IOC
Révélons votre différence

LOW $SO_2$ SOLUTIONS

# IOC Gaïa™

**Where must protection is concerned, nature knows best**

ACTIVE DRY YEAST — DATA SHEET

## Natural, pre-fermentation protection for grape harvests and musts

## OENOLOGICAL APPLICATIONS

From harvest to vat, the micro-organisms responsible for acetic acid deviations or the triggering of an unwanted fermentation process may undergo uncontrolled multiplication. Risks are increased by reducing sulphites additions, by temperatures that are too high (>10°C) or if the process takes a long time.

The Institut Français de la Vigne et du Vin (French Wine and Vine Institute) has selected **IOC GAÏA ™** , a *Metschnikowia fructicola* yeast with no fermenting power, to combat this harmful micro-flora. It fills an ecological niche by limiting deviations and the risk of onset of early alcoholic fermentation. **IOC GAÏA ™** is a major tool for limiting pre-fermentation sulphiting whether used during vatting or in harvesting trucks. It also facilitates implementation of selected, inoculated *S. cerevisiae* yeasts to guide fermentation, and helps secure the following processes: biosanitation of harvesting and reception equipment, grape harvest transport, pre-fermenting maceration, "macération de/sur bourbes" (grape lees maceration), skin maceration, must clarification, cold storage and transport of must and air-drying of grape bunches.

## OENOLOGICAL CHARACTERISTICS

- Species: *Metschnikowia fructicola.*
- Killer factor: active K2.
- Resistance to alcohol: very weak.
- Resistance to $SO_2$: 50 mg/L of total $SO_2$
- Resistance to low pH: at least down to pH 3.0.
- Optimum temperature for use: 0 to 16°C (if cold soak, 4 to 12°C).
- Fermenting power: very weak.
- Implantation power: high.
- Multiplication power: high.
- Competition power: high.
- Does not produce unwanted metabolites (in particular volatile acidity).
- Requires sequential use of selected *Saccharomyces cerevisiae* yeasts for alcoholic fermentation.

## MICROBIOLOGY QUALITIES

- Viable yeasts: > 10 billion cells/g.
- Microbiological purity: less than 10 wild yeasts per million cells.

## DOSAGE AND USE

- Dosage: 5 to 20 g/hl, to be adapted to the time of use and degree of risk of microbial contamination (functioning depends on the length of the operation, the temperature, the pH, how ripe the grapes are and the amount of $SO_2$ added).
- Rehydrate in 10 times its weight in water at 20 to 30°C. Direct rehydration in the must is not recommended. It is essential to rehydrate the yeast in its own separate container.
- Shake gently and leave it in water for 15 minutes.
- If necessary, acclimatize the water to the temperature of the must by gradually adding the must. The difference in temperature between the must to inoculate and the rehydration environment should be no more than 10°C.
- Rehydrated **IOC GAÏA ™** can be kept up to 6 hours in water alone before addition to the grapes/must. If use is delayed, add must to the suspension after 45 mins of rehydration.

## PACKAGING AND STORAGE

- 500 g vacuum packed aluminium polyethylene sachet.
- Store in a cold (4°C) dry place. Once open the product should be used quickly.

