

ESSENTIAL OILS AND OLEORESINS MARKET INSIDER



Lemongrass planting

August 2016 Report

Market Insider

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ESSENTIAL OILS

Market Update & News

IFEAT Conference booking up

The 2016 IFEAT Conference is filling up rapidly. This year's conference with the theme 'The Middle East: Challenges at the Historical Crossroad of the F&F Trade', is being held in Dubai, at the Madinat Jumerirah, Dubai over the period 25 to 29 September. This is the major annual gathering for the global essential oil and aroma trades industry, with all major companies represented, and representation from all major origins and markets. It is an excellent place to make and renew contacts.

By the end of June there were around 900 registrations and the total can be expected to be over 1,000. The format of the conference has changed this year, with the first 2 days given over to the traditional technical presentations on the industry, and the following two days covering the IFEAT Trade Exhibition, where companies can book booths to showcase their products. This provides a very valuable 'shop window' for new suppliers to make contact with prospective buyers.

New extraction technologies for premium botanicals for cosmetics

Extraction of botanicals for the premium fragrance and cosmetics sector is driven by a desire to capture the 'pure' scent and characteristics of the botanical material – with its phytochemistry unaltered. Heat in the extraction process is a primary cause of change, and with the exception of CO₂, residual quantities of most solvents remain after completion of the extraction process. CO₂ presents many advantages in extraction, but the process is expensive. The search for alternative extraction technologies is a continuing process.

Hallstar, a speciality chemistry company based in Chicago, USA, has announced that it has acquired bioactive ingredient supplier Oléos. Located in Montpellier, France, Oléo's proprietary oleo eco-extraction technology produces 100 percent natural, sustainable and clinically proven bioactive compounds for cosmetic applications including anti-aging qualities, dark spot diminishment and skin whitening.

"Oléos's unique capabilities and technology will enhance Hallstar's technology platform with patented, clinically proven natural active ingredients for beauty and personal care," said John Paro, chairman, president and CEO of Hallstar. "As we grow our global footprint, the south of France puts us at the heart of cosmetic innovation. Further, with Oléos, we add a strong team and culture that fits the Hallstar brand."

"The south of France, with its access to plentiful natural resources and proximity to major customers, has been an ideal place to grow our business over the last seven years," said Anne Rossignol-Castera, president of Oléos. "By joining the Hallstar team, we ensure that access to these natural resources for cosmetic brands can be provided, as bioactive ingredients, on a global scale. Additionally, Hallstar's formulated solutions capabilities provide the perfect vehicle to globalize Oléo's ingredients."

Oléos' s bioactives line promises to help Hallstar meet growing consumer demand for high-efficacy, all-natural products. Simultaneously meeting these demands is a challenge, but Oléos has succeeded by eco-extracting active ingredients of high purity and yield - without the use of organic solvents and other pollutants - in a way that is ecologically sustainable. Its deep expertise in lipids, vegetable oils and anti-oxidants will create new synergies with Hallstar's extensive knowledge in ester chemistry and naturally sourced ingredients

About Hallstar:

Hallstar is a leading global provider of specialty chemistry solutions. The company takes a collaborative approach to every engagement, delivering technical support, chemistry expertise and industry knowledge that helps its customers make the most of their products, from concepts to the first production batches (www.hallstar.com)

About Oléos:

Oléos creates next-generation natural, anti-aging, oily, organic, eco-designed cosmetic ingredients. These products rely on the synergy between the properties of vegetable oils together with the bio-molecules naturally in plants, flowers, fruits and minerals (www.oleos.fr)

40th Anniversary of EU Cosmetics Directive

This year marks the 40th anniversary of the first harmonized European Directive on cosmetic products - Directive 76/768/EEC, which harmonizes the law covering cosmetic products. However, there is still no real standardization of the use and meanings of the words 'natural' and 'organic' and this is becoming an issue of increasing importance given the power of these labels in product marketing. A Brussels-based cosmetics advocacy group, Natrue, is on a mission to have any future regulation standardize the definition of natural and organic. "Our beloved products are still an officially undefined sector of the tightly regulated European industry, and this is the reason for Natrue's advocacy role – that any future regulatory definition of Natural and Organic Cosmetics must be appropriate, relevant and strict," the group said in an official statement (www.natrue.org; 'True Friends of Natural and Organic Cosmetics').

Dr. Mark Smith, scientific and regulatory manager at NATRUE, said multiple private standards exist whose seals aim to effectively reassure consumers of the naturalness of their purchased product, but each of the numerous seals has different criteria, making it difficult for consumers to choose. There have been several changes through its seven amendments over the past decade with ultimately the Regulation (Regulation (EC) No 1223/2009) that came into force in July 2013, but to date there is no official regulatory definition of finished natural and organic cosmetics in either the EU or the United States although the U. S. Food and Drug Administration (FDA) recently closed a public comment for the new definition of natural in food labeling.

Source: Natrue

Union for Ethical BioTrade (UEBT) certifies Symrise Amazon

Symrise Amazon in Brazil is the first manufacturer of cosmetic ingredients, fragrances and flavors in Latin America certified by the Union for Ethical BioTrade (UEBT). As an independent body, UEBT audited and certified that Symrise Amazon upholds high ethical and ecological principles in the sourcing of 19 natural ingredients from the Amazon region.

Andiroba oil and passion fruit oil, cupuaçu butter and acai berry puree are just a few examples of valuable ingredients for cosmetic products and perfumes that find their way from the heart of the Amazon rain forest to the world market. Certification by the UEBT ensures that ethical biotrade practices are implemented along the supply chain promoting the conservation of biodiversity during the sourcing of raw materials and that the grower communities benefit from fair prices and local projects for their sustainable development. The fruits and seeds are harvested by hand according to century-old traditions.

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Ethical Sourcing from 14 Grower Communities. The current certification of Symrise Amazon confirms that the ingredients sourced from 14 grower communities and cooperatives in the Brazilian Amazon region are done so according to the internationally recognized UEBT Ethical BioTrade Standard. The focus of the independent review lay on Symrise Amazon's internal monitoring process, which verifies and documents the origin and path of the products and oversees compliance with standards. In addition, the review examined the supply chain and conditions in the 14 local grower communities. Furthermore, the review verified that the Symrise Amazon had internalized the regulations regarding access and benefit sharing. These regulations seek to ensure that the benefits of research, development and commercialization linked to biodiversity are shared fairly and appropriately with grower communities.

