

The RSPO Certified Sustainable Palm Oil Supply Chain: How to take part



Everything you need to know about palm oil
and the RSPO certified supply chain options.

RSPO

Roundtable on Sustainable Palm Oil

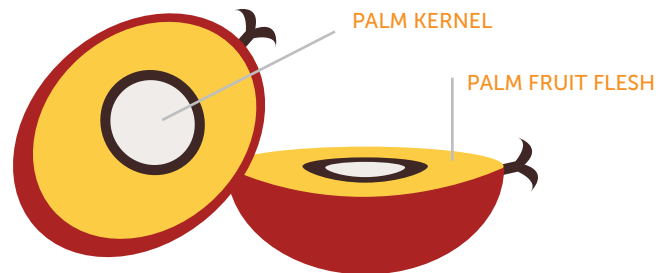
The RSPO is an international non-profit organization formed in 2004 with the objective to promote the growth and use of sustainable oil palm products through credible global standards and engagement of stakeholders.

Everything you need to know to take part in the RSPO Certified Sustainable Supply Chains of Oil Palm Products

The following information is designed to give the background to oil palm products and how to become a member of the RSPO. It is to be used as a resource for internal training or communication within your own supply chain in support of your own certified sustainable palm oil (CSPO and CSPKO) business objectives.

What is palm (kernel) oil?

PALM OIL IS A VERSATILE OIL WHICH IS EXTRACTED FROM THE FLESH OF THE FRUIT OF THE OIL PALM. THE KERNEL OF THE FRUIT IS CRUSHED TO EXTRACT PALM KERNEL OIL.



It is used as a cooking oil and is the main ingredient in margarines, confectionery, ice cream, and ready meals. It is also the base for liquid detergents, soaps and shampoo, lipstick, waxes and polish, industrial lubricant and biofuels.



Where is palm oil produced?

THE OIL PALM IS NATIVE TO WEST AFRICA

Today, it is commercially cultivated across Asia, Africa and Latin America - it grows successfully only in tropical regions.



85%
of the world's palm oil comes from Indonesia and Malaysia.



4.5 million people
earn their living from its cultivation and production

Why do we use oil palm products in foods?



APPEARANCE



EMULSION



FLAVOUR



HEAT TRANSFER



NUTRITION



SHORTENING AND TEXTURE

Oil palm products are widely used in home and personal care



2% of the world's palm oil and palm kernel oil production is used in cosmetics



3% is used in home care. Both home and personal care use palm mainly in the form of derivatives.

Palm (kernel) oil: The process and the terms used in the industry

Mills



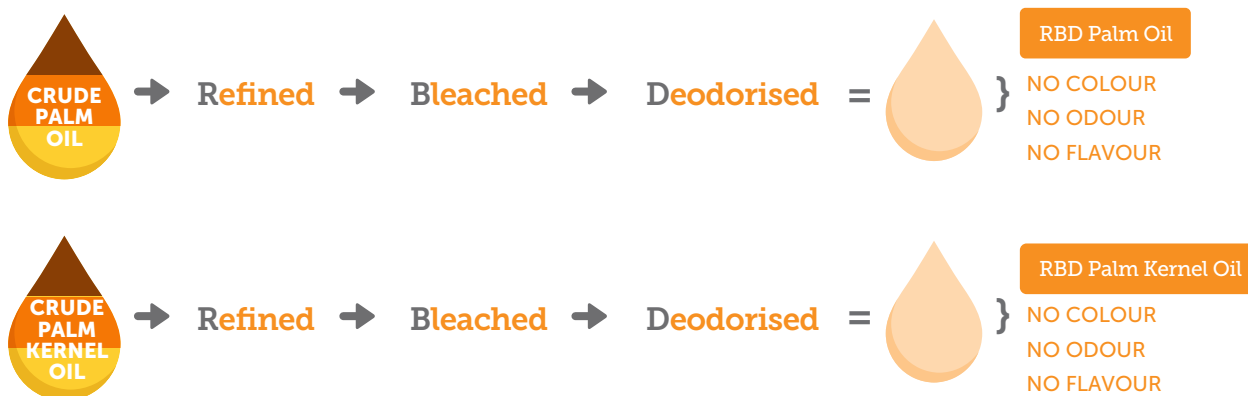
Fresh fruit bunches (FFB) are delivered to a mill from large plantations, traders and smallholders. FFBs are sterilised and stripped. The fruit is pressed to separate the oil from the kernel. The oil is purified and clarified.

