



>> technical information

Maurivin AWRI 350 is the lowest SO<sub>2</sub> producing strain

**AWRI 350: Maurivin's lowest SO<sub>2</sub> producer**

During alcoholic fermentation yeast naturally produce sulphur dioxide (SO<sub>2</sub>) as a metabolic intermediate of the sulphate reduction pathway.

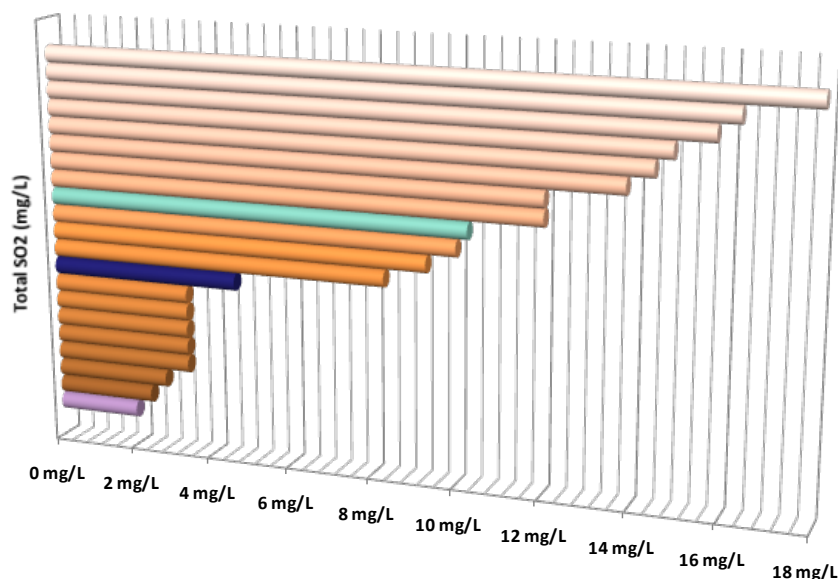
Twenty commercial wine yeast strains (from different yeast manufacturers) known as being low SO<sub>2</sub> producers have been compared in laboratory trials done in triplicate on a Riesling must fermented at 18°C.

The graph below shows average results of triplicates. Maurivin AWRI 350 (2.0 mg/L) is the lowest SO<sub>2</sub> producer among the 20 tested wine yeast strains.

**AWRI R2**  
Total SO<sub>2</sub> = 10.2 mg/L

**AWRI FUSION**  
Total SO<sub>2</sub> = 4.6 mg/L

**AWRI 350**  
Total SO<sub>2</sub> = 2 mg/L



Please note that SO<sub>2</sub> production may differ according to the grape varieties and composition of grape must. Even a yeast strain that is considered as a low SO<sub>2</sub> producer can produce higher concentrations in certain grape juices for certain vineyards/vintages.

**AWRI 350: low production of SO<sub>2</sub> binding compounds**

The most important binding compounds produced by yeast that influence SO<sub>2</sub> levels are acetaldehyde, pyruvate and α-ketoglutarate. Their production depends on the yeast strain and on the composition of the must. Acetaldehyde almost completely binds with SO<sub>2</sub> and the complex is very stable. As an example, 44 mg of acetaldehyde can bind with 64 mg of SO<sub>2</sub>.

The table below shows SO<sub>2</sub> binding compound production by Maurivin AWRI R2 and AWRI 350

Binding compound	by AWRI R2 [mg/L]	by AWRI 350 [mg/L]
acetaldehyde	20 *	14,3 *
pyruvate	94 *	49,7 *
α-ketoglutarate	135 *	93 *

(\*average, trials made in triplicate)

With regards to the nutritional composition of the must, thiamine plays a key role in the formation of SO<sub>2</sub> binding compounds. Thiamine acts as a co-enzyme of pyruvate decarboxylase which lowers the concentration of the last intermediates in the sugar catabolism pathway. Adding a yeast nutrient that contains thiamine like Mauriform Plus during fermentation decreases SO<sub>2</sub> binding rate.