"UEBT certification is an important step in our plan to make the treasure trove of ingredients from the Amazon region available to consumers around the world," says Eder Ramos, Global President Cosmetic Ingredients at Symrise. "It underscores our voluntary commitment to ethical standards in the extraction of natural raw materials from biological resources. We established these standards in our biodiversity agenda."

The Symrise Amazon facility in the Ecoparque in Belém in the Brazilian state of Pará was opened in 2015.

About Symrise

Symrise is a global supplier of fragrances, flavorings, cosmetic active ingredients and raw materials, as well as functional ingredients. Its clients include manufacturers of perfumes, cosmetics, food and beverages, the pharmaceutical industry and producers of nutritional supplements. With sales of € 2.602 billion in fiscal year 2015 and a market share of twelve percent, Symrise is among the top three suppliers in the global flavors and fragrances market. Headquartered in Holzminden, Germany, the Group is represented with 40 locations in over 35 countries in Europe, Africa, the Middle East, Asia, the United States and Latin America.

Symrise works with its clients to develop new ideas and market-ready concepts for products that form an indispensable part of everyday life. Economic success and corporate responsibility are inextricably linked as part of this process. Symrise thus takes sustainability into account in every part of its corporate strategy. DQS certified Symrise as a "Green Company" in 2013. For more information see www.symrise.com

Source: Symrise

EFSA adds botanicals to interactive data warehouse

The European Food Safety Authority's (EFSA) botanical interactive database will be fully up and running by early 2017, something one expert called a "great result". EFSA said the system was meant to help with the safety assessment of botanicals and botanical preparations used in food and food supplements "by facilitating hazard identification" and harmonising methodology. It first published the website version of the 1100-substance compendium of botanicals reported to contain toxic, addictive, psychotropic or other substances of concern back in April 2009 and updated it in 2012. Yet a push to make its mass of data more usable has seen the compendium given a new searchable format and it will be expanded to include around 300 non-European botanical species by 2017 when its construction will be complete. Joris Geelen, partner at Food Compliance International, congratulated EFSA's "highly skilled" experts for this "great result".

"EFSA has been doing a great job on the compendium since they first published it, it's very useful. On top of that now they made it into an interactive database, which broadens the possibilities," said Geelen, who worked in the past for the Belgian government on the botanical consensus project between Belgium, France and Italy (BELFRIT). EFSA said the database, which can be seen here:

<https://dwh.efsa.europa.eu/bi/asp/Main.aspx?rwtrep=301>) was open for additional contributions and comments from users. It would consider the inclusion of algae, cyanobacteria and fungi in the future. The compendium does not have any regulatory force and does not purport to make any judgment on whether the substances are suitable or not for food applications in Europe and the list may even contain unauthorized novel food ingredients. Instead it comes as part of EFSA's effort to harmonize the methodology for assessing the safety of botanicals and botanical preparations used in food – and sits in the broader context of the authority's 'Open EFSA' effort to make its wealth of data more useable.

Interpreting the data: Geelen said the difficulty now would be the interpretation of the data. "As EFSA also warns that the presence of a substance of concern in a botanical does not necessarily mean that the substance will also be present in a botanical preparation and, if so, at a dosage that could cause a health concern. "To evaluate the final preparation used for in a food supplement for example, the specifications of the preparation, the conditions of use and combinations of botanical preparations need to be taken into account." He said Belgium and Italy had already been taking this "pragmatic" approach, also taking into account 'traditional' knowledge. "Now we need to move further towards a common and pragmatic, nuanced approach for the safety evaluation, adapted for this diverse ingredients." He said divergence on the authorisation and prohibition of plants in member states showed there was still much work to be done.

Source: EFSA

A new definition for the term 'natural' will be coming to the US

The U. S. Food and Drug Administration (FDA) has closed its comment period on the new definition for natural, which will still take some time to sort through the over 7,600 public comments received, mostly from consumers. Food industry groups are also saying the term should be clearly defined.

The Grocery Manufacturers Association (GMA) considers it critically important for FDA to clearly define the term 'natural' to alleviate confusion. In comments submitted to the FDA, the GMA called on the agency to more clearly define the use of the term "natural" in food labeling. "Our industry is committed to providing consumers with labeling information in the clearest possible terms in order for them to make informed product purchases," said Karin Moore, GMA's senior vice president and general counsel. "It is critically important for FDA to clearly define the term 'natural' to alleviate confusion for consumers and industry alike and to set a standard that will promote fair and consistent dealing in the marketplace among food and beverage manufacturers."

In November of 2015, FDA said it was seeking comments on the use of the term "natural." GMA had filed a citizen petition with FDA in 2014 asking the agency to set a definition for the term, one of three petitions on the subject filed with the agency. In addition, some federal courts have also requested clarification from FDA on the proper use of the term "natural" in food labeling due to ongoing litigation on this topic. "The criteria used to determine if a food qualifies for a 'natural' claim should focus primarily on whether the product's ingredients are synthetic/ artificial or natural and on the degree of processing the ingredients have undergone," said Moore. The GMA comments also said that farming and agricultural methods used in the production of a crop, including pesticide or herbicide use, the use of biotech seeds, or animal husbandry (e.g., "free range," "grass fed," "fair trade", etc) should not have a bearing on the "natural" status of a food or ingredient.

Natural Products Association (NPA) of the US believes the term "natural" should be a distinct entity from "organic" which has consumer understanding in the marketplace. "Natural should not be synonymous with organic, and one way to individualize them is to harmonize FDA's longstanding position on natural with that of the [U.S. Department of Agriculture Food Safety and Inspection Service] USDA FSIS," the NPA said. Both policies on natural analyze the term post-harvest. NPA's official board position is that organic is non-GMO. If natural only prohibits synthetic additives and artificial preservatives/ colors, the NPA said it would give meaning to consumers who wish to avoid artificial and synthetic ingredients but remain

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indifferent about GMO ingredients. NPA requests FDA to incorporate its current policies on foods developed from biotechnology in its definition of natural. If GMO does not change the character of the ingredient, then foods derived from biotechnology should be allowed to be called "natural," the NPA said.