Crushing



Palm Kernels are transported to separate crushing facilities. The kernel is cracked and removed from the palm kernel shell, which is used as biomass fuel. The kernel is crushed to produce palm kernel oil (PKO) and palm kernel expeller (PKE).

Refining (RBD)



Commonly used terms

Interesterification (IE): oils are reformulated to produce different properties. Carbon chains are separated from the glycerine backbone and reattached in a different formation. IE has specific use in the food industry.

Hydrogenation: hydrogen gas is added to increase the melting point of the oil to harden the oil.

Glycerolysis: the process of creating emulsifiers by adding glycerine.

Iodine Value: a method of measuring unsaturated fat and used to describe the oil profile.

Emulsifier Properties: facilitates the mixture of oil and water, significantly improving the texture of many foods. Also helps to maintain quality and freshness, preventing the growth of mould, which would happen if the oil and fat were to separate. Uses: margarine, low fat spread, biscuits, cakes, ice cream, bread, etc.

Mono and Diglycerides: Emulsifier E471, glycerolysis to combine glycerine from palm oil and palm oil or palm fractions.

Medium Chain Triglycerides (MCT): Short chain saturated fatty acids from palm kernel oil reacted with glycerine to form MCT.

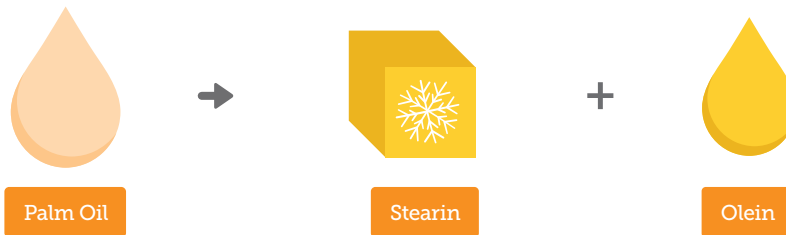
Oleo chemicals: a replacement for petrochemicals. Uses: detergent, biofuel.

Palm (kernel) oil: The process and the terms used in the industry

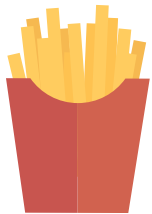
Fraction or derivative - what is the difference?

Fraction

A palm oil fraction is a product which has been produced by fractional distillation, which is sometimes known as fractionation.



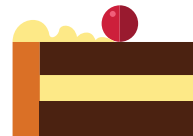
Fractionation - involves the splitting of oil into parts or fractions. This can be repeated to obtain several fractions from one raw material. In palm oil and palm kernel oil the fractionation process normally fractionates to six different levels. It is possible to fractionate to further levels for functionality. This is achieved by cooling the oil under controlled conditions (crystallisation) and filtering. In short, the liquid palm olein is separated from the solid stearin.



Refined Palm Olein

LIQUID AT ROOM TEMPERATURE

Uses: snack food manufacture, cooking oils.



Double Stearin

VERY HARD, EASY TO FLAKE OR POWDER

Uses: soup dry mixes, cake dry mixes.



Refined Palm Stearin

SOLID AT ROOM TEMPERATURE

Uses: pastry fats, margarines, soap manufacture.



Mid Stearin

MID-RANGE MELTING POINT

Uses: hard stock for margarine.



Double Olein

(DFO - double fractionated Olein or Super Olein):

LIQUID FRYING OIL

Uses: foodservice frying oils.



Refined Palm Kernel Olein

LOW MELTING POINT, GENERALLY HYDROGENATED

Uses: coffee whiteners.



Palm Mid Fraction

SOLID AT LOW TEMPERATURE BUT MELTS QUICKLY

Uses: ganache-type confectionery fillings, biscuit fillings, frying oil.



