



## Hot selling extra virgin olive oil may be lampante olive oil?

Okoer.com sent 10 imported extra virgin olive oil samples to inspect, only one met the tasting requirements, 6 was rated as C, 2 was rated as D and D-, most because they failed to meet the taste requirements and the mineral oil MOSH detected was too high

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## Introduction

Cardiovascular protection, skin care, known as "liquid gold"--- olive oil has become the flagship of the "health food" for manufacturers in recent years. The market demand is soaring. In the past, olive oil are only for high end gifts. Now it has become essential ingredients for many families in China.

Statistics show that in 2014 China imported 42,000 tons of olive oil, and it is expected to be a net increase of 10,000 tons per year to reach 100,000 tons in 2020.

Okoer.com sent 10 imported extra virgin olive oils for inspection. For the mandatory implementation of physical and chemical indicators, all samples met China's national standard requirements of "extra virgin olive oil".

But the overall rating result is still disappointed, mainly because most of the self-proclaimed "extra virgin" olive oils failed to meet the sensory indicators, according to a certified Germany oil specialist's evaluation, they only met "virgin olive oil" level instead of "extra virgin olive oil". Though it seems only a small word "extra", the difference of quality and cost of the two kinds oils is huge.

The worse is, according to EU's laws, Olivoila and Oubote oils were evaluated to be "lampante olive oil", which can hardly smell or taste any fruit aroma in their oils. Those oils are neither for selling nor edible for people in EU.

- ✓ GALLO is the only one which was evaluated as "extra virgin olive oil", but due to the mineral oil MOSH detected was too high, the final rating is "C";
- ✓ Ybarra, Beilina PDO only detected minor mineral oil, but due to the bad taste failed to meet "extra virgin" level, so the ratings are "C";
- ✓ Abril, Muel, and Betis performed ordinarily in both tasting and mineral oil, the ratings are "C";

- ✓ Fragata and Agric mineral oil MOSH were pretty high, they also failed the taste indicators of "extra virgin" olive oil, so the ratings are "D";
- ✓ Olivoila and Oubote oils, although they met the requirements of detection of mineral oil, but performed poor in sensory evaluation, rated to be the worst oils of 10 samples.

## Chapter1: Okoer.com Rating

### Okoer.com Rating Definition

Okoer.com classified products into 6 grades:



On the one hand, the defects number of the product decides the rating: the more defects, the lower the rating is; on the other hand, the defects' severity also affects the rating. If a product violates of the legal provisions and endangers the health of consumers and should not be sold in the market, we'll directly rate it as D- (warning).

As a high quality of life's guard, we not only evaluate the products to "meet the national standard" requirements, but require the products to meet higher quality requirements. Our evaluation standards developed by our Germany professional team, referring to the Chinese, the European Union, WHO and other authoritative standards, may be higher than China and EU standards. In 2015, we will focus on detecting the brands of international, Hong Kong, Macao and Taiwan and imported products, which are selling in the Chinese market.

#### Recommend Buying

If a product does not have any flaws, or simply PVC plastics containing or contaminated environment in the product package, you can get A+ (superior). In total rated A (Excellent) products, also are not allowed to endanger the safety of major defects or cancer-causing ingredients. Thus, consumers can buy A+ (superior) or A (excellent) products and services.

#### Aware Buying

Draw attention to  
If the product has a 2-3 minor defects, the named B (good) or C (medium). Creams or shampoos and other cosmetics if it contains a frequently allergenic ingredients will, we will be rated B (good).

#### Cautious buying

In principle, it should be careful to buy D (poor) or D- (warning) products, such products either have a lot of minor defects, or at least there is a major defect, such as carcinogenic or explicitly contain carcinogens ingredients, or the existence of security defects, such as children's toys containing lead easily swallowed small part of suffocation.

