

ATTENTION: You must read all the Material Safety Data Sheet (MSDS) before using Aristoleo® Test Kit and follow instructions of use carefully at all times.

Aristoleo® Test Kit is intended for Professional use only.

www.worldlivecenter.com/Aristoleokit

- The Aristoleo® Test Kit contains Glacial acetic acid (A) (98.5%) (in a jar with 10 vials in total)
- The Aristoleo® Test Kit contains 2-Amino-5-hydroxybenzoic acid (B) (in a jar with 10 vials (2ml) with silver crimped cap with red septum)
- The Aristoleo® Test Kit contains Water Solution (C) (in a jar with 10 vials (2ml) with blue screw on cap with white septum) a non-irritating processed water solution
- Store safely away from children or untrained personnel.
- Keep safely in a cool and dry locked area.
- Use the protective gloves safety glasses and clothing at all times to make sure that your bare skin is not exposed.

Read all instructions and MSDS sheets at www.worldlivecenter.com/Aristoleokit/msds and watch the instructional video before using the Aristoleo® Test Kit components on <https://vimeo.com/145976509>.

- Under no circumstances are you to remove the cap from the 3ml vials containing the Acetic Acid (A).
- Under no circumstances are you to remove the septum cap from the 2ml vials containing 2-Amino-5-hydroxybenzoic acid (B).
- Remove contents from vial A, B & C 2ml vials carefully as per instructions
- using only the syringe provided.



Attention: You must read MSDS sheet for Glacial Acetic Acid 98.5% (A) and 2-Amino-5-hydroxybenzoic acid (B) before using Aristoleo® Test Kit.

IMPORTANT INFORMATION ABOUT REAGENTS IN VIALS: A, B & C

REAGENT A - active ingredient is Glacial Acetic Acid (98.5%) (A)

Hazard statement(s)

H226 Flammable liquid and vapour.

H314 Causes severe skin burns and eye damage if comes to direct contact with the eyes or the bare skin.

Precautionary statement(s)

P280 Wear protective gloves/ protective clothing/ eye protection/ face protection while using the kit.

P305 + P351 + P338 in case of getting to direct contact with the eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P310 Immediately call a poison center or doctor/ physician/ your medical care practitioner.

Glacial Acetic Acid is an extreme irritant to the skin, the lungs and nasal passages and should not come in

contact with the skin, the eyes and should never be opened, inhaled or swallowed under any circumstances and the protective gloves and clothing must be worn at all times when handling. Wash with lots of water for at least 15 minutes if it comes in contact with bare skin or eyes and seek immediate medical assistance.

In case of accidental breakage or spilling of the contents of vial A (Glacial Acetic Acid) wash with plenty of water and keep the area well ventilated.

Aristoleo® Test Kit must be used in a well-ventilated area away from heat. No smoking is permitted in the vicinity during the use of Aristoleo® Test Kit.

Keep away from flames or excessive heat over 39 °C.

REAGENT B contains ingredient 2-Amino-5-hydroxybenzoic acid (B)

Hazard statement(s)

H302 Harmful if swallowed

H315 Causes skin irritation.

H319 Causes serious eye irritation.

H335 May cause respiratory irritation.

In case of accidental breakage or spilling of the contents of 2-Amino-5-hydroxybenzoic acid (B) and in case if it comes in contact with the skin, or eyes wash with plenty of water for 15 minutes and read the MSDS sheet for 2-Amino-5-hydroxybenzoic acid and seek medical attention immediately for further treatment.

General advice

Consult a physician. Show this safety data sheet to the doctor in attendance.

If inhaled

If inhaled, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

In case of skin contact

Wash off with soap and plenty of water. Consult a physician.

In case of eye contact

Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

If swallowed

Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

REAGENT C Water Solution, contains a non-irritating processed water solution

Attention

Not for internal use. Do not swallow.