Refined Palm Kernel Stearin

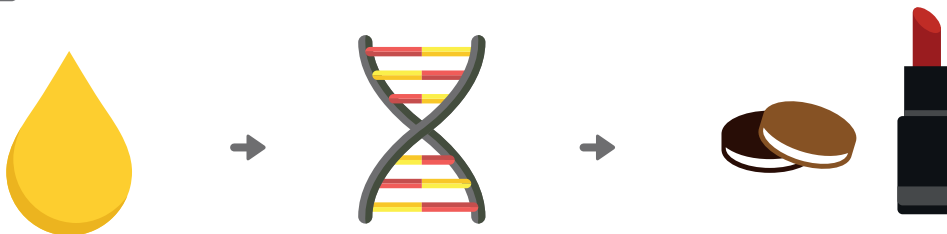
LOW MELTING POINT, GOOD OXIDATIVE STABILITY

Uses: confectionery, biscuit cream, ice cream, chocolate coatings.

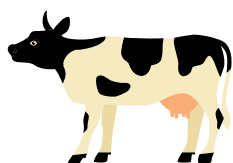
Palm (kernel) oil: The process and the terms used in the industry

Fraction or derivative - what is the difference?

Derivatives

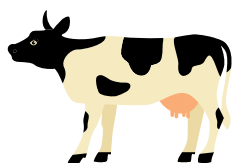


A palm oil derivative is a product which has been produced by further processing following fractionation.



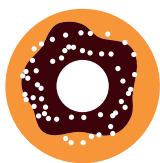
Palm Fatty Acid Distillate (PFAD)

Uses: animal feed, detergents.



Palm Kernel Fatty Acid Distillates (PKFAD)

Uses: animal feed, detergents.



Hydrogenated Palm Kernel Oil (HPKO)

Uses: ice cream, confectionery, chocolate coatings, soap, cosmetics, biofuel.



Hydrogenated Palm Olein

GOOD MELTING PROPERTIES

Uses: dairy fat alternatives.



Hydrogenated Double Olein

GOOD MELTING PROPERTIES.

Uses: confectionery fillings.



Hydrogenated Palm Oil

HIGH MELTING POINT

Uses: distilled emulsifier manufacture, flaked and powdered fats.



Hydrogenated Palm Kernel Olein

HIGH STABILITY, ABLE TO POWDER

Uses: confectionery coatings, coffee creamers and whiteners.



IE Palm

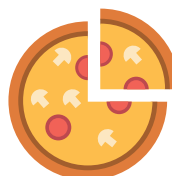
Uses: dry mixes.



IE Palm Olein

IMPROVED CRYSTALLISATION

Uses: confectionery, biscuit filling fats.