In addition, the NPA believes formalizing the definition of "natural" will not only alleviate confusion, but it will foster innovative ingredients. Currently, it said, the FDA policies over natural contradict state laws which have defined natural as non-GMO. "This does not serve to alleviate consumer confusion over the term natural," the NPA said. NPA requests the FDA to amend the FFDCAs and appropriate sections of the codified regulations in Title 21 to allow the term natural on foods as part of the common or usual name, including foods derived from biotechnology. NPA also requests that natural preservatives and natural colors be allowed as natural ingredients. FDA should also allow incidental additives and some processing aids to be included in a positive illustrative list of approved natural ingredients.

Meanwhile, the public had their own take on the matter. In open public comments, consumer Juliette Kern said: "Natural flavor should mean that the flavoring comes from the item it is intended to represent. Natural strawberry flavor should come from a strawberry, and naturally. I should be able to recreate it in my modest home kitchen with the equipment traditionally found there. Natural flavor should never come from somewhere else." Sharon Penner, who identified herself as being part of the Health Sciences Institute (HSI), said: "Natural should mean non-GMO, and completely as described on the product label, whatever it may be, with no added colors, flavors, preservatives or anything else whether occurring in nature or not. Absolutely nothing created in a food lab, and nothing not clearly described in the list of ingredients which should be clearly understood by anyone having a third-grade education."

It will be interesting to see how the FDA addresses these contrasting views, and the final decision could significantly help support the market for essential oils, oleoresins and other plant extracts against the products of fermentation and other biotechnology developments.

Source: Trade Press

Fermentation technology used to commercialize new plant sweetener sugar replacement

Commercial production of a fruit protein called brazzein, that is far sweeter than sugar and has fewer calories, is getting closer, and could provide some competition to stevia. Brazzein is a sweet-tasting protein extracted from the West African fruit of the climbing plant Oubli (*Pentadiplandra brazzeana*). Brazzein is found in the extracellular region, in the pulp tissue surrounding the seeds. Together with pentadin, brazzein is the second sweet-tasting protein discovered in the Oubli fruit. Like the other sweet proteins discovered in plants, such as monellin and thaumatin, it is extremely sweet compared to commonly used sweeteners (500 to 2000 times sweeter than sucrose).

Brazzein first attracted attention as a potential sugar substitute years ago. Making it in large amounts, however, has been challenging. Purifying it from the West African fruit that produces it naturally would be difficult on a commercial scale, and efforts to engineer microorganisms to make the protein have so far yielded a not-so-sweet version in low quantities. However a new approach using yeast to produce brazzein is giving promising results. Brazzein contains 4 calories per gram but is so sweet that any food portion will contain virtually zero calories. And as it is also a protein and not a carbohydrate, it does not affect blood sugar and is safe for diabetics. It is the smallest of the protein sweeteners discovered so far and it is composed of a single chain of 54 amino acid residues.

Working with *Kluyveromyces lactis*, researchers coaxed the yeast to overproduce two proteins that are essential for assembling brazzein. By doing so, the team made 2.6 times more brazzein than they had before with the same organism. A panel of tasters found that the protein produced by this approach was more than 2,000 times sweeter than sugar. Brazzein is also reported to have a lower carbon footprint than stevia or monk fruit. Researchers report it has an excellent taste similar to sugar. In tests it was shown to be superior to other

sweeteners, being closer to sugar with little or no metallic or bitter aftertaste.

As with all potent sweeteners the onset and duration of the sweetness is somewhat different and longer than sugar. It is reported that Brazzein combines well with most high intensity sweeteners such as acesulfame-K and aspartame, providing both quantitative and qualitative synergy. It improves stability, flavor and mouth feel when blended with acesulfame-K and aspartame, either alone or blended. It typically reduces the side taste of other sweeteners, for example, a blend of stevioside and brazzein is superior in taste quality to stevioside alone.

Whilst full commercial production of brazzein still has many hurdles to overcome, this is yet another example of fermentation technologies opening new routes to the production of natural compounds.

Source: Trade press

Product and Market Notes

Socio-economic important of essential oils

Social importance of essential oils – *Eucalyptus citriodora*

As noted in the previous (July 2016) report, although the essential oils are considered ‘minor’ crops, their production and position in the economy can be locally very important in centres of production, being a major and important source of cash income to families involved in the supply chain – whether as producers, processors (distillers), or in the collection and marketing chain.

And as products, they play a vital – essential – role in the flavours and fragrance industries, as well as important roles in the pharmaceutical and wider health sectors. Many essential oils have a long established position in Traditional Medicine, and the newer area of aromatherapy is based on their use. Industries that use these oils have a real concern that unless the social and economic importance of these crops and products is recognized, there is a real danger that their production will not be given support, and production will decline, with land given over to other crops, and the industries will be left with no alternatives to synthetics.

These are wonderful natural products, that play an important role in local economies and in the final consumer products in which they are used, and meet the needs of the market for ‘natural’ and ‘green’ labels. IFEAT (International Federation for Essential Oils and Aroma Trades), the major global trade body for the flavours and fragrances sector, is commissioning a range of Product Profiles to highlight the socio-economic importance of some of the key essential oils, to help ensure that the importance of these crops and products are recognized by decision makers. The profile below, of the second major *Eucalyptus* essential oil, the essential oil of *Eucalyptus citriodora*, is based on work prepared and published by IFEAT.

Eucalyptus citriodora

Eucalyptus citriodora, although a much smaller market than for *E. globulus*, is still one of the top 20 essential oils by volume, with annual consumption estimated at around 1,200 tonnes/yr. Its main constituent, citronellal, is widely used in fragrances, particularly in the household products, cosmetics and toiletries sectors for its citrus-floral notes. It also has strong anti-microbial properties, complementing its use in household cleaning and toiletry products. Anti-microbial properties also give it a role in pharmaceutical products and aromatherapy, in the treatment of skin infections, and acne. It is also widely used as a traditional insect repellent – and is widely used against mosquitos.

Although the plant is originally from Australia, production in Australia has declined and currently the 2 major producing and exporting countries for the essential oil are China and Brazil. In Brazil, production first started in the State of Sao Paulo, which dominated production in the 1970’s, but production has expanded northwards and westwards. Currently total production volume of the essential oil is estimated at around 580 tonnes/yr, with Sao Paulo providing around 35% of the total, Minas Gerias 45%, Mato Grosso 15% and Bahia 5%. The production (plantation) area is estimated at around 11,500 ha.

