

ATHENIS

AN INNOVATION
TO CONFIDENTLY
MANAGE WOOD AGING OF
NO-SULFITES-ADDED WINE.





The ambition of Athenis is to provide wine-makers with a tool that allows them to do what was previously impossible: aging no-sulfites-added wines in wood without risk of oxidative deviation and under microbiological control.

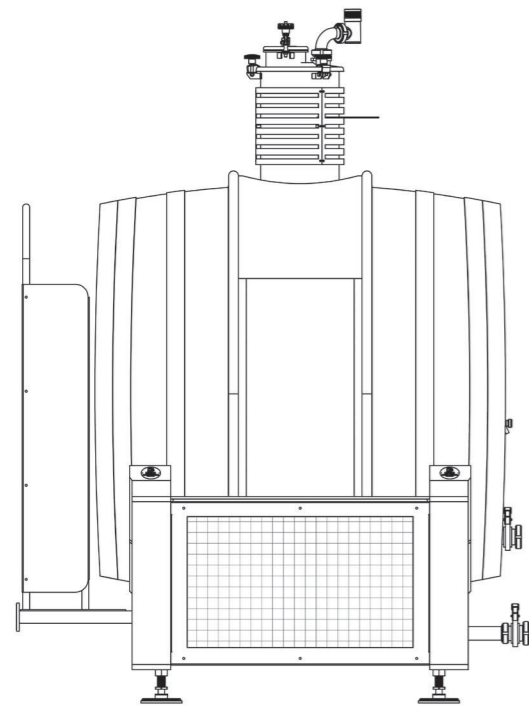
The chosen oenological strategy is based on inerting with static CO² at a rate between 1000 and 1300 mg/L. The target is to benefit from the natural micro-oxygenation through the wood, while preventing the appearance of dissolved oxygen.

In this redox balance, wines can finally benefit from an aging process in wood without sulfur treatment.



From this aspiration was born the Athenis, a cask with a series of innovative solutions :

- Radoux's expertise in wood selection.
After more than ten years of using OakScan and more than 10 million analyses, Radoux now has the world's largest database of the ellagitannin content in French oak
- A connected bung allowing real-time analysis of all the parameters essential for wine protection (dissolved O², dissolved CO², microbiological risk alert)
- A static inerting system allowing a measured contribution of CO² to maintain the wines in the expected redox balance



- ① **The benefits of maturing in cask :**
 - Natural micro-oxygenation
 - Nutritional contribution in ellagitanins and complex sugars
 - Aromatic finesse
- ② **Benefits of no-sulfites-added wine :**
 - Aromatic purity
 - Better preservation of the initial quality of the tannins
- ③ **Benefits of working under controlled CO² :**
 - No dissolved O², no development of acetaldehyde
 - Maintains freshness "no profile of ripening or degradative fruit"
- ④ **Benefits of the connected bung :**
 - Instant O²/CO² analysis
 - Microbiological alert
 - Traceability

ANALYTIC RESULTS OF A COMPARATIVE STUDY ON NO-SULFITES-ADDED 2021 WINE (St Emilion):

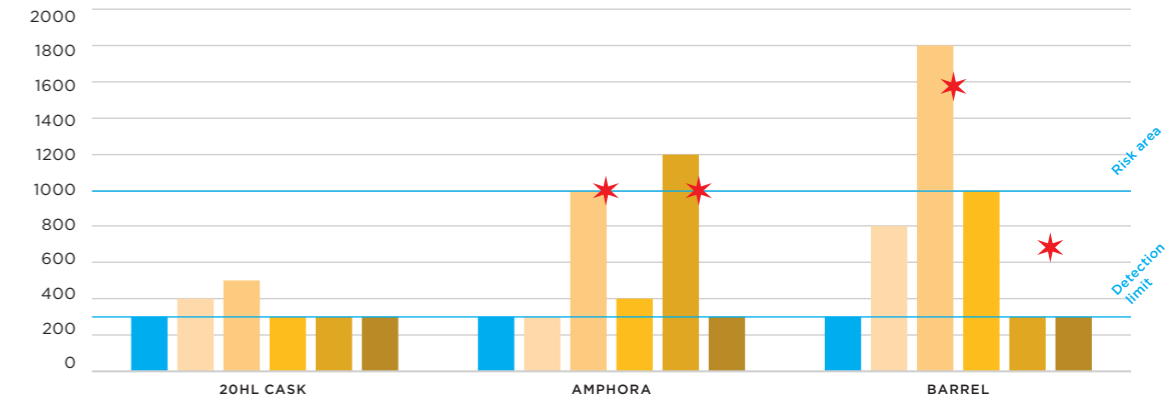
The ultimate validation trial was carried out on the 2021 vintage in comparison with an amphora and a new Eastern European oak barrel of 225L. The no-sulfites-added wine used for the trial was a Merlot from Saint Emilion (ph 3.64, alcoholic strength 13.81, total acidity 3.28) and was simultaneously tapped after malolactic fermentation in these 3 containers.