	橄露经典特级初榨橄榄油 <b>GALLO</b> 厂商：Victor Guedes, Ind.Com, S.A.	<b>C</b> 中		阿布利尔特级初榨橄榄油 <b>Abril</b> 厂商：Aceites Abril S.L.	<b>C</b> 中
	亿芭利特级初榨橄榄油 <b>Ybarra</b> 厂商：Aceites Ybarra, S.A.	<b>C</b> 中		蓓琳娜PDO特级初榨橄榄油 <b>Beilinal</b> 厂商：Exiom Food S.L	<b>C</b> 中
	品利特级初榨橄榄油 <b>Muelolive</b> 厂商：Mueloliva y Minerva S.L.	<b>C</b> 中		贝蒂斯特级初榨橄榄油 <b>Betis</b> 厂商：托雷斯和利贝雷斯公司	<b>C</b> 中
	阿格利司特级初榨橄榄油 <b>Agric</b> 厂商：法克拉利司兄弟公司	<b>D</b> 差		帆船牌特级初榨橄榄油 <b>Fragata</b> 厂商：Angel Camacho Alimentacion, S.L.	<b>D</b> 差
	欧伯特特级初榨橄榄油 <b>Oubote</b> 厂商：西班牙玛伊哇集团	<b>D-</b> 警示		欧丽薇兰特级初榨橄榄油 <b>Olivoila</b> 厂商：益海嘉里投资有限公司	<b>D-</b> 警示

备注：表格按评级高低排名，同级别产品排名不分先后。

## Chapter2: Inspection Report

### Inspection Result

The result is very bad: 6 products are rated to C (Medium), 2 products are rated to D (poor), 2 products are rated to D- (warning). It is worth noting, the physical and chemical indicators test results and sensory evaluation results (for taste and smell) do not match.

Because many sensory defeats can't be determined by the physical and chemical indicators, therefore the sensory evaluation is more important than the physical and chemical testing. International Olive Council (IOC) also has such corresponding testing requirements.

The review panel of sensory evaluation expressed the taste of olive oils are stale, sticky, may due to the oils are not fresh - most samples are expired in 2016. The longer the storage time of olive oil, the more defects of taste and appearance, which may cause "virgin olive oil" degrade to "lampante olive oil."

The wine acidity and the smell of mud and other defeats, may due to the fruit harvested too late, or improper handling of fruit produced in the production process. This kind of problem occurs when filling the oil, will not be worse as the storage time is longer.

In addition, we also tested the oil plasticizer substances, because such substances are fat-soluble, likely to occur in foods containing the fat. Some products in this inspection only found trace amounts of plasticizing.

In Europe, Italy olive oil is a symbol of high quality, other olive oil sources often fake they are from Italy. In order to confirm if the 10 samples are really from the marked origins, we used near-infrared spectroscopy technique by molecular vibration analysis, the specific ingredients of oil was measured; then, by comparison with a database of thousands of olive oil data, we can determine its origin.

All 10 samples didn't find matches in the database, we have to "believe" that marked origins.

We also criticize the packagings: All packaging materials contain polyvinyl chloride, polyvinylidene chloride or chloride, which are pollutions to the environment.



Virgin Olive Oil	GALLO Extra Virgin Olive Oil	Abril Extra Virgin Olive Oil	Ybarra Extra Virgin Olive Oil
Marked Manufacture	Victor Guedes, Ind.com. S.A.	Aceites Abril S.L.	Aceites Ybarra, S.A.
Price/500ML (RMB)	79	32.5	64
Marked Origin	Portugal	Spain	Spain
Tasting/Smell	Moderate fruity, ripe , slightly bitter , slightly spicy, coordination	Slightly viscous , defective , still moderate fruity, ripe , mild bitter and spicy	Mild wine sour , slightly fruity, ripe , slightly bitter and spicy
Sensory Level	Extra Virgin Olive Oil	Virgin Olive Oil	Virgin Olive Oil
Sensory Rating	A+(Superior)	C (Medium)	C (Medium)
Meet physical & chemical indicators	YES	YES	YES
mineral oil	MOSH a bit higher, MOAH detected	MOSH a bit higher, MOAH detected	MOSH Trace Amount
PAHs	Trace Amount	Trace Amount	Trace Amount
plasticizer	Trace Amount	Trace Amount	Trace Amount
Ingredient Rating	C (Medium)	C (Medium)	A+(Superior)
Packing contains polyvinyl chloride, polyvinylidene chloride or chloride	YES	YES	YES
Other defects Rating	A(Excellent)	A(Excellent)	A(Excellent)
Remark			
Total Rating	C (Medium)	C (Medium)	C (Medium)