Exports of the essential oil of *E. citriodora* were around 330 tonnes, with the balance of production being used by the domestic industries, principally in the household products sector. The major export markets for the Brazilian production are Europe 65% of total exports), USA (25%), Asia (5%) and other Latin American countries (5%).

Annual production of *E. citriodora* oil in China is estimated in the range 200 to 300 tonnes. The main production area is Guangxi (80%), with Guangdong (15%) and Fujian (5%) making up the balance of production. Of the total production only around half (50%) is exported, with the balance used by the domestic industry. The growing development of the aroma chemicals industry in China is reducing the volume available for export and putting upward

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pressure on prices for Chinese material. In addition to the increasing demand from the domestic sector in China reducing volumes available for export, the production area is also under pressure from higher value crops, particularly fruit trees, for supply to the large urban food markets. Production in Brazil has been stimulated as a result of these factors and there are opportunities for other potential origins to consider.

In Brazil it is estimated that around 11,000 families are directly involved in the production of *E. citriodora*, with another 2 to 3,000 people in China. The crop makes an important contribution to family cash incomes. As a tree crop it also makes an important environmental contribution, maintaining tree cover in the production areas and protecting soils against erosion.

The oil is distilled from the leaves of the tree. Trees are either planted specifically for the production of oil from the leaves, or are planted for their timber, and the leaves harvested as a by-product. In both ways the crop contributes to maintaining tree cover and counters erosion. At 12 months after planting a tree is 2 to 4 meters tall, and two thirds of the leaves (and associated twigs) can be harvested from the lower part of the tree.

Harvesting is continued at 12 month intervals for the next 4 to 5 years, at which time the tree is too tall for the leaves to be easily harvested. At this time either the plantation is cut down (coppiced) so that the trees can sprout again from the cut stump to provide another cycle of harvesting; or trees are left to continue to grow to provide a mature timber crop. Spent material after distillation is partly used as fuel for distillation, with the remainder returned to the soil as mulch and compost to help maintain soil fertility.

Leaf harvest and distillation season varies by production area. Leaves are either distilled the day of harvest, or the following day. Citronellal content is highest in the dry season, and harvesting at this period gives the maximum yield of oil and citronellal content. Distillation is by simple steam distillation at atmospheric pressure.

Characteristics and Standards

Eucalyptus oils are classed as either medicinal, industrial, or perfumery. *E. citriodora* is classed as perfumery oil (as opposed to medicinal oils, for example *E. globulus* or 'Industrial Oils', for example from *E. dives*).

The principal constituent of *E. citriodora* perfumery oil is citronellal. *E. citriodora* is known to occur in both citronella-rich and hydrocarbon-rich forms, but only the citronellal-rich form is considered here. The major component of the oil is citronellal, typically in the range 85 to 91% - however this content can fall to 40 to 60%, so considerable care is needed in the selection of planting material, as oil is essential sold on citronellal content. Other important components include 1, 8-cineole (trace to 0.1%), linalool (trace to 0.5%), the two isopulegols (0.8 to 6%), neral (0.2 to 6%), citronellol (trace to 8%), α -terpineol (trace to 3%) and geraniol (trace to 2%). Sesquiterpenes are very poorly represented with β -caryophyllene (0.1 to 0.5%) being the only hydrocarbon and globulol (trace to 0.3%) and viridifloral and spathulenol (both trace to 0.1%) being the only alcohols detected.

Oil yield of terminal branch lets and leaves, on a fresh weight basis, vary widely. Guenther reports that forest trees are reported to yield from 0.5 to 0.75% , isolated trees 1 to 1.3%, while cultivated trees can yield up to 2% or more.

ISO Standard 3044:1974

Relative density at 20°C: 0.858 to 0.877
Refractive index at 20°C: 1.4500 to 1.4590
Optical rotation at 20°C: -2 to +4
Solubility in EtOH at 20°C: 1 vol in 2 vols 80% v/v EtOH
Total aldehydes (as citronellal): 70% min

AFNOR standard NF T 75-225 (March 1982)

Aspect: Liquid, mobile
Colour: clear to pale yellow to pale green
Odour: characteristic, recalls citronellal

Density at 20°C: 0.860 to 0.870
Refractive index at 20°C: 1.450 to 1.456
Optical rotation at 20°C: between -1° and +3°
Total aldehydes (as citronellal): 70% min.

Chromatography profile:
Citronellol: 70% min
Neo-isopulegol + isopulegol: 10% max

Price Information

Conventional essential oils

PLEASE REMEMBER THAT THESE ARE ONLY PRICE INDICATIONS.

Price indications collected from the markets are given for a range of essential oils, below. The oils are grouped *for convenience only* into Spice Oils, Seed Oils, Citrus Oils, Herb Oils and Perfumery Oils. Prices are wholesale for quantities of 25kg or more unless otherwise stated.

Spice Oils

Product	Origin/Grade	Prices per KG (US\$)
Clove bud	Indonesian	\$23/kg 1 tonne lots
	Indian	\$84/kg 1 kg lots
	Madagascan	\$75/kg 1 kg lots
Clove stem	Indonesian	\$15/kg container
	India	\$50/kg
	Madagascar	\$36/kg 200 kg lots
Clove leaf	Indonesian min. 73%	\$12.00/kg, container
	Indonesian min. 80%	\$13.50/kg
	Indonesian min. 82%	\$14.00/kg
	Madagascan	\$17/kg
	Indonesian	\$46/kg
	Indonesia	\$18/kg container
Cinnamon bark	Sri Lankan 60/65%	n/a
Cinnamon leaf	Sri Lankan	\$70/kg 1 kg lots
	India	\$30/kg
Cassia bark	China	\$35/kg; \$70 1 kg lots
Black pepper	Sri Lankan	\$218/kg 1 kg lots
	Indian	\$125/kg; \$195 1 kg lots
Nutmeg	Indonesian (myristicin 7%)	\$48/kg
	Indonesian (myristin 8%)	\$50/kg
	Indonesian (myristin 10%)	\$60/kg
	Indonesian(myristicin 2%)	\$43/kg
	Indonesian (safrole free)	\$78/kg
Ginger	Chinese	\$105/kg
	Indonesia	\$97/kg
	Indian	\$80/kg
	Indonesia (red)	\$98/kg
Pimento leaf	Jamaican	\$140/kg
	Jamaican	\$90 container
Pimento berry	Jamaican	€210/kg
	Jamaican	\$154 1 tonne lots
Cardamom	Guatemala	\$200/kg container
		\$210/kg spot