ARISTOLEO™ TEST KIT CONTENTS

- 1 pair of safety gloves
- 1 syringes 3.5ml
- 1 vial in total of reagent A
- 1 reagent B 2ml vials
- 1 reagent C 2ml vials
- 1 empty Aristoleo® vials
- 1 pipette 5.0 ml
- Instructions of use
- Aristoleo® Color chart index

INSTRUCTIONS OF USE FOR ARISTOLEO® TEST KIT

Before attempting to conduct any testing of olive oil you must read the MSDS sheets for Glacial Acetic Acid 98.5% and 2-Amino-5-hydroxybenzoic acid. www.worldolivecenter.com/Aristoleokit/msds

You must watch the Aristoleo® Test Kit instructional video <https://vimeo.com/145976509>

There may be small changes in the packaging since the video was made. Note that results may vary according to the experience of the user in identifying subtle green or yellow color changes.

Aristoleo® Test Kit was calibrated for use only on extra virgin olive oil and if there is any adulteration or defect in the extra virgin olive oil, e.g., if it was produced with the use of high temperature water or is rancid or contaminated results will not be consistent with the color index card provided.

We make no guarantees the olive oil tested conforms to any health claim regulation. Aristoleo® Test Kit can approximate only the concentration of the combined total of oleocanthal and oleacein using a colorimetric index. The accuracy of Aristoleo® Test Kit is fully dependent on the experience of the user and their ability to follow the instructions provided.

Open the Aristoleo® Test Kit package and put on the gloves provided and make sure you have protective clothing and safety glasses, so your bare skin and eyes are not exposed.

We recommend you filter your olive oil sample before using the Aristoleo Test Kit to remove any impurities or excessive moisture content.

1. Take a 12 ml vial with the label ARISTOLEO®, unscrew the cap. Use the disposable pipette provided to add 7.5 ml of the sample of olive oil that you want to analyze, up to the point noted on the label with an arrow. Afterwards replace the cap back on the vial.
2. Take a vial with the label **ACETIC ACID A** remove the contents (glacial acetic acid) using the syringe by piercing the top of the septum cap. Slowly and carefully remove all the glacial acetic acid and inject it (by piercing the septum on the cap) into the vial containing **REAGENT B**.
3. Shake well the mixture of the two reagents in **REAGENT B vial** for 30 seconds. Remove immediately all the contents from **REAGENT B vial** using the same syringe. Inject all the liquid from the syringe into the Aristoleo® vial with the olive oil, puncturing the septum cap with the needle. Shake well for 30 seconds and let it sit for another 60 seconds.
4. Remove all the contents of the vial containing **REAGENT C** using the same syringe.
5. Inject **REAGENT C** through septum cap of the Aristoleo® vial that contains the olive oil, and the mixture of **REAGENT A and REAGENT B**.
6. Shake well for 30 seconds and make sure there is a complete mixture of the olive oil and the reagents.
7. Let stand for **exactly 45 min** at room temperature (23-25°C). After 45 min the green color continues to become darker and is no longer valid. **The best result is attained at 45min.** Then compare the color of the liquid at the bottom of the Aristoleo® vial with the color chart provided (photo) to approximate the total combined amount of oleocanthal and oleacein in the olive oil sample. Place the vial upright on the color marker for better comparison and take a photo of natural light without shadows for your file. Photos should be taken from half a meter at an angle

The range of colors (shades of green) correspond to the amount of the combined total of oleocanthal and oleacein phenolic compounds detected in the olive oil sample. The greener the liquid at the lower part of the Aristoleo® 12ml vial the higher the amount of oleocanthal and oleacein. The amount of the total oleocanthal and oleacein phenolic compounds that correspond to the color in the Aristoleo® vial are listed as mg per kg of olive oil on the **ARISTOLEO® color chart photo**.

The color of the liquid in the 12ml. Aristoleo® vial remains stable for 45 minutes after the addition of Reagent C at room temperature of 23-25°C. After 45 minutes the initial color corresponding to the color index chart photo begins to deteriorate and the result is not to be reliable.