Virgin Olive Oil	Beilina Extra Virgin Olive Oil	Muel Extra Virgin Olive Oil	Betis Extra Virgin Olive Oil	Agric Extra Virgin Olive Oil
Marked Manufacture	Exiom Food S.L	Mueloliva y Minerva S.L.	TORRES Y RIBELLES,S.A	Fakelali Brothers
Price/500ML (RMB)	24.95	49.9	98	67.95
Marked Orgin	Spain	Spain	Spain	Greece
Tasting/Smell	Mild wine sour , medium fruity, ripe , slightly bitter and spicy	Obviously stale / rancid smell , slightly fruity, ripe , slightly bitter and spicy	Mild stale / rancid smell , mild fruity, ripe , slightly bitter taste , mild spicy flavor	Mild stale / rancid smell , mild fruity, ripe , slightly bitter taste , mild spicy flavor
Sensory Level	Virgin Olive Oil	Virgin Olive Oil	Virgin Olive Oil	Virgin Olive Oil
Sensory Rating	C (Medium)	C (Medium)	C (Medium)	C (Medium)
Meet physical & chemical indicators	YES	YES	YES	YES
mineral oil	MOSH Trace Amount	MOSH a bit higher, MOAH detected	MOSH a bit higher, MOAH detected	MOSH much higher, MOAH detected
PAHs	Trace Amount	Trace Amount	Trace Amount	Trace Amount
plasticizer	Trace Amount	Trace Amount	Trace Amount	Trace Amount
Ingredient Rating	A(Excellent)	C (Medium)	C (Medium)	D (Poor)
Packing contains polyvinyl chloride, polyvinylidene chloride or chloride	YES	YES	YES	YES
Other defects Rating	A(Excellent)	A(Excellent)	A(Excellent)	A(Excellent)
Remark				
Total Rating	C (Medium)	C (Medium)	C (Medium)	D (Poor)



Virgin Olive Oil	Fragata Extra Virgin Olive Oil	Oubote Extra Virgin Olive Oil	Olivoila Extra Virgin Olive Oil
Marked Manufacture	Angel Camacho Alimentacion, S.L.	MAEVA	Wilmar
Price/500ML (RMB)	45	49	65.33
Marked Orgin	Spain	Spain	Spain
Tasting/Smell	Obviously stale / rancid taste , slightly fruity, ripe , almost no bitterness and spicy flavor	Significant wine acidity and turbidity , slightly fruity, ripe , slightly bitter and spicy taste	Significant wine acidity and turbidity , slightly fruity, ripe , slightly bitter and spicy taste
Sensory Level	Virgin Olive Oil	Lampante Olive Oil	Lampante Olive Oil
Sensory Rating	C (Medium)	D- (Warning)	D- (Warning)
Meet physical & chemical indicators	YES	YES	YES
mineral oil	MOSH much higher, MOAH detected	MOSH Trace Amount	MOSH Trace Amount
PAHs	Trace Amount	Trace Amount	Trace Amount
plasticizer	Trace Amount	Trace Amount	Trace Amount
Ingredient Rating	D (Poor)	A+ (Superior)	B(Good)
Packing contains polyvinyl chloride, polyvinylidene chloride or chloride	YES	YES	YES
Other defects Rating	A(Excellent)	A(Excellent)	A(Excellent)
Remark		1)	1)
Total Rating	D (Poor)	D-(Warning)	D-(Warning)

Remarks:

- 1) The product according to the EU regulations COMMISSION REGULATION (EEC) 2568/91 is "lampante olive oil" level.