Spice Seed Oils

Product	Origin/Grade	Prices per KG
Aniseed	China	\$13-16 CIF NW Europe; \$75/kg 1 kg lots
	India	\$25/kg
Star Anise	India	\$120/kg
Coriander seed	Russian	\$80/kg
Coriander herb	Egypt	\$140/kg drum
Cumin seed	Egypt	\$95; \$285/kg 1 kg lots

Citrus Oils

Product	Origin/Grade	Prices per KG
Orange (sweet)	Brazilian	\$10/kg; \$30/kg 1 kg lots
	Italy (b/orange c/pressed)	\$33/kg
	Brazil (pera)	\$9/kg container
Orange (bitter)	Italian (c/pressed)	\$62/kg
Bergamot oil	Ivory Coast/Italy	\$80/kg; \$135/kg 1 kg lots
Lemon	Italian	\$58/kg 1 kg lots
	Italian (c/pressed)	\$35
	Argentina	\$30/kg container
	Brazil	\$30/kg
Lime (distilled)	Italian	n/a
	Mexico/Peru	\$37/kg container; \$62/kg
Lime (cold pressed)		\$25/kg
Mandarin (green)	Italy	\$40/kg
Grapefruit (pink)	Argentina	\$42/kg; \$50/kg 1 kg lots
Grapefruit (white)	USA	\$60/kg

Herb Oils

Product	Origin/Grade	Prices per KG
Basil	Comores	\$125/kg
	Egypt	\$82/kg; \$150/kg 1 kg lots
	Vietnam	\$90/kg
	India, ex-Chavicol	15/kg
Lavender	Bulgaria	\$75/kg
	French	\$250/kg
	English	\$200/kg
	Russia	\$95/kg drum
Lavandin	French Grosso	\$35/kg
Spike Lavender	Spain	\$130/kg
Mints	India piperita menthofuran 8%	\$34/kg
	India, mentha arvensis crude, L-menthol 72%	\$15/kg
Menthol	Indian, bold crystals	\$18/kg
	Indian, medium crystals	\$17/kg

	China	\$18/kg
Menthol flakes	India; natural L-menthol 98.5%	\$17/kg
Menthol flakes, melted	India; TMC 97%	\$16/kg
Peppermint menthofuran 3%	China	\$26.50/kg
Peppermint	China	\$15/kg container
Peppermint dementholised	Indian	\$13/kg
Menthone 80/20	Indian	\$15/kg
Menthone 90/10	Indian	\$16/kg
Spearmint	China 60% carvone	\$23/kg
	India 55% carvone	\$20/kg
	India 60% carvone	\$21/kg
Chamomile (German)	German blue	\$670/kg
	Morocco (wild)	\$450/kg
	Egypt (blue)	\$1,200/kg
Chamomile (Roman)	UK	\$1000/kg
Sage	Croatia	\$130/kg
Rosemary	Portugal/Spain/Tunisia	\$55
	Spain	\$68/kg drum
	France	\$78
Marjoram	Spain (wild)	\$210/kg 1 kg lots
Thyme	Spain	\$67/kg; \$85 1 kg lots

Perfumery Oils

Product	Origin/Grade	Prices per KG
Eucalyptus globulus & other high cineole types	China	\$15/kg container; \$35/kg 1 kg lots
	Australian	\$44/kg
	India, 85%	\$18/kg
	India, 60%	\$16/kg
	China	\$38/kg 1kg lots
	Madagascar	\$31/kg
Eucalyptus citriodora	China	\$49/kg 1 kg lots
	Madagascar	\$25/kg
Litsea cubeba	Spain	\$22/kg
	China	\$21/kg container
Ylang ylang	Comores: Extra S	n/a
	Comores : Première	\$225/kg
	Comores : Deuxième	\$180/kg
	Comores : Troisième	\$95/kg
	Comores: Complet	\$150/kg 1 kg lots
	Madagascar (grade II)	\$80/kg
Ylang (cananga)	Indonesia	\$61/kg 1 ton lots
Patchouli - Indonesia	Sulawesi min 26% pa	\$44/kg
	Sulawesi min 30% pa	\$46/kg
	Sulawesi min 30% pa, light	\$49/kg
	Sumatra min 30% pa	\$52/kg
	Sumatra min 32% pa	\$55/kg
	Sumatra min 34% pa	\$62/kg
	Sumatra min 30% pa, light	\$55/kg
Rose	Bulgaria	\$10,000/kg
Geranium	Egypt	\$80/kg

	Egypt	\$70/kg
	China	\$165/kg
Rose Geranium	Madagascar/France	\$225/kg
Niaouli (Cineole 1,8) (Malaleuca quinquenervia type I)	Madagascar	\$16/kg; \$60/kg 1 kg lots
Niaouli Viridiflora (Malaleuca viridiflora type II)	Madagascar	\$20/kg
Petitgrain	Paraguay	\$58/kg drum; \$98/kg 1 kg lots
Sandalwood	India	\$2,900/kg
	East Indies	\$2,500/kg
	Australian	\$1,600-2,000/kg
Cedarwood	USA	\$52/kg
	China	\$13/kg container; \$50/kg 1 kg lots
Frankincense	Somalia/France	\$270/kg
Citronella	Chinese	\$18/kg container; \$23/kg; \$53 1 kg lots
	Sri Lanka	\$40/kg container
	Indonesia	\$16/kg
	Indian 80%	\$17/kg
Citronellal 85%+	Indonesia	\$19/kg
Lemongrass	Indian	\$20/kg container; \$37/kg 1 kg lots
	Madagascar (C. giganteus)	\$55/kg
Palmarosa	Indian	\$25/kg; \$130/kg 1 kg lots
Vetiver	Indonesian	\$240/kg; \$380/kg 1 kg lots
	Indonesian	\$260 rectified
	Indonesian, molecular dist.	\$260/kg
Tea Tree	Australia	\$48/kg; \$90/kg 1 kg lots
	Australia, lemon scented	\$140/kg
Guaiacwood	Paraguay	\$25/kg drum
Fennel, bitter	Spain	\$97/kg
Juniperberry	India	\$120/kg; \$260/kg 1 kg lots
Myrrh	India (extract)	\$133/kg
	India (distilled)	\$270/kg; \$395/kg 1 kg lots

Price Information

Organic essential oils

PLEASE REMEMBER THAT THESE ARE ONLY PRICE INDICATIONS.