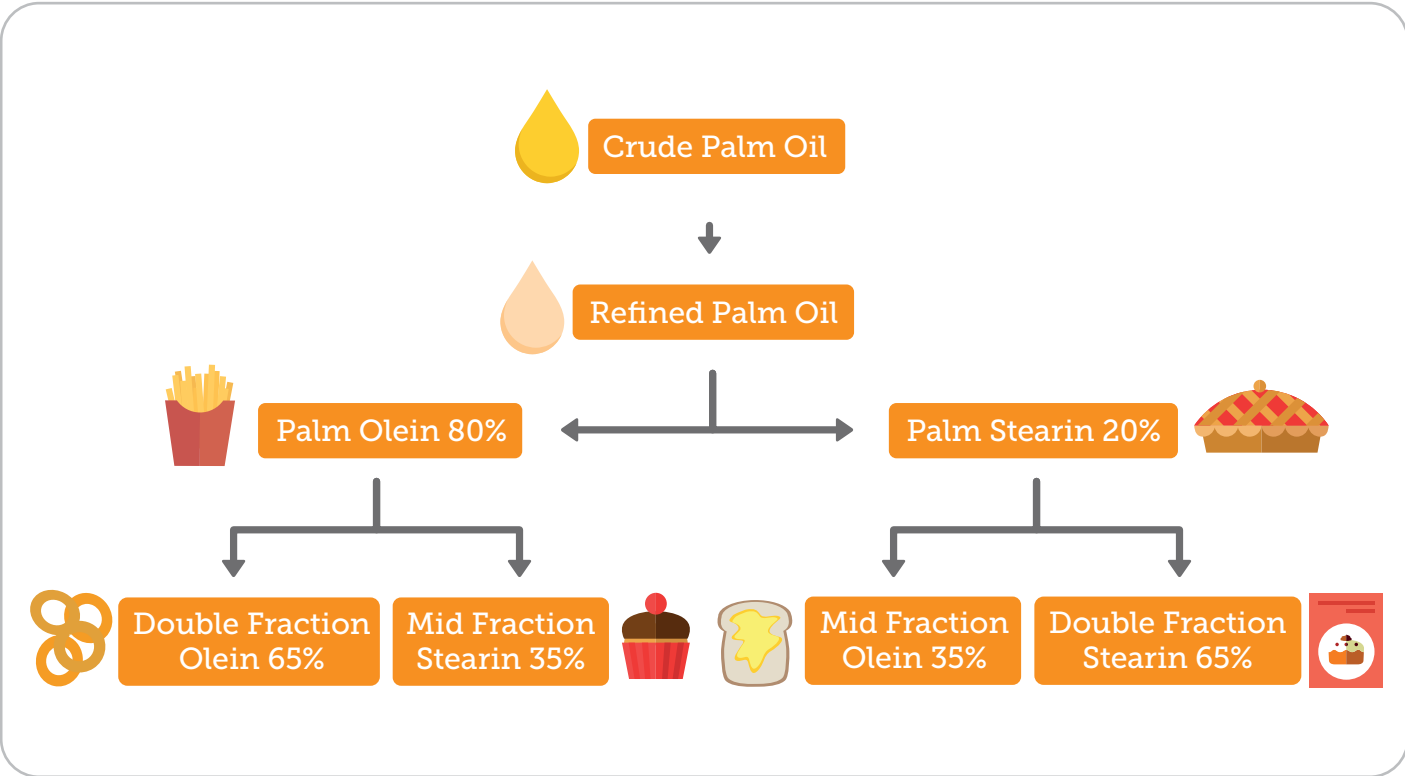


IE Palm Stearin

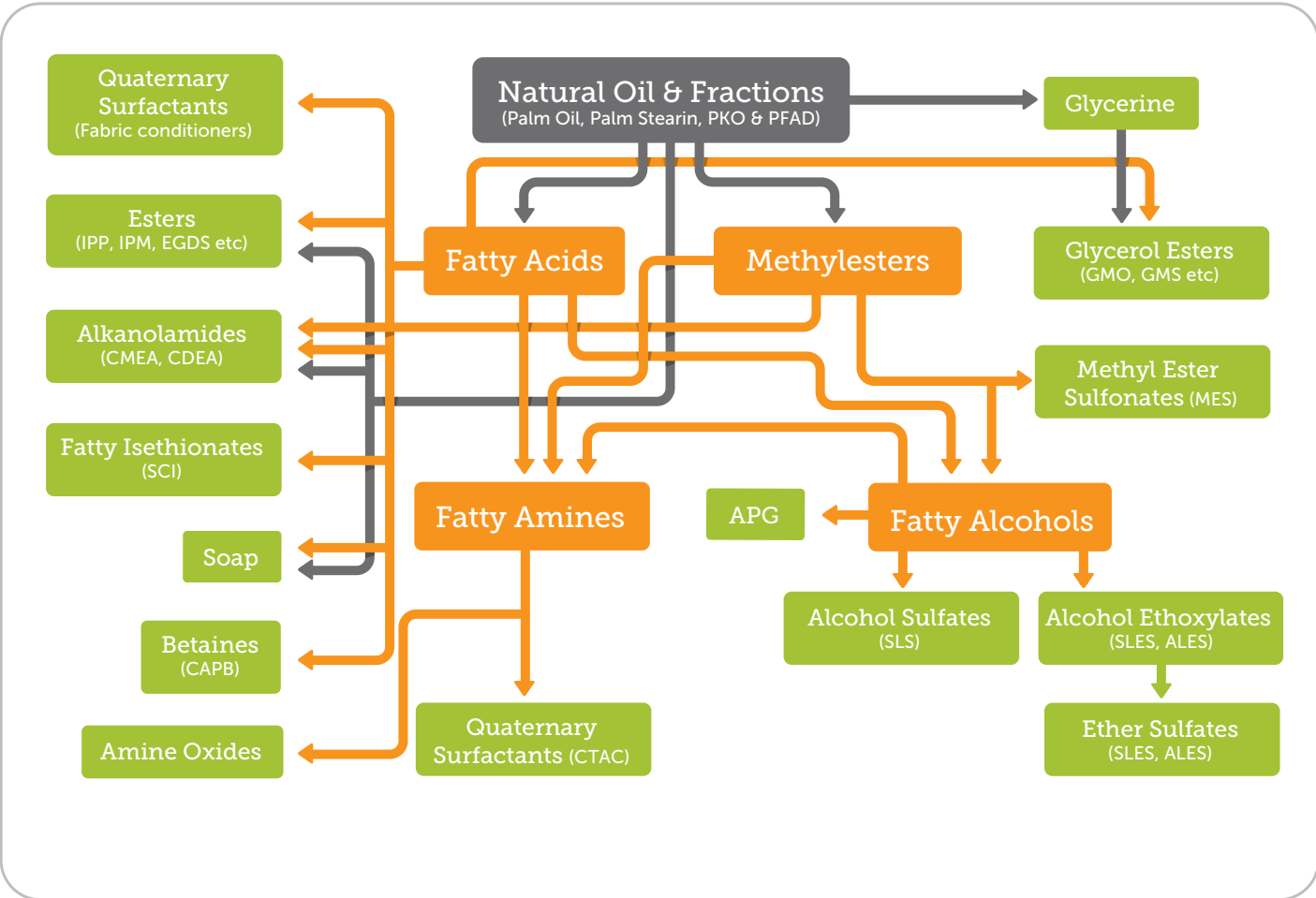
FLAKED FATS

Uses: pizza dough.

Palm oil fractions



Oleochemical



Where are oleo chemicals used?

Palm and palm kernel fatty acids, fatty amines, methyl esters and fatty alcohols

Sodium Lauryl Ether Sulfate (SLES)

One of the most commonly used derivatives in home personal care. It is a foaming agent and is used in almost all products that bubble (like soaps, shampoos and detergents).

Surfactants



Used in fabric conditioners

Esters



Used in biodiesels

Alkanol amides



Used in shampoos

Fatty acid isethionates



Used in detergents

Betaines



Used in conditioning shampoos

Amine oxides



Used as foam stabilisers in shampoos, and facial cleansers

Methyl esters and fatty alcohols



Used in detergents

Methyl ester sulfonate



Used in detergents – high tolerance to hard water

