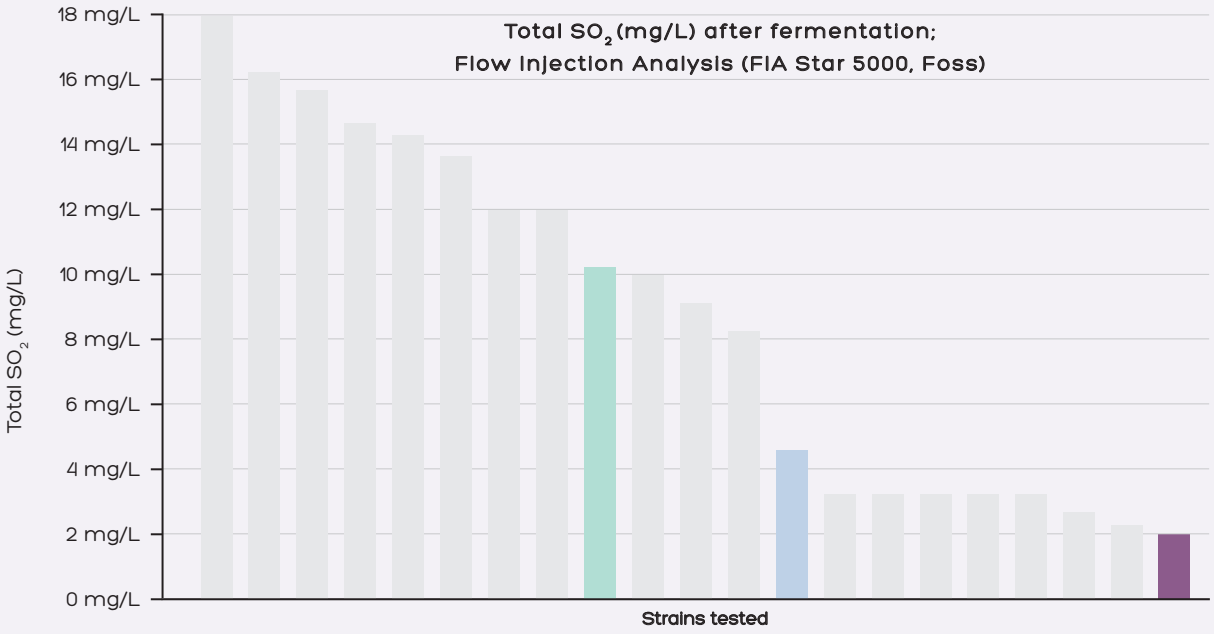
maurivin™

AWRI 350 is the lowest SO_2 producing strain

research information

AWRI 350: MAURIVIN'S LOWEST SO_2 PRODUCER

During alcoholic fermentation yeast naturally produce sulphur dioxide (SO_2) as a metabolic intermediate of the sulphate reduction pathway. Twenty commercial wine yeast strains (from different yeast manufacturers) known as being low SO_2 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_2 producer among the 20 tested wine yeast strains.



Please note that SO_2 production may differ according to the grape varieties and composition of grape must. Even a yeast strain that is considered as a low SO_2 producer can produce higher concentrations in certain grape juices for certain vineyards/vintages.

AWRI R2
Total SO_2 = 10.2 mg/L

AWRI FUSION
Total SO_2 = 46 mg/L

AWRI 350
Total SO_2 = 2 mg/L

AWRI 350: LOW PRODUCTION OF SO_2 BINDING COMPOUNDS

The most important binding compounds produced by yeast that influence SO_2 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_2 and the complex is very stable. As an example, 44 mg of acetaldehyde can bind with 64 mg of SO_2.

The table below shows SO_2 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_2 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 Mauriferm Plus during fermentation decreases SO_2 binding rate.

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