phosphate	Phosphate and nitrogen additions	GRAS. Not to exceed 960 mg/l.
Thiamine	Vitamin yeast nutrient	GRAS. Not exceed 0.6 mg/l.
Yeast extract	Autolyzed yeast nutrient	GRAS. Not exceed 360 mg/l.
Tables from <u>Concepts in Wine Technology</u> Yair Margalit The Wine Appreciation Guild 2004		