Glycerol from palm and palm kernel



Used in emulsifier manufacture

COMMONLY NAMED PRODUCTS CONTAINING PALM OIL

- Alcohol Ether Sulfates
- Alcohol Ethoxylates
- Alcohol Sulfates
- Alkylpolyglycoside (APG)
- Alpha-linolenic Acid
- Ascorbic Acid
- Butyl Alcohol
- Capric Acid
- Capric Alcohol
- Capric-caprylic Acid Blend
- Caproic Acid
- Capryl Alcohol
- Caprylic Acid
- Cetyl Alcohol
- Cetyltrimethylammonium Chloride
- Caprylic/Capric Triglyceride
- Citric Acid
- Cocamide MEA
- Cocamide DEA
- Cocamidopropyl Betaine
- Diacylglycerols (DAG)

- Distilled Monoglycerides
- Elaidic Acid
- Elaidyl Alcohol
- Elaidolinoleyl Alcohol
- Epichlorohydrin
- 2-Ethyl Hexanol
- Fatty Isethionates (SCI)
- Glutamic Acid
- Glycerine Esters
- Glycerols
- Heptadecyl Alcohol
- Isopropyl Myristate
- Isopropyl Palmitate
- Isostearyl Alcohol
- Lactic Acid
- Lauric Acid
- Lauryl Alcohol
- Laurylamine Oxide
- Laureth-7
- Linoelaidic Acid
- Linolic Acid