### Special Note:

- 1). In the table manufacturers column include but not limited to investment companies, manufacturers, commissioning party, the trustee, agents, distributors, importers and other agencies of the products.
- 2) the above table is ranked by rating, the same level products are ranked in alphabetical order.
- 3). All tests were finished by independent testing organizations with the appropriate qualifications in Germany.
- 4) free / not detected = below the detection limit using detection methods; Trace = higher than limit but below the limit of deduction of points.
- 5) All information and data in the report was by June 29, 2015.

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## Chapter3: Manufactures Feedbacks

Before releasing the report, Okoer.com informed all 10 products' manufacturers or dealers, and got feedback from 7.

### MAEVA

On May5, 2015, the MAEVA Group lawyer lettered to us: " OuBote brand of extra virgin olive oil was not produced and filled by MAEVA "; the products from China with " Deceptive label "is not an isolated phenomenon. So we provided the pictures of the product label to MAEVA Group, to help them to investigate the possible brand violations.

One June 1, the MAEVA Group lawyer contacted us again and explained that, "From the photos, the olive oil is an OBT brand, but does not belong to MAEVA." But on June 2, the lawyer said on the phone, they don't know the OBT brand.

MAEVA Group lawyer also said their Group is producing and bottling the highest quality olive oil in Spain; those products are "sold to China by a dealer"; after imported, those oils "were sold to the middleman, The middleman put their own label and sell to consumers. "

For our further questioning, the lawyer explained on the phone, these products were exported to China without label, MAEVA Group therefore has no responsible for the products. As who they sold the oil to, the lawyers refused to tell, saying we should figure it out their sales channels in China by ourselves.

The lawyer also tell us by written notice: "Product Frauds are not rare in Chinese market, so far we cannot confirm whether this is the case, the inspection of the sample from MAEVA group is quite different from " ÖKO-TEST ( Okoer.com). " The lawyer asked us, "Do not release any product's inspection linking with MAEVA group ."

We contacted their importer: Heilongjiang Bei Zhen green foods limited company. They confirmed the olive oil was produced by MAEVA group and was filled in Spain. The health certificate from MAEVA group do have Bei Zhen's name on it.

On June 16, we have further information. The lawyer contacted us again and admitted: "OBT brand is entrusted by MAEVA group to fill, label and sell, but the OBT brand is owned by a Chinese dealer, therefore, the products under this brand "could possibly filled by a third party ". Meanwhile, he sent us a new inspection report of the product, which showed a laboratory entrusted by MAEVA group proved their products are "Extra virgin "level.

For this result, we can only say: the quality of the product we bought in the Chinese market is obviously worse.

### Muel

The Mueloliva y Minerva company wrote to us that when the product is produced and filled, it was not "stale taste", the temperature and the light in storage lead to this result. The company's export manager Mateo Muela Rodriguez



asked us do not publish the result, because this will bring a huge difficulties to the company. However, before the export manager on the phone was completely different: "If you want to find troubles, then we will give you troubles."

### **GALLO**

Victor Guede company's contact person Margarida Olivera wanted to know why we chose MOSH and MOAH indicators to do the inspection. What is the limit values, and we answered his questions.

### **Fragata**

Angel Camacho Alimentacion company objected our evaluation results in many reasons. In addition, its technical director Juan Carlos Ortiz Sánchez worried we would rate Fragata extra virgin olive oil as "lampante olive oil" level.

### **Betis**

Betis's producer--Marai Aznar Mateos, export manager of Torres y Ribelles company said in a mail that the company hopes its name do not appear in this test report. We ultimately didn't adopt this proposal. Whether to publish the test results and how to publish it is Okoer.com's decision.

Later, the company's distributor in China, Qingdao Kingoliva marketing Limited contacted us and explain the product is light olive oil. - this may be able to explain the results of sensory evaluation. However, light olive oil can also reach "extra virgin" sensory level. However, the German olive oil sensory evaluation expert told us the lighter the oil is, the more mature when the fruit is harvested, the faster the quality of olive oil declines.

By the end of June, Qingdao Kingoliva marketing Limited to provide us their manufacturers'inspection for the sample, which showed that the product was "extra virgin" level. However, the inspection report is likely only for those are stored under the ideal conditions products, it does not mean that Chinese consumers in can buy the same quality oil.