Price indications collected from the markets are given for a range of essential oils, below. The oils are grouped *for convenience only* into Spice Oils, Seed Oils, Citrus Oils, Herb Oils and Perfumery Oils. Prices are wholesale for quantities of 25kg or more unless otherwise stated.

Spice Oils

Product	Origin/Grade	Prices per KG (US\$)
Clove bud	Indian	\$150/kg
Clove leaf	Indian	\$75/kg
Cinnamon bark	Sri Lankan	\$420/kg
Cinnamon leaf	Sri Lankan	\$110/kg
Nutmeg	Indonesian	\$172/kg
Ginger		\$270/kg
	India	\$170/kg drum

Spice Seed Oils

Product	Origin/Grade	Prices per KG
Star Anise	China	\$180/kg
Cumin seed	Egypt	\$90/kg

Citrus Oils

Product	Origin/Grade	Prices per KG
Orange (sweet)	Italian (c/pressed)	\$36/kg
Orange (bitter)	Italian (c/pressed)	\$135/kg
Bergamot	Italy (c/pressed)	\$195/kg
Lemon	Italian (c/pressed)	\$60/kg
	Italian (c/pressed)	\$71/kg
	Argentina	\$75
Mandarin (red)	Italy	\$225/kg
Mandarin (green)	Italy	\$187/kg
Clementine	Italy	\$120/kg
Petitgrain (C. aurantium)	Paraguay	\$110/kg

Herb Oils

Product	Origin/Grade	Prices per KG
Basil	Egypt	\$187/kg
	India	n/a
Lavender	France	\$210/kg
Lavandin	French Grosso	\$55/kg
Mint, peppermint	USA	\$90/kg
	India	\$65/kg drum
Mint, Cornmint	India, mentha arvensis	\$52/kg
Mint, spearmint, M. spicata	USA	\$112/kg

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Essential Oils & Oleoresins – August 2016

Chamomile (German)	Nepal	\$780/kg
	India	\$1,250/kg
Chamomile (Roman)	Hungary	\$1,500/kg
Sage	Croatia	\$240/kg
Rosemary	Spain	\$42/kg
	Tunisia	\$25/kg
Marjoram	Spain	\$330/kg
Thyme	Hungary	\$300/kg
	India	\$65/kg
Fennel	India	130/kg

Perfumery Oils

Product	Origin/Grade	Prices per KG
Eucalyptus radiata & other high cineole types	China	\$64/kg
E. globulus	India	\$45/kg (60%)
	India	\$50/kg (80%)
E. polybractea	Australian	\$135/kg
E. smithii	South Africa	\$75/kg
Eucalyptus citriodora	Brazil	\$52/kg
	India	46/kg
Litsea cubeba	Spain	\$35/kg
Ylang ylang	Comores: I	\$225/kg
	Comores : II	\$180/kg
	Comores : III	\$210/kg
	Comores: Complet	\$330/kg
Patchouli	Indonesia	\$175/kg;
Geranium	Egypt	\$375/kg 1 kg lots
Sandalwood	Sri Lanka	\$1,950/kg 1 kg lots
Cedarwood	USA	\$63/kg
Naouli		\$97/kg
Ravinsara	Madagascar	\$275/kg 10 kg lots
Frankincense	Somalia/France	\$525/kg 1 kg lots
	India (B. serrata)	\$78/kg drum
Pine (P. silvestris)	Hungary	\$190/kg
Citronella	Sri Lanka	\$100/kg
	India	\$63/kg
Lemongrass	Nepal	\$75/kg
Palmarosa		\$80/kg
	India	\$70/kg
Vetiver	Indonesian	\$450/kg 1 kg lots
	Indian	\$350/kg
Tea Tree	Australia	\$90/kg;
	Australia, lemon scented	\$225/kg
Fennel, sweet	Bulgaria	\$150/kg
Juniperberry	India	\$225/kg
Myrrh	Africa	\$1,800/kg

Suppliers of Equipment

Suppliers to the African market

The distillation and extraction industry in Africa is relatively small and localised outside of the North African centers of Egypt and Morocco, and Southern Africa (South Africa, Swaziland). New entrants to the industry can find it hard to identify suppliers of equipment (stills, condensers, extractor vessels etc) in stainless steel, steam boilers, and other necessary materials (drums, jugs, filter papers etc).

The development of the industry in Africa would benefit greatly if there was greater sharing of information on the location of suppliers. New entrants would find it easier to identify necessary suppliers, and the concentration of orders on particular suppliers would encourage the development of skills and expertise – this is particularly necessary in the areas of fabrication of stainless steel vessels and condensers.

Some contacts of companies involved in the manufacture of distillation/extraction equipment or the capability to do so (primarily the capability to work with stainless steel) or supply of materials based in East Africa are given below.

The Newsletter would welcome information from Readers on other suppliers of relevant equipment and materials from all regions of Africa, so that the listing can be expanded.
Please send any information to marketinsider@intracen.org

The contacts are provided as a service only. NO RECOMMENDATION IS IMPLIED.