- α-Linolenic Acid
- Linoleyl Alcohol
- Methyl Alcohol
- Mono and Diglycerides
- Monoacylglycerols (MAG)
- Myristic Acid
- Myristic Acid Salts
- Myristoleic Acid
- Myristyl Alcohol
- N-butanol
- Octyl Alcohol
- Oleic Acid
- Oleyl Alcohol
- Palmitate
- Palmitic Acid
- Palmitoleic Acid
- Palmitoleyl Alcohol
- Pelargonic Alcohol
- Pentadecyl Alcohol
- Propylene Glycol
- Propylene Glycol Esters

- Quaternary Ammonium Salts
- Ricinoleyl Alcohol
- Sapienic Acid
- Sodium Lauryl Sulfate
- Sodium Laureth Sulfate
- Sodium Palmitate
- Sodium Palm Kernalate
- Sodium Stearate
- Steareth-2
- Stearamidopropyl dimethylamin
- Stearic Acid
- Stearyl Alcohol
- Structured Triglycerides (TAG)
- Sugar Esters
- Sulfated or Ethoxylated Alcohols
- Tridecyl Alcohol
- Undecyl Alcohol
- Vaccenic Acid

RSPO Certified sustainable oil palm products

Sustainably produced oil palm products which have been certified by the RSPO help to reduce the negative impacts of oil palm cultivation on the environment and communities.

The RSPO unites stakeholders from the palm oil industry to develop and implement global standards for sustainable oil palm cultivation and use of oil palm products. It is a not-for-profit organisation and has over 2800 members globally that represent 40% of the palm oil industry.

RSPO supply chains

The RSPO has set up 2 certification systems:

ONE TO ENSURE THAT PALM OIL IS PRODUCED SUSTAINABLY CALLED "PRINCIPLES & CRITERIA CERTIFICATION"

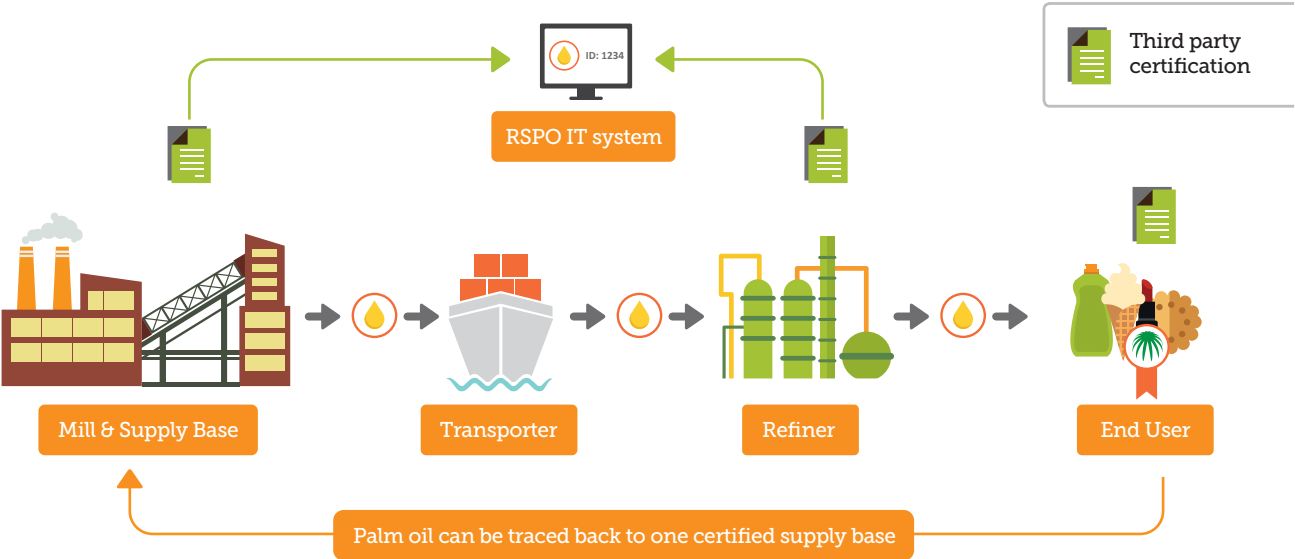
THE OTHER TO ENSURE THE INTEGRITY OF THE TRADE IN SUSTAINABLE PALM OIL, I.E. THAT PALM OIL SOLD AS SUSTAINABLE PALM OIL HAS INDEED BEEN PRODUCED BY CERTIFIED GROWERS