The results below show very clearly that the Athenis cask allows an excellent control of the protection of the wines, and an exceptional organoleptic outcome.

Preserved from any microbiological deviation, the purity of the aromas of wines aged without sulfites combined with the delicacy of a top-of-the-range and non-reductive maturation in cask can magnify the fruit brightness of high-end cuvees, or bring a fresh and supple component to larger premium blends.

Evolution of the vital living population of Brettanomyces (LQ = 300 event/ml)

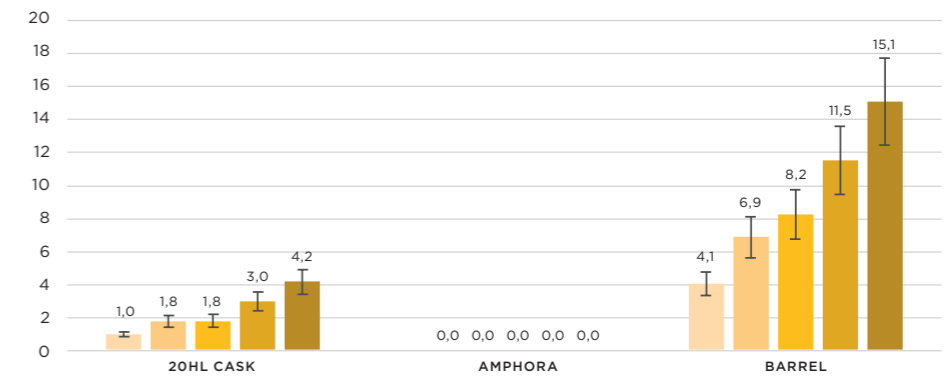
- Entonnage
- 1,5 months
- 3,5 months
- 5,0 months
- 7,0 months
- 8,5 months
- ★ Chitosane treatment



Notice that the cask perfectly controls the risks of microbiological deviations. Whereas the two other containers, even considering their low porosity, quickly need a treatment with chitosan to contain them.

Evolution of the total concentration in volatile organic compounds from the wood (in Number of Olfactory Units)

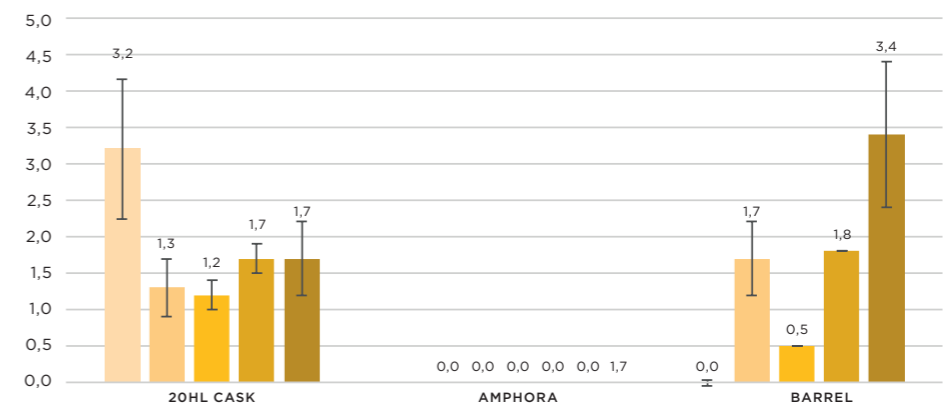
- 1,5 months
- 3,5 months
- 5,0 months
- 7,0 months
- 8,5 months



Unsurprisingly, aging in cask provides a discreet aromatic contribution that is perfectly complementary and respectful of the purity of no-sulfites-added wines.