1. MANUFACTURE OF STAINLESS STEEL DISTILLATION EQUIPMENT:

KENYA:

ASL – Heavy Fabrication Division
Ramco Industrial Park
Mombassa Road
PO Box 18639-00500
Nairobi. Kenya
Tel: +254 20 821567/820296/820394
Fax: +254 20 820169/651893
bm@heavyfab.co.ke
Attn: Mr Ve Balamurali, General Manager

Warren Enterprises Ltd
PO Box 8251
Nairobi. Kenya
Tel: +254 20 8561 932/3/4
Fax: +254 20 8561 013
Attn: Mr S Ramaswamy, Managing Director

Morris Steel & Company
Mogadishu Road
PO Box 18310
Nairobi. Kenya
Tel: +254 20 533 627
Attn: General Manager

UGANDA:

Specialised Welding Services (previously Kasise Kleinsmedie Uganda Ltd)

Jinja Road, Plot 96
PO Box 40115
Nakawa Vocational Training Center
Kampala
Uganda
Tel: +256 (776) 405060/405070/405080
+256 (772) 227 003 (Samantha Moray)
sam.moray@sws.co.ug
Attn: Samantha Moray, General Manager
www.sws.co.ug

MADAGASCAR:

Societe Aris Trading
Lot VB 81X Ambatoroka
101-Antananarivo. Madagascar
Tel: +261 20 24 264 96
Fax: +261 20 22 290 24
aristrading@freenet.mg
Attn: Mr James Davidson

ATICOM
Lot IT 91A Itaosy
102 Antananarivo – Atsimondrano. Madagascar
Tel: +261 32 07 744 34
[morasatajoso@yahoo.fr](mailto:morasatajoso@yahoofr)
Attn: Josoa Andriamorasata

SOUTH AFRICA:

EDESA (Essential Distillation Equipment)
PO Box 123
Riebeeck Kasteel 7306
Western Cape. South Africa
Tel: +27 (82) 334 3324
fax: 0866 088508
info@edesa.co.za
werner.ede@vodamail.co.za
www.edesa.co.za
www.stillpure.co.za
Skype: werner.bester2
Attn: Werner Bester
Manufacture of distillation equipment and sales of used equipment.

BENCO PLANT & ENGINEERING (PTY) Ltd
159 Van Eeden Crescent, Rosslyn, Karin Park
P O Box 59. Pretoria, Gauteng. South Africa
Tel: +27 (12) 541-0398
Fax: +27 (12) 541-0399
Attn: Sloam Durbach
Manufacturer of distillation equipment and steam boilers

POWERSAVE
PO Box 699
Hilton 3245. South Africa
Tel (cell): +27 82 493 8670
Fax: +27 33 34 33 755

Attn: Greg Rowe
gregrowe@telcomsa.net
Manufacture of steam distillation plants

Henry S Komar & Associates CC
2 Hebel Road, Roodepoort, Gauteng, South Africa
Postal address: PO Box 994, Honeydew 2040, South Africa
Tel: +27 11 760 2718
Fax: +27 11 760 1079
Attn: Stan Kumar, CEO
info@komar.co.za; sales@komar.co.za
www.komar.co.za

Manufacture of stainless steel distillation and processing equipment. Also sales of secondhand equipment.

THE PROCESS TEAM CC
37 Nelson Road, Amanzimtoti
Kwa-Zulu Natal 4126. South Africa
Attn: Peter Myburg

Design and manufacture of stainless steel distillation equipment.

2. SUPPLIERS OF STEAM BOILERS

MADAGASCAR

ARTICOM
Lot IT 91A Itaosy
102 Antananarivo – Atsimondrano. Madagascar
Tel: +261 32 07 744 34
morasatajoso@yahoo.fr
Attn: Josoa Andriamorasata

ARTICOM make a simple, low pressure, wood fired steam boiler.

KENYA:

Industrial Boiler Products Co. Ltd.
Kampala Road, Industrial Area
Nairobi, Kenya.
+254 733 700175
mail@industrialboilerproducts.co.ke
peter.fernandes@industrialboilerproducts.co.ke
Peter Fernandes
www.ibp.co.ke
Indian manufactured steam boilers; biomass fired.

Boiler Consortium Africa (BCA) Ltd
PO Box 60780. Nairobi. Kenya
Tel: +254 20 557837/ 536793/ 4349310
Tel: +254 722 750131/ 703511/
Fax: +254 20 735 331177
Barry Corlines
info@boilersafrica.com
www.boilersafrica.com

BCA design, manufacture and commission boilers, included wood fired steam boilers, and are agents for Riello in East Africa.

SOUTH AFRICA:

Combustion Technology South Africa
PO Box 30047. Tokai, 7966 Cape Town, South Africa
Tel: +27 21 715 3171
Fax: +27 21 715 6297
www.combustiontechnology.co.za

Combustion Technology are the exclusive Southern African distributors of Riello burners and Garioni Naval Boilers.

BENCO PLANT & ENGINEERING (PTY) Ltd
159 Van Eeden Crescent, Rosslyn, Karin Park
P O Box 59. Pretoria, Gauteng. South Africa
Tel: +27 (12) 541-0398
Fax: +27 (12) 541-0399
Attn: Sloam Durbach
Manufacturer of distillation equipment and steam boilers

CAPE BOILER
16 Natal Street, Parden Island, Cape Town, South Africa
Tel: +27 21 511 6652
Fax: +27 511 4415
Attn: Mr Nic Kellerman

INDIA:

Firetech Boilers Pvt Ltd
FIRETECH HOUSE, No.211, 2nd Cross, 38th Main,
B.T.M Layout, 2nd Stage, Bangalore 560 068. India
Tel: +91-80-6683686; Fax: +91-80-6683921
Email: firetech@vsnl.net
Manufacture of wood fired steam boilers. Indian manufacturer, but has supplied boilers to Africa.

AUSTRIA:

Binder GMBH
Mitterdorferstr. 5
8572 Barnbach
Austria
Email: office@binder-gmbh.at
Tel: +43 3142 22544-0
Fax: +43 3142 22544-16
www.binder-gmbh.at

Binder Agents in UK:
Wood Energy Ltd, Severn House, 1-4 Fountain Court, Bradley Stoke, Bristol. BS32 4LA
www.woodenergyltd.co.uk

Kohlbach Group
Grazer StraBe 23
A-9400 Wolfsberg
Austria
Email: office@kohlbach.at
Tel: +43 4352 2157-0
Fax: +43 4352 2157-290
www.kohlbach.at

USA:

Hurst Boiler & Welding Company, Inc.
100 Boilermaker Lane
Coolidge, GA 31738-0530
USA
Phone: +1 229-346-3545
Fax: +1 229-346-3874
Email: info@hurstboiler.com
www.hurstboiler.com

3. SUPPLIERS OF MATERIALS AND EQUIPMENT

(a) Forklift trucks/pallet trucks

Forktruck Solutions
16 Kiewiet Close, Okavango Park, Brackenfel 7560, Cape Town. South Africa
Postal address: PO Box 3221, Durbanville 7551. South Africa
Tel: +27 21 982 1142 and +27 21 981 2649;
Cell: +27 83 2848 557
Fax: +27 21 982 1141
Attn: Dirk van der Westhuizen
dirk@forktrucksolutions.co.za
www.forktrucksolutions.co.za

Sales and rental of new and used forklift trucks. Also pallet jacks/stackers and range of other warehouse equipment.