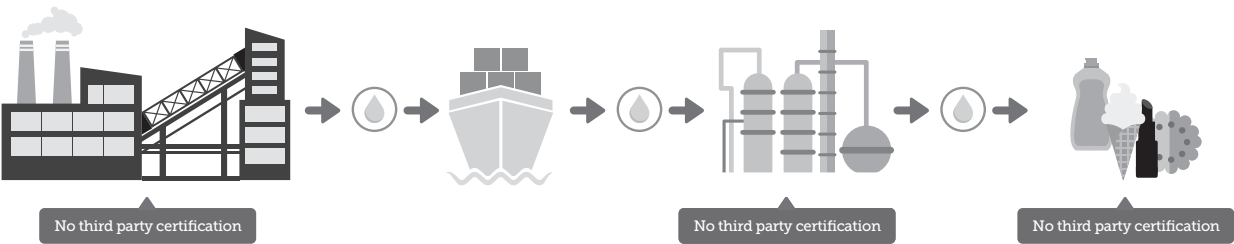
Both systems involve certification by independent third-party certification bodies. Such rigorous certification systems considerably reduce the risk for consumers to use palm oil that is not sustainable.

Identity Preserved

Sustainable palm oil from a single identifiable certified source is kept separately from ordinary palm oil throughout the supply chain.