Evolution of the concentration in Ellagitannins (in mg/liter)

- 1,5 months
- 3,5 months
- 5,0 months
- 7,0 months
- 8,5 months

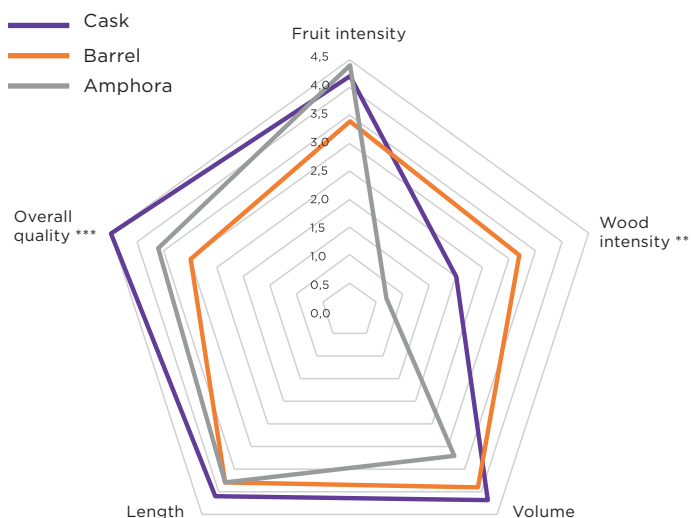


Aromatically respectful, cask aging guarantees a nutritional contribution beneficial to the aging of no-sulfites-added wines. It is characterized by a moderate and progressive contribution over time.

ORGANOLEPTIC RESULTS OF A COMPARATIVE STUDY ON NO-SULFITES-ADDED 2021 WINE (St Emilion):

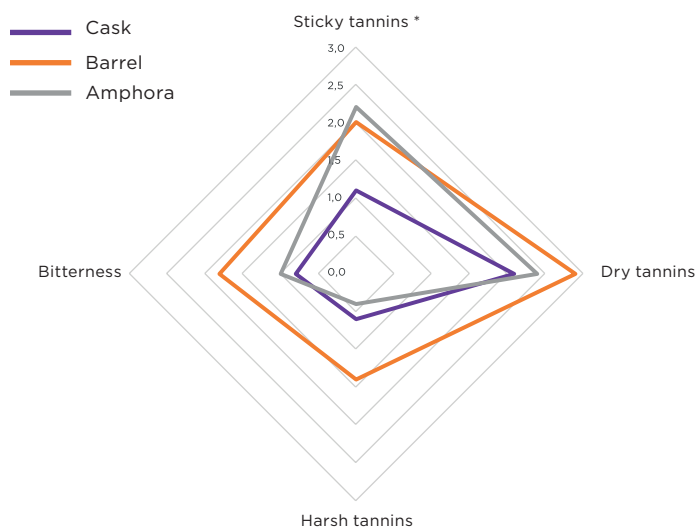
Descriptive sensory analysis at 5 months of contact

(descriptor significant at *10% / **5% / ***1% risk threshold)



Descriptive sensory analysis at 5 months of contact

(descriptor significant at *10% / **5% / ***1% risk threshold)



The results presented here are the analysis on wine and the statistical treatments of the tastings of the expert tasting panel.

Throughout the first months of aging, the cask is significantly preferred (sum of ranks 5) particularly compared to the new barrel (sum of ranks 14 at 5% risk threshold). The amphora is the intermediate preference (sum of ranks 11).

The tasting comments at 5-months are as follows :

• BARREL :

On the nose : caramel, lactones, apricot notes, ripe apple. Structured and round mouthfeel.

• AMPHORA :

On the nose : notes of reduction (cracked match, beetroot) and red fruits. Fruity on the palate with more grippy tannins.

• CASK :

On the nose : very fresh fruit profile, highlighted by a nice full aromatic volume. The mouth shows integrated tannins, juiciness, and a straight and long finish.

Technical description

Cask (from 10 to 50HL)

ACCESSORIES :

Taps

Tasting tap

Oval front door

Control top door

Connected bung

Safety system

CO² injection kit

Athenis design Base (optional)



ATHENIS

from Athena, Greek goddess of wisdom, war strategy, intelligence, craftsmanship and protection.

This handcrafted cask combines all the qualities of its eponymous goddess, being able to strategically fight microbiological risks, and thus preserve the wine it hosts.

