


Chestwine® ✱



Nature
in your wine



“It’s not the strongest
species that survive, nor the
most intelligent, but the ones
that better adapt to change”

Charles Darwin

CHESTWINE®

an innovative product that
enhances wine’s natural
preservation, avoiding the use
of synthetic additives along
production.

Chestwine®

What is it?

Extracted from the chestnut tree's by-products, it is an innovative product with unique properties, 100% natural, patented*, with bioactive and functional properties that enhance the natural preserving of wine.

CHESTWINE® is a natural extract obtained through an industrial process, scientifically validated, highly concentrated, contamination free and highly effective.

CHESTWINE® unique composition inhibits oxidation and microbial growth, contributing to the preservation of natural aromas and flavors.

The high biofunctional properties of CHESTWINE® stabilize the color and guarantee the authenticity of wine, making it the ideal solution for biodynamic, natural, sulfite reduction and organic wines.



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100%
nature based

100%
organic

Zero flavor
addition



Zero impact
on color

Zero addition
of aromas

Healthiest option for
consumers



Advantages of using CHESTWINE®

1. The increased wine protection eliminates the need for synthetic additives (sulfites), resulting in 100% natural wines with higher quality;
2. Contributes towards color, flavor and aroma stabilization;
3. Healthiest option for consumers;
4. Ideal for bottled and canned drinks, already trialed and certified for wine and beer.

CHESTWINE® application

CHESTWINE® can be added to all wine types, in all different stages of production, maintaining the specific procedures of each winery.

- The addition can be done in all steps of winemaking.
- (transport, grape crushing, ageing and bottling).



SO₂ vs CHESTWINE®

SO₂ Mechanisms of action

- Antimicrobial action through pH changes in wine;
- Inhibition of oxidoreductase enzymes that generate quinones;
- Reacts with intermediate molecules produced in parallel oxidative phenomena (hydrogen peroxide), in the presence of Copper (Fenton reactions), inhibiting ethanol oxidation and consequent formation of aldehydes.
- Reacts with phenolic acids and wine tannins, resulting in their degradation and consequent changes to the organoleptic profile of the wine;
- Reacts with anthocyanins, promoting color changes in the wine;
- Neutralization of the natural aromas of wine. (Figure 1)

CHESTWINE® Mechanisms of action

- Diverse antimicrobial action due to a phenolic composition rich in phenolic acids and high tannin levels;
- Inhibition of oxidoreductase enzymes, minimizing quinone production;
- The high reactivity of ellagitannins protects ethanol, avoiding formation of aldehydes and eliminating aromatic changes through:
 - (i) neutralization of free radicals, avoiding the formation of hydrogen peroxide, which halts oxidative progression;
 - (ii) neutralization of Iron and Copper ions, which avoids Fenton reactions;
- It is inert towards anthocyanins and thus does not influence wine color.