(b) Hoists and lifting equipment

Blue Cranes,
Crane House, 10 Mansell Road, Killarney Gardens, Minerton, Cape Town, South Africa
Postal address: PO Box 702, Melkbosstrand 7437. South Africa
Tel: +27 21 556 0498/9
Fax: +27 21 556 0486
Attn: Mr Kobus Steyn
joseph@bluecranes.co.za
www.bluecranes.co.za

Manufactures full range of hoists, beam girder cranes and lifting equipment. Sole supplier of Liftket electric chain hoists and wire rope hoist units. Repairs and spare parts supply service. Supply of associated slings, chains, blocks etc.

(c) Essential oil drums:

Greif supply a range of steel and coated drums, and are present in 45 countries around the world.

Greif Kenya Ltd
Box9036 - Unga Street
Shimanzi – Mombasa. Kenya
Tel: +254 41 2495591
Fax: +254 41 2494038
pascal.wanyonyi@greif.co.ke
Attn: Pascal Wanyonyi

Greif Nigeria Ltd
Apapa, Nigeria
Phone +234 (01) 587 0866
Fax +234 (01) 587 3084
vanleer@linkserve.com.ng
Attn: Olukunle Obadina,

Greif South Africa Ltd
Vanderbijlpark, South Africa
Phone +27 (0) 16 930 1100
Fax +27 (0) 16 930 1106
carl.williams@grief.com
Attn: Carl Williams
Website: www.greif.co.za

Greif Mozambique
Maputo, Mozambique
Phone +258 21 720153
Fax +258 21 720724
vanleer@vironn.com

Greif Egypt
Cairo, Egypt
Phone +20 2588 1110
Fax +20 2593 3889
E-mail: koracons@link.com.eg
Attn: Ayman Korra

Greif Algeria
Arzew, Algeria
Phone + 213 41473723 / + 213 41473724
Fax + 213 41473730
Mohamed.Gherbi@Greif.com
Attn: Mohamed Gherbi

China:

Guangzhou New Jinrong Coopery Co. Ltd.
No.7 Huancui xi road
Cuishanhu new district
Kaiping
Guangdong, China
Ms. Lucinda Lux
Tel : +86 159 14338971,+86 18620468156, 0750-2889978
Fax: +86 7502889978
Email: newjinrong@163.com; paul_chew@163.com
SKYPE: xpyllj74

India:

Al-Can Exports Pvt Ltd
Sheetal Industrial Estate, Kashimira Road,
Bhayander East District,
Thane 401 105
India.
Tel: +91 22 2819 3122
Fax: +91 22 2814 2477
Email: info@alcanexports.com
Large range of aluminium flasks and bottles.

France:

Tournaire SA

70, Route de la Paoute

Le Plan.

BP 71004

06131 Grasse Cedex

France

Tel: +33 493 09 34 34

Fax: +33 493 09 34 00

Email: tournaire@tournaire.fr

Tournaire do a very wide range of aluminium bottles.

(d) Secondhand/used equipment

Secondhand equipment particularly stills and condensers can represent very good value. Details are given for 2 companies which have experience of shipping worldwide, and sometimes have distillation equipment in stock.

Perry Process Equipment Ltd

Station Road

Aycliffe Business Park

Newton Aycliffe

County Durham. DL5 6EQ. UK

Phone: +44 1325 315111

Fax: +44 1325 301496

info@perryprocess.co.uk

Website: www.perryprocess.co.uk

Perry Process Equipment is the European headquarters of the Perry Group of companies, which has operations around the world and is one of the worlds largest dealers in secondhand process equipment.

Centriplant Ltd

Littlemead Industrial Estate

Alfold Road

Cranleigh

Surrey. GU6 8ND

UK

Phone: +44 (01483) 271507

Fax: +44 (01483) 278183

Contact: Mark Williams markw@centriplant.co.uk

Website: www.centriplant.co.uk

Centriplant has distillation plants on an occasional basis, but always have a range of stainless steel tanks, and bottling/packing lines that could also be of interest to producers.

Events Calendar

Vitafoods Asia

1-2 September 2016. AsiaWorld-Expo, Hong Kong

www.vitafoodsasia.com

IFEAT 2016 Conference

25-29 September 2016. Dubai.

www.ifeat.org

Natural & Organic Cosmetics Conference

27-28 September 2016. Berlin, Germany

www.naturkosmetik-branchenkongress.de/en/

Home & Personal Care Ingredients: Central & E. Europe Exhibition & Conference

28-29 September 2016. Warsaw, Poland

www.hpci-cee.com

In-Cosmetics Formulation Summit

19-20, October. London, UK

www.in-cosmeticssummit.com

Beauty India

24-26 October 2016. Bombay, India

www.beautyindiashow.com

Cosmoprof Asia-Hong Kong

15-18 November 2016. Hong Kong

www.cosmoprof-asia.com

Health Ingredients (Hi) Europe

29 November – 1 December 2016. Frankfurt, Germany

www.figlobal.com/hieurope/

Food Ingredients (Fi) Europe

29 November – 1 December 2016. Frankfurt, Germany

www.figlobal.com/hieurope/

SuluExpo 2016: 12th International Exhibition for Cosmetics, Beauty & Hair

8-10 December 2016. Astana, Kazakhstan

www.kazexpo.kz/eng/sulu/bw_eng.htm

Biobased World Tradeshow

15-16 February 2017. Cologne, Germany

www.boiobasedworld.de/en/home.html

Fi & Hi Russia

28-30 March 2017. Moscow, Russia

www.figlobal.com/russia/

Beauty Eurasia Exhibition

27-29 April 2017. Istanbul, Turkey

www.BeautyEurasia.com