







SULFITING AGENTS

AST

Broad spectrum antioxidant

	<p>COMPOSITION Potassium metabisulfite 50%, L-ascorbic acid 30%, gallic tannin 20%</p>
	<p>GENERAL CHARACTERISTICS Due to its high antioxidant effect and the synergy between its components, AST prevents must oxidation, preserving grape aromatic potential. The ascorbic acid rapidly reacts with dissolved oxygen, thus limiting the activity of oxidative enzymes. Gallic tannin, with its strong antiradical properties, blocks hydrogen peroxide formed by the reaction between ascorbic acid and oxygen. Sulfur dioxide completes the antiradical action of the tannin and protects must from undesirable microorganism development. AST provides excellent antioxidant, antioxidasic and antimicrobial protection, reducing the total intake of sulfur dioxide. This reduces the macerative effect of sulfur dioxide, which is not desired with white grapes rich in polyphenols, as well as produces healthier wines for the consumer.</p>
	<p>APPLICATIONS</p> <ul style="list-style-type: none"> ▪ <i>Treatment of grapes and must during transport to the cellar</i> to prevent oxidation and contamination due to indigenous microorganisms. ▪ <i>Production of aromatic wines:</i> AST is a fast deoxygenating agent: in a few hours it dramatically reduces the content of oxygen dissolved in must, thus preventing oxidation of grapes' aromatic components. ▪ <i>Reduction in the use of sulfur dioxide:</i> AST reduces the quantity of SO₂ in pre-fermentation stages, resulting in a lower production of acetaldehyde and H₂S during alcoholic fermentation and a considerable improvement of wine organoleptic quality and health. ▪ <i>Protection against laccase:</i> in must from grapes infected with <i>Botrytis cinerea</i>, AST competes with laccase for the consumption of oxygen and limits the laccase/oxidant action. ▪ <i>Regular fermentations:</i> the antimicrobial action of sulfur dioxide, enhanced by the bacteriostatic effect of the hydrolyzable tannin, delays the development of lactic bacteria, thus preventing any bacterial alterations even in high pH conditions. ▪ <i>Reduction of stabilization and clarification treatments:</i> when used on grapes, AST ensures the protection provided by sulfur dioxide, limiting, however, its macerating effect, whenever this is not required: white grapes rich in polyphenols, Champagne bases (especially blanc de noir), and in mechanical harvesting.
	<p>DOSAGE 15-20 g/hL (1.2-1.7 lb/1000 gal) or more, applying at different stages (grape harvest, grape unloading, grape press, must). 10 g/hL (0.8 lb/1000 gal) of AST provides around 28 mg/L of SO₂ and 30 mg/L of ascorbic acid.</p>
	<p>INSTRUCTIONS FOR USE Dissolve AST in 10 parts water and add directly to must or apply to grapes.</p>
	<p>PACKAGING AND STORAGE CONDITIONS 1 kg Sealed package: store in a cool, dry, well-ventilated area. Opened package: carefully reseal and store as indicated above. Attention: hygroscopic product.</p>

The indications given here correspond to the current state of our knowledge and experience, however they do not relieve the user from compliance with safety and protection regulations or from improper use of the product.

COMPLIANCE

The product is in compliance with:
Codex Œnologique International
Reg. (EU) N. 231/2012

Product approved for winemaking, in accordance with:
Reg. (EU) 2019/934



Product approved for winemaking by TTB under 27 CFR 24.246

When used within the recommended dose rates the individual components do not exceed the legal limits set forth by the TTB.

SO₂: That the presence in finished wine of not more than 350 parts per million of total sulfur dioxide, or sulphites expressed as sulfur dioxide.

Ascorbic Acid: May be added to grapes, other fruit (including berries), and other primary wine making materials, or to the juice of such materials, or to the wine, within limitations which do not alter the class or type of the wine. 21 CFR 182.3013 and 182.3041 (GRAS).

Tannins: The residual amount of tannin shall not exceed 0.8 g/L in white wine and 3.0 g/L in red wine (in gallic acid). Only tannin which does not impart color may be used. Total tannin shall not be increased by more than 150 mg/L (in tannic acid).

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