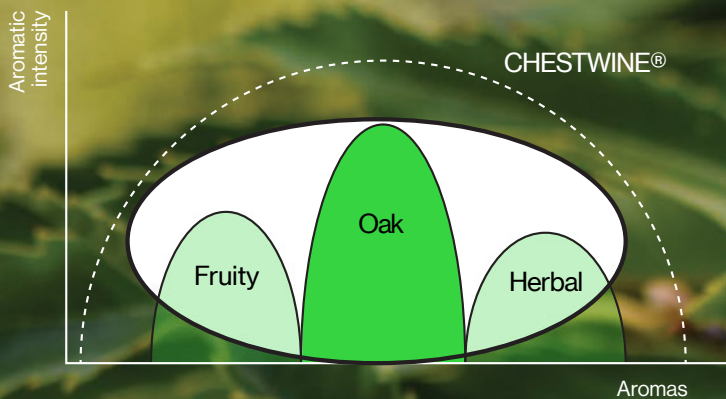
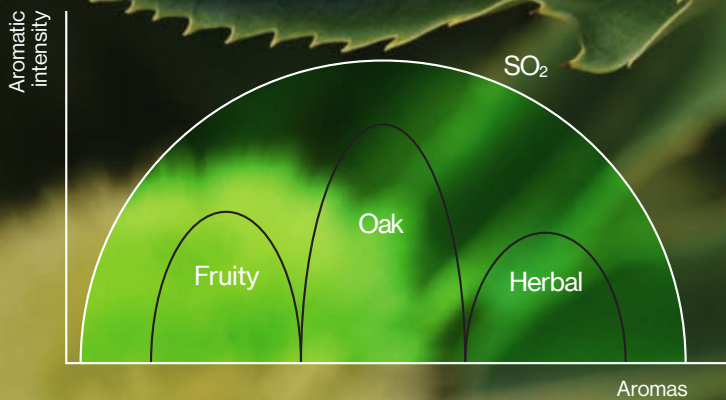
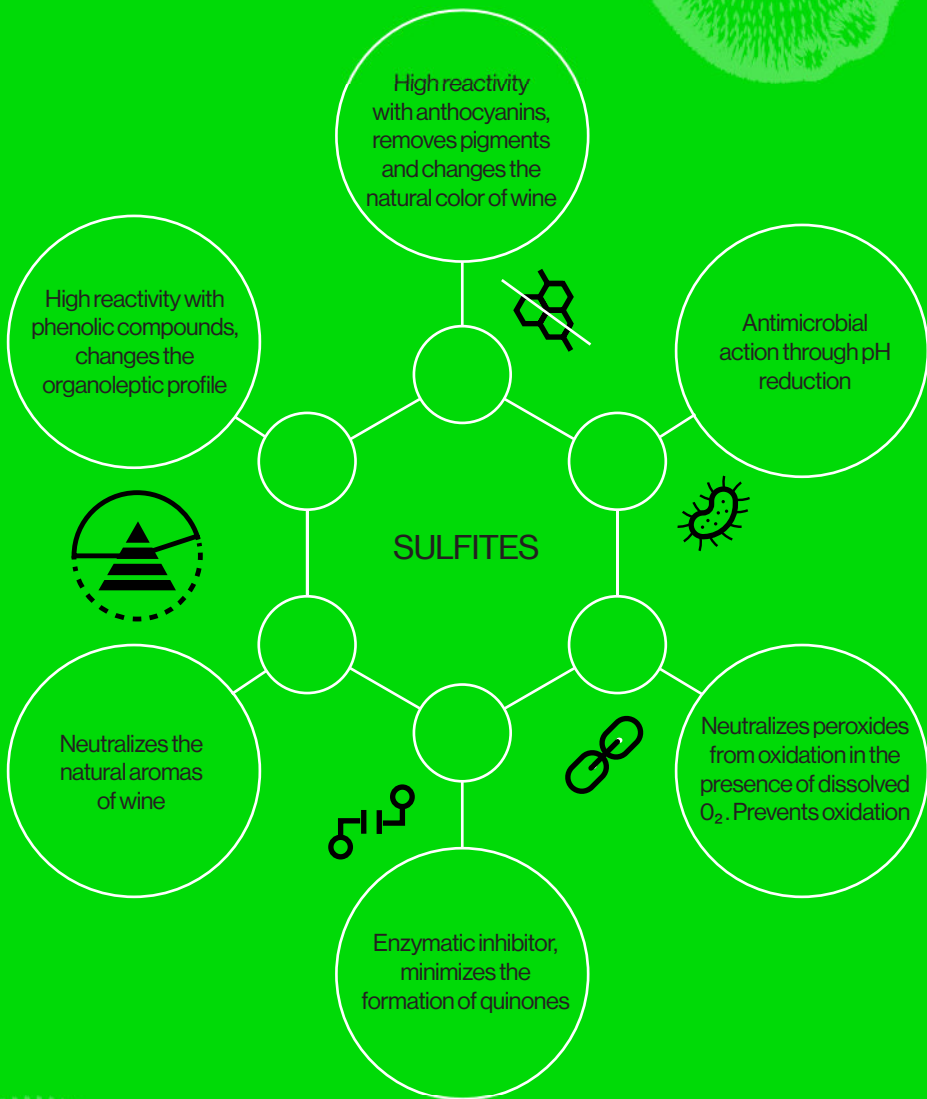
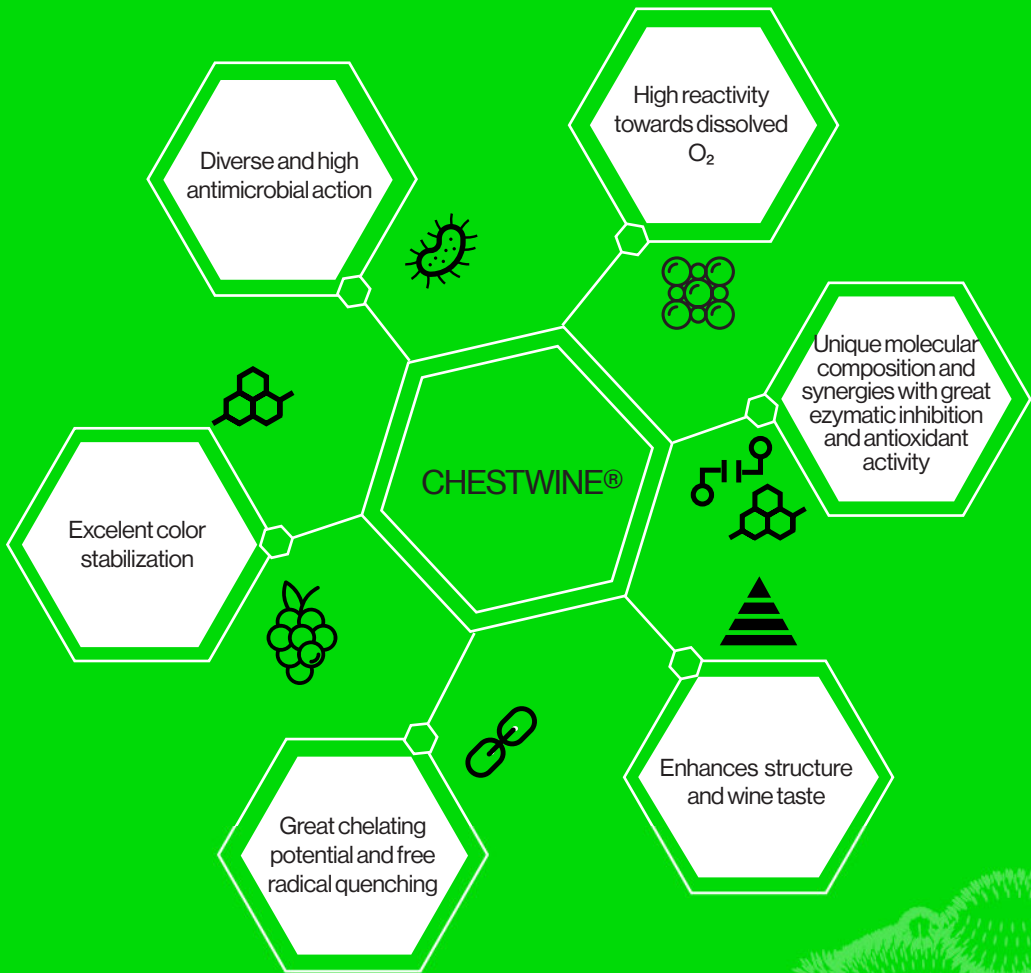


Figure 1. Overlay of SO₂ on the natural aromatic profile of wine compared to the use of CHESTWINE®.







Who we are

Tree Flowers Solutions (TFS) is a biotech start-up dedicated to the development, production and retail of natural extracts with differentiated properties for several industrial sectors, including the agri-food, where wine products are the core.

Focus on sustainable innovation and product development based on scientific knowledge, are the driving forces of TFS to achieve sector leadership.



always on, always nature

Prizes



Entrepreneurship and Innovation Prize
CA 2019
Winning product in the Production,
Transformation and Retail category.

www.premioinovacao.pt



BfK Awards 2019
Born From Knowledge is an initiative
from the Portuguese Agency
for Innovation that promotes
Technological and Scientific Innovation.

bfk.ani.pt/pt/iniciativas/bfk-awards

Partners

Mazuela
BODEGAS



Investment

Investment funds



CHESTWINE® technology results from innovation produced at the Instituto Politécnico de Bragança (Portugal), transformed, industrialized and tested by TFS.



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