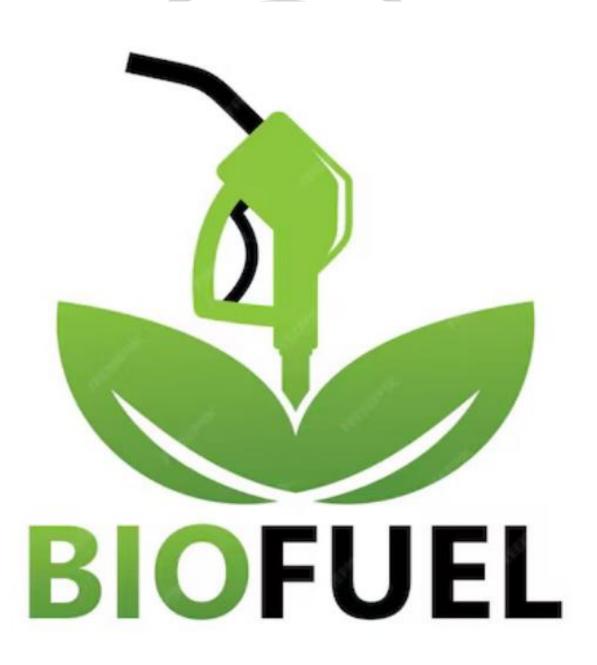


42721-001, Building A1, IFZA Properties, DDP, Dubai Silicon

Oasis, Dubai-United Arab Emirates

Tell: +971 (0)54 7543754 info@farnaka.com Email: Web: www.farnaka.com

FARNAKA PALM OIL SUSTAINABLE ENERGY FEED STOCK TDS & PROFILE





Company Brief

Address:

42721-001, Building A1, IFZA Properties, DDP, Dubai Silicon Oasis, Dubai-United Arab Emirates

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 Web:
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Farnaka Trading FZCO ("Farnaka") has been appointed as the sole exclusive sales representative and trading partner of one of the leading Indonesian Palm Oil private producers from South Jakarta for Southern African Development Community ("SADC") region for its entire 16 member states.

The company specializes in sustainable energy feedstock and edible food grade Palm Oil vegetable oil products with over 20 years of experience, delivering high-quality products like CP8, CP10, POME, HACPO and UCO to meet global energy demands and palm oil vegetable products.

Sustainable Energy Feedstock Products



PALM FATTY ACID DESTILATE (PFAD)

Light Brown Semi Solid

FFA (As Palmitic Acid): 80.00% (Min)

M&I: 1.00% (Max)



PALM OIL MILL EFFLUENT (POME)

Yellowish Brown to Dar Brown

FFA: 30-50 (Max) M&I: 2.00% (Max)



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HIGH ACID PALM OIL (HACPO)

Yellow to Dark Yellow

FFA: Max 5.00% M&I: 1.00% (Max)



USED COOKING OIL (UCO)

Yellowish to Brownish

FFA: 10-20

M&I: 2.00% (Max)

Brief Product Applications

Palm Oil Mill Effluent ("POME"), Palm Fatty Acid Distillate ("PFAD") and Palm Acid Oil ("PAO") are feedstock used in biodiesel. POME is commonly used for the biodiesel industry.

UCO is used for Hydrotreated Vegetable Oil "(HVO") and Sustainable Aviation Fuel ("SAF"). Used Cooking Oil ("UCO") is also used as feedstock for biodiesel or HVO and SAF.



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POME (Palm Oil Mill Effluent)

POME is a byproduct generated during the processing of palm oil. It is the wastewater produced from the extraction of crude palm oil from fresh fruit bunches. The largest waste by-product generated during the production of CPO is palm oil mill effluent (POME).

For every ton of CPO produced, 2.9 tons of POME is generated. POME is the result of large quantities of steam and hot water used to clean the fruit and separate the shell and cake from the palm fruit. The water and steam are washed away on the mill floor and directed to waste ponds that gather the POME residue.

POME consists of 3 to 5% of Palm Acid Oil (PAO) and 95 to 97% of water. Once the PAO is processed and extracted from the POME, the PAO residue can be sold as a feedstock to produce 2nd generation biofuels.