The manufacturer themselves is also very clear about this. They told us in the future they will fill oil into the deep dark green bottles. Currently they are using transparent bottles, which is not good for storage, will make the sensory quality decrease.

### **Beilina**

Beilin Na PDO extra virgin olive oil's producer-- Exiom Foods company explained that Beilin Na PDO extra virgin olive oil had "has a slightly sour wine (fusty)" may due to improper storage. In addition, they do not know whether the sample for inspection is genuine.

### **Ybarra**

Ybarra extra virgin olive oil and Muel extra virgin olive oil's importer PinLive (Shanghai) Food Co., wrote e-mail saying, "We disagree your inspections of Ybarra and Muel olive oil ", they sent us the test reports and health certificate as evidences. Those evidences showed the physical and chemical indicators met requirements, just as our inspection showed. However, the importer did not provide the sensory evaluation report.

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## **Chapter4: Learn more about our testing**

### **Purchasing**

We surveyed on Jingdong, No.1 shop, Tiaomao and other large online malls, and selected the 10 best-selling extra virgin olive oils, all products are imported products. Samples were bought from supermarkets and large electricity suppliers' channels.

Okoer.com Beijing staffs did the samples purchasing. We do not accept samples from manufactures, make sure the inspection be independent to the manufacturers. Meanwhile, Okoer.com makes decision to send what kind of products for inspection. Manufacturers can neither prevent us from inspecting of their products, nor prompt us to inspect their products according to their wishes.

Usually in the reports we will point out the problems of the products, for the purpose of fair, we will give the manufacturer an opportunity to express their opinions. Only after we finished the inspections, we will inform the manufacturers their products are under inspection.

### **Purchasing time**

January 2015

### **Sensory evaluation**

Besides the physical and chemical indicators, the quality of taste and smell of extra virgin olive oil will determine its quality. EU classified them as: extra virgin olive oil, virgin olive oil, and lampante olive oil. The sensory evaluation, every time 8-12 trained appraisers evaluate the olive oil's fruity, bitter and spicy, and check whether they have the typical sensory defeats.

### **Concern on ingredients**

In order to confirm the origin of olive oil label is true, we used the Near Infrared Spectroscopy to detect them. Analysis of other chemical components (such as free fatty acids and other 1,2-diacylglycerol) olive oil can also help us determine the storage time. In addition, for pesticides, plasticizers, polycyclic aromatic hydrocarbons, heavy metals and mineral oils (MOSH and MOAH) detection is also essential.

### **Detection method**

- Sensory evaluation: According to EU standards COMMISSION REGULATION (EEC) No 2568/91 (Revised COMMISSION REGULATION (EC) No 640/2008) of Annex XII, and the International Olive Council (IOC) criteria tasting (test group by at least 8 We were trained testers) and make the sensory evaluation results are described.
- acid value, free fatty acids: According to EU standards Annex II COMMISSION REGULATION (EEC) No 2568/91.
- peroxide value: According to EU standards COMMISSION REGULATION (EEC) No 2568/91 Annex III.
- the isomeric diglyceride (1,2 diglyceride and 1,3-diglyceride) and 1,2-diglycerides and 1,3-diglycerides relative amounts: Oil Science Association according to German Standard DGF C-VI 16 (08).
- UV absorbance (K232 / K270 / delta-K): According to EU standards Annex IX COMMISSION REGULATION (EEC) No 2568/91 of.
- mineral oils (MOSH, MOAH): liquid chromatography - gas chromatography - flame ionization detector associated usage (LC-GC-FID).
- chlorophyll, 1,2-diglycerides, triglycerides oxide monomer, anisidine value, fatty acid composition, various types of triglyceride molecular components: Analysis of Near Infrared Spectroscopy (NIR), the wavelength range of 700-2500nm, try Sample temperature 50 ° C, the measurement cycle 20s.
- Pesticide Residues: According to the German LFGB Code §64 LFGB L00.00-34 mod using gas chromatography - mass spectrometry analysis (GC-MS).
- plasticizer (adipic acid esters, phthalic esters, cyclohexanedicarboxylic esters): gas chromatography - mass spectrometry (GC-MSD).
- PAHs: gas chromatography - mass spectrometry (GC-MSD).
- copper and other heavy metals: after microwave digestion were detected (ICP-MS) by inductively coupled plasma mass spectrometer.
- packaging material PVC / PVDC / chlorine-containing material: X-ray fluorescence spectrometer.