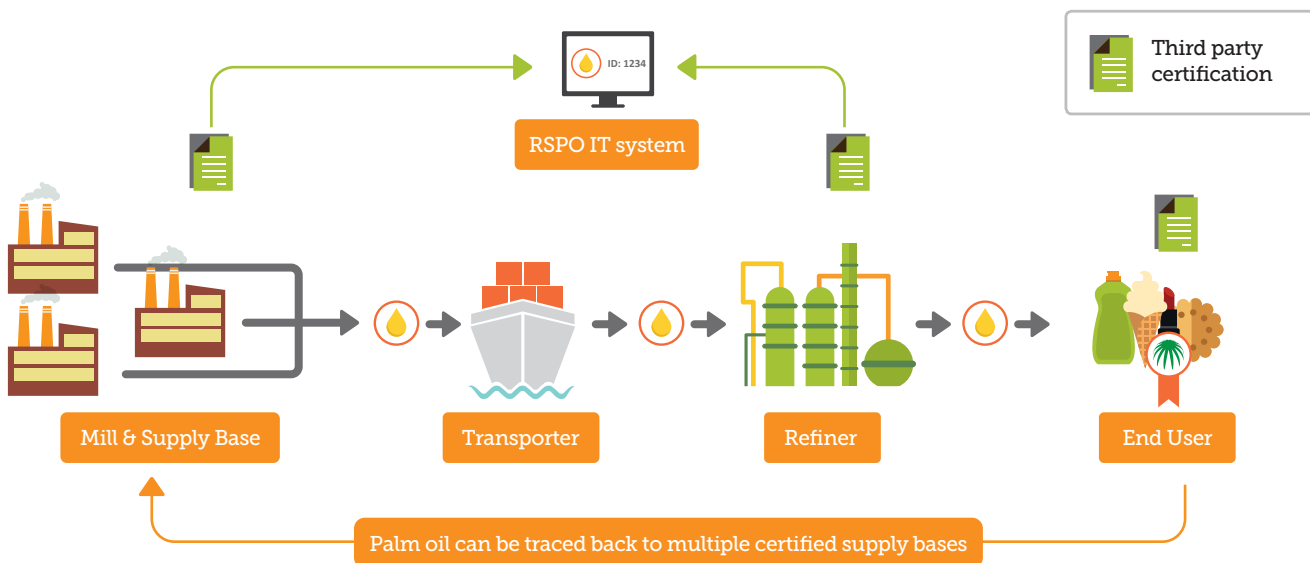


Conventional Palm Oil

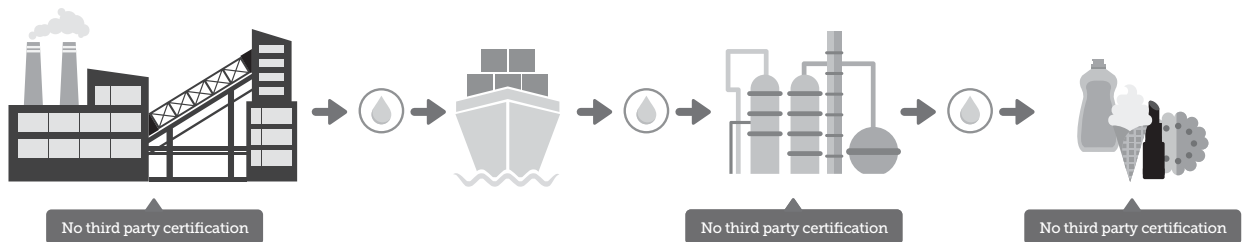


Segregated

Sustainable palm oil from different certified sources is kept separate from ordinary palm oil throughout the supply chain.

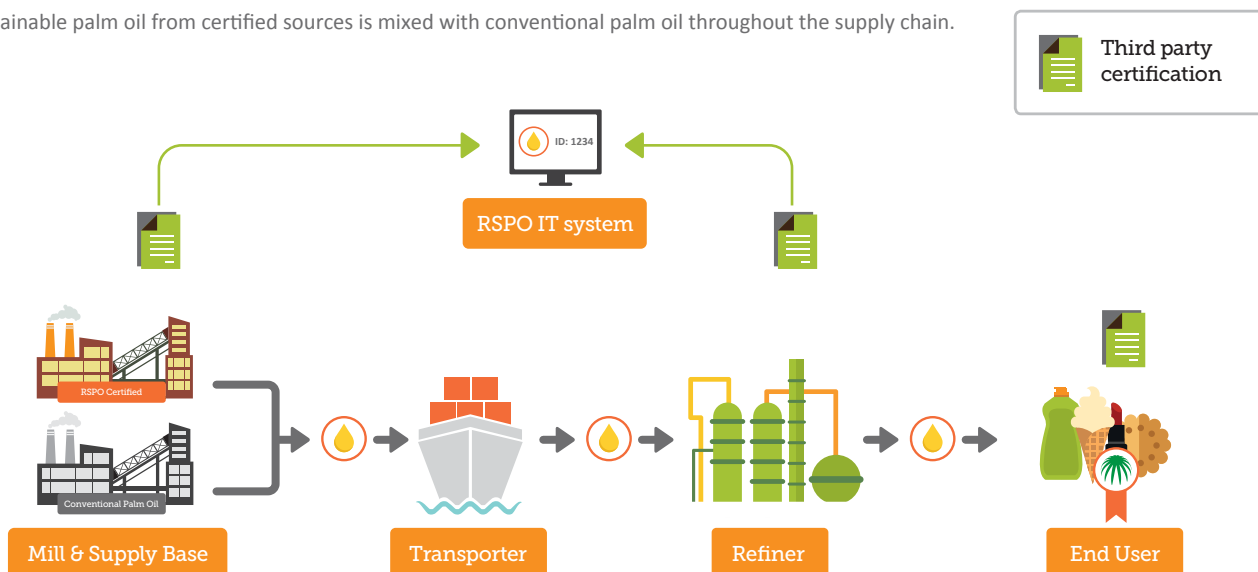


Conventional Palm Oil



Mass Balance

Sustainable palm oil from certified sources is mixed with conventional palm oil throughout the supply chain.



Book & Claim

The chain is not monitored for the presence of sustainable palm oil. Manufacturers and retailers can buy a credit from an RSPO-certified grower to demonstrate their support for sustainable palm production.



Communication with your customers

As an RSPO member you may like to promote your membership further. To find out more, download the RSPO Rules on Market Communications and Claims. www.rspo.org

Have a question? **askRSPO**

<https://askrspo.custhelp.com/app/answers/list>

www.rspo.org

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