Environmental Concerns: POME is rich in organic matter and can cause environmental pollution if not treated properly. It has a high Biochemical Oxygen Demand ("BOD"), which can deplete oxygen in water bodies.

Applications:

Biodiesel Production: POME can be utilized in the biodiesel industry due to its potential for conversion into biofuel. The process usually involves anaerobic digestion or transesterification to produce biodiesel.

Fertilizer: After treatment, POME can also be used as an organic fertilizer, returning nutrients to the soil and supporting sustainable agriculture.

UCO (Used Cooking Oil)

UCO refers to vegetable oils that have been used for cooking and frying. After cooking, these oils can no longer be used for food due to changes in quality.

Used Cooking Oil (UCO) are oils and fats that have been used for cooking or frying in the food processing industry, restaurants, fast foods and at consumer level, in households.

UCO is a composition of different mixture of oils which are discarded from the industrial deep fryers. This undergoes intense dewatering and filtration from sludge. Oil such as Canola Oil, Sunflower Oil, Palm Olein, Soybean Oil are discarded and can be repurposed for use as an alternative fuel for diesel engines and for heating oil burners.



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For engines designed to burn diesel fuel, the viscosity of vegetable oil must be lowered to allow for proper atomisation of the fuel, otherwise incomplete combustion and carbon build up will ultimately damage the engine.

UCO was mainly used as biodiesel fuel feedstock to be converted to renewable fuels and other products that help reduce reliance on fossil oil and greenhouse gas emissions in various areas of life.

Environmental Importance: Recycling UCO is crucial as it reduces waste and provides an alternative feedstock for biofuel production.

Applications:

Hydrotreated Vegetable Oil ("HVO"): UCO can be processed into HVO, a high-quality renewable diesel alternative to fossil diesel. The process involves hydrotreatment, where hydrogen is added to the oil to remove impurities and improve stability and performance.

Sustainable Aviation Fuel ("SAF"): UCO can also be refined into SAF, a sustainable alternative to conventional jet fuel. The production of SAF helps reduce the carbon footprint of aviation and is gaining traction as airlines seek to become more sustainable.



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Result of Sample Analysis for POME from Ponds, where it has settled for a long time, resulting in a high FFA content.

Parameter	Test Results	Test Method
FFA (Free Fatty Acids As Palmitic) %	63.89	AOCS Ca 51-40 : 2017
Moisture and Impurities %	1.98	ISO 662: 2016 & AOCS Ca 3a-46: 2017
Saponification Value (mg KOH/g) %	210.86	AOCS Cd 3b-76 : 2009
Total Fatty Matter %	98.02	FOSFA Contractual

Remarks: Videos of products are available and samples can be arranged upon client request.

Result of Sample Analysis for POME from CPO production mixed with Pond Oil, or from Mini Palm Oil Mills that process loose palm fruits, which results in high FFA but below 40%.

Parameter	Test Results	Test Method
FFA (Free Fatty Acids As Palmitic) %	34.52	AOCS Ca 51-40 : 2017
Moisture and Impurities %	1.90	ISO 662: 2016 & AOCS Ca 3a-46: 2017
Saponification Value (mg KOH/g) %	199.15	AOCS Cd 3b-76 : 2009
Total Fatty Matter %	98.10	FOSFA Contractual

Remarks: Videos of products are available and samples can be arranged upon client request.

Result of Sample Analysis for UCO.

Parameter	Test Results	Test Method
FFA (Free Fatty Acids As Palmitic) %	4.84	AOCS Ca 2c-25
Moisture %	0.47	ISO 662: 2016 & AOCS Ca 3a-46: 2017
Insoluble Impurities %	0.20	AOCS Ca 3a-46
Iodine Value Ppm	65	AOCS Cd1e-1
Sulfur Content Ppm	15	ASTM D5453-12

Remarks: Videos of products are available and samples can be arranged upon client request.



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POME & UCO Packing and Supply Capacity



Containerized Cargo:

For containerized orders, we will use Flexitanks of 24,000L.

SPOT Quantity:

We can currently supply up to 200MT of UCO, and 500MT of POME on spot purchases on monthly basis.

Bulk Quantity:

We can increase the supply quantity of both feedstocks to 5,000MT-10,000MT per month in bulk vessels on term supply contracts; that will be consolidated supply from different refineries in Indonesia.