### Sensory Evaluation Standards

#### **Each of the following degrades 5 levels**

According to EU COMMISSION REGULATION (EEC) 2568/91 (updated version), when having sensory defects (defects median is between 3.5-6), the labeled "virgin olive oil" will be rated as "lampante olive oil".

#### **Each of the following degrades 3 levels**

According to EU COMMISSION REGULATION (EEC) 2568/91 (updated version) , when having sensory defeats(defects median is between 0-3.5), the labeled "extra virgin olive oil" will be rated as "virgin olive oil".

### Ingredients Evaluation Standards

#### **Each of the following degrades 2 levels**

- ✓ Benzo (a) pyrene, benzo (a) anthracene and benzo (b) fluoranthene total content exceeds EU law (COMMISSION REGULATION (EC) No 1881/2006) specified, for the direct consumption oil maximum limit (2.0µg / kg) of 50% (table labeled "a bit higher").  
According to annex the German Science Foundation (DFG) 's form (MAK, 45. Lieferung, 2008 release) Benzo (a) anthracene and benzo (b) fluoranthene MAK set TEF 0.1 computing.
- ✓ Mineral oil saturated hydrocarbons MOSH (C17-C24) content of between 2 - 4 mg / between kg, or / and MOSH (C25-C35) exceeds 10mg / kg (table labeled "MOSH much higher").
- ✓ Mineral oil detected (MOAH) (i.e., > 5 mg / kg).

#### **Each of the following degrades 1 level**

Mineral oil saturated hydrocarbons MOSH (C17-C24) content ranging between 1 - 2 mg / kg, or / and MOSH (C25-C35) between 4 - "MOSH High" (table marked between 10mg / kg)

Germany's Federal Institute for Risk Assessment to migrate from the packaging material into the food MOSH (C17 - C20) recommended values up to 4 mg / kg (2012); and in 2014 revised law bill Federal Ministry of Food and Agriculture, the proposal migration from packaging materials to food MOSH (C20 - C35) is set to 2 mg / kg of food; the European Food Safety Authority (EFSA) 2013 research report released for the mineral oil content in food, although not set MOSH the highest limits in food, but think MOSH content currently found in food in Europe is a potential worry; the European Food Safety Bureau mineral oil aromatic hydrocarbons (MOAH) assessed as having potential mutagenicity and carcinogenicity. Comprehensive assessment of these institutions, Oekoer.com developed relegation standard for mineral oil.

### Other defects evaluation standards

#### **One each of the following drop**

Packaging materials containing polyvinyl chloride, polyvinylidene chloride or chloride.

### Total Rating

Total Rating refers the ingredient evaluation and the sensory evaluation, and taking the lower rating. If other defects rating is B (good) or C (medium), then total rating degrade 1 level.

## About Okoer.com

Okoer.com, cooperated by Mr. Luo Changping team and Germany KO-TEST team, is a third-party consumer product inspection platform.

## About the Founder



CEO is Mr. Luo Changping, the former Vice EDITOR-IN-CHIEF of <CaiJing Magazine>, founder and CEO of Okoer.com.

## Website Function

Through Okoer.com, let consumers to view the products evaluation reports, and guide to consumption.

## Website Background

Okoer declares the purpose of the inspections is to guide customers to select the real high quality products. It's founder, Luo Changping, once real name tips-off the former deputy head of the National Reform and Development Commission, Liu Tienan for corruption.

Okoer exclusively cooperates with German Consumer authoritative evaluation organization. All samples are randomly buy by anonymous, do not accept any business invitation and submission, all inspections were independent done in Germany.



Okoer's Labs

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