DISPOSAL OF THE ARISTOLEO® TEST KIT

After the conclusion of the Aristoleo® Test Kit measurement you must dispose all the contents of the Aristoleo® Test Kit vial according to the local authorities' guidelines for its disposal.

The 12ml Aristoleo® vial contains approximately 15% acetic acid in the final stage including the olive oil sample, water solution and 2-Amino-5-hydroxybenzoic acid. Make sure you follow local regulations for the safe disposal of 15% acetic acid and 2 Amino 5 hydroxybenzoic acid, which may also vary from country to country.

After using the syringe, replace the cap on the needle and dispose according to local regulations for safe syringe disposal.

ARISTOLEO® TEST KIT UTILITY AND RESULTS

Aristoleo® Test Kit was tested for accuracy and verified by Dr. Prokopios Magiatis and Dr. Eleni Melliou at the University of Athens using the NMR (nuclear magnetic resonance) regarding the accuracy and consistency of the color index in relation to the amount of combined oleocanthal and oleacein found in each extra virgin olive oil sample. Results were also verified using spectrophotometer analysis.

Aristoleo® Test Kit was calibrated for use only on extra virgin olive oil and if there is any adulteration or defect in the extra virgin olive oil, e.g., if it was produced with the use of high temperature water, or is rancid or contaminated results will not be consistent with the Aristoleo® Color chart photo provided.

Results may vary according to the experience of the user in identifying subtle green or yellow color changes. There can be wide differences in perception of the green or yellowish green color due to levels of colorblindness of the individual user or color sensitivity. Always seek other people's opinion in assessing the color of the liquid to the Aristoleo® Color chart photo, until you gain the necessary experience.

Generally, research has shown that the two most prolific phenolic compounds found in Greek extra virgin olive oil are oleocanthal and oleacein.

Aristoleo® color index was calibrated to the green color. The lightest green color indicates the olive oil contains at least 250mg per kg of combined oleocanthal and oleacein. There are other less abundant phenolic compounds in olive oil which the Aristoleo® Test Kit does not measure.

Further testing using the NMR (Nuclear Magnetic Resonance) will more accurately measure each of the following phenolic compounds - oleocanthal, oleacein, ligstroside aglycon, oleuropein aglycon, oleomissional, oleokoronol, tyrosol, or hydroxytyrosol found in olive oil.

Contact us at the emails listed at the last page, if you have any questions on the type of phenolic compound composition you can expect from extra virgin olive oil from the specific olive tree varieties you are interested in testing using Aristoleo® Test Kit.

If your olive oil is very bitter and/or peppery but the Aristoleo® Test Kit indicates there is very little oleocanthal and oleacein present, then it requires further testing by NMR to identify other specific phenolic compounds present. Oleocanthal tastes peppery and it is felt in the throat 2-3 seconds after swallowing and may cause you to cough. Oleacein tastes bitter to the tongue.

We make no guarantees the olive oil tested conforms to any health claim regulation. Aristoleo® Test Kit can identify only the presence of oleocanthal and oleacein using a colorimetric index. The accuracy of Aristoleo® Test Kit is fully dependent on the experience of the user and their ability to follow the instructions provided.

Advanced training for Aristoleo® Test Kit will be provided at a cost upon request at a location solely at the discretion of World Olive Center for Health.

World Olive Center for Health is not responsible for any injuries or harm to any persons or damage caused to facilities or equipment due to the improper use or storage of Aristoleo® Test Kit.

World Olive Center for Health does not guarantee the accuracy of the results that were obtained by improper use of the Aristoleo® Test Kit, or due to operator error or lack of sufficient experience or training.

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product regarding appropriate safety precautions. It does not represent any guarantee of the properties of the product. World Olive Center for Health shall not be held liable for any damage resulting from handling or from contact with the above product. See our website www.worldolivecenter.com for additional terms and conditions of sale.

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Aristoleo® Test Kit is manufactured and distributed by World Olive Center for Health in Greece, Imittou 76 St., 11634, Athens.

World Olive Center for Health is the producer and the distributor under license from the inventors.

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