**IOC**
ZI de Mardeuil - Allée de Cumières
BP 25 - 51201 EPERNAY Cedex France

**Tél. +33 (0)3 26 51 96 00**
Fax +33 (0)3 26 51 02 20
***www.ioc.eu.com***



VERSION 02.10.2024

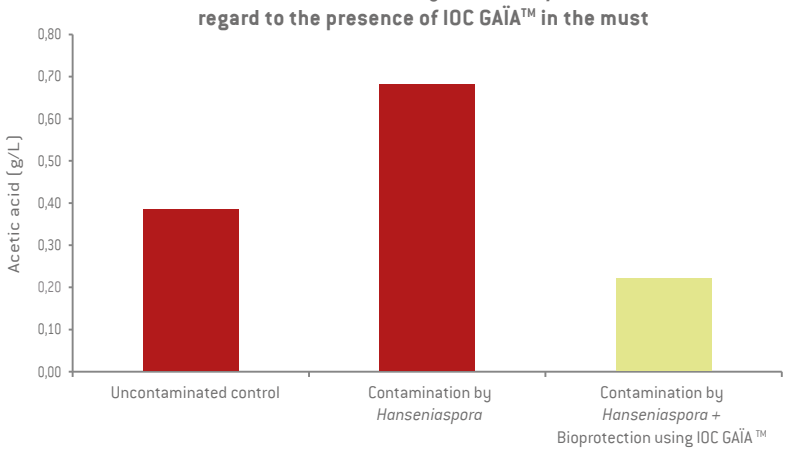
# IOC Gaïa™

DATA SHEET

## PRE-FERMENTING STAGES: KEEPING LIVING BEINGS UNDER CONTROL WITH LIVING BEINGS

*Kloeckera apiculata (or Hanseniaspora uvarum)* is a microorganism capable of producing up to ten times more acetic acid than the *Saccharomyces cerevisiae* oenological yeasts. This wine spoilage yeast is often the cause of acetic differences in pre-fermenting maceration. The use of $SO_2$ effectively enables the limitation of its growth, however sometimes large doses are required to reduce the risk down to an acceptable level. In the absence of $SO_2$, the situation is clearly more random. With **IOC GAÏA ™** the initial population of *Hanseniaspora* is contained and only grows slightly during the pre-fermenting phase. Consequently, acetic acid content remains very low in comparison to samples contaminated with *Hanseniaspora* but not protected by **IOC GAÏA ™**.

**Production of acetic acid by *Hanseniaspora uvarum* regard to the presence of IOC GAÏA™ in the must**



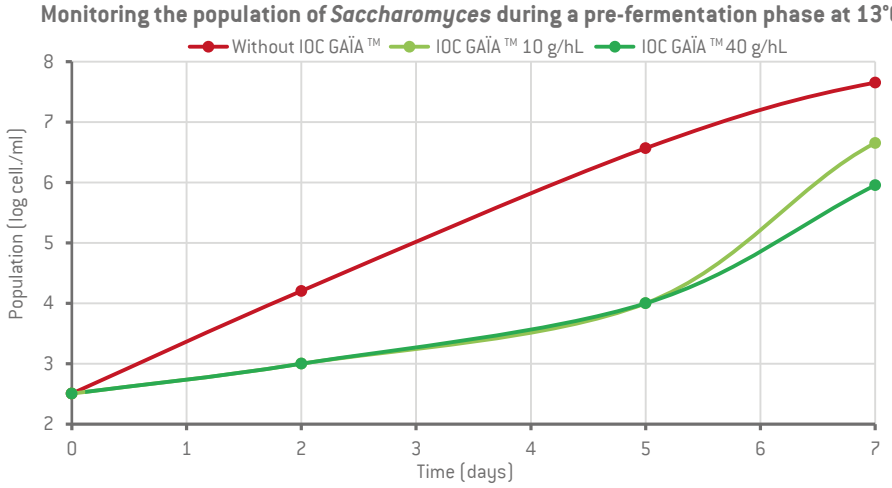

*(Sugars 230 g/L, pH3.20, no $SO_2$, pasteurisation)*
*Values of acetic acid after alcoholic fermentation for 14 days – standard deviation: 0.05 g/L*

## LIMITING RISKS OF TRIGGERING UNWANTED FERMENTATION

**IOC GAÏA ™** achieves its biocontrol by preventing the development of indigenous *Saccharomyces cerevisiae* yeasts during pre-fermenting phases and delays the triggering of the fermentation process. The efficiency of such a slow-down delay depends on must temperature. After inoculation with selected *Saccharomyces* yeasts (at sufficient population to trigger fermentation), and as the alcohol increases, the **IOC GAÏA ™** population dies off.

**IOC GAÏA ™** is also active against acetic acid bacteria (*Acetobacter, Gluconobacter*) and *Botrytis cinerea*. The earlier **IOC GAÏA ™** is inoculated, the more effective it is in limiting the growth of different micro-organisms.

**Monitoring the population of *Saccharomyces* during a pre-fermentation phase at 13°C**




*Biocontrol performed by **IOC GAÏA ™** on a* Saccharomyces cerevisiae *population in pre-fermentation phase (13°C) – must of chardonnay- pinot noir blending pH 3.6.*

One of the strategies and tools developed by the IOC for the control of oxidation and microbiological contamination, whether during pre-fermentation, fermentation or ageing, **IOC GAÏA ™** is a powerful tool for reducing the overall use and concentration of $SO_2$ in your wine.


**IOC**
ZI de Mardeuil - Allée de Cumières
BP 25 - 51201 EPERNAY Cedex France

**Tél. +33 (0)3 26 51 96 00**
Fax +33 (0)3 26 51 02 20
***www.ioc.eu.com***





VERSION 02.10.2024