



# Bio GREENWARE

Fueling growth together



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Sourcing and procurement from across the world involve the process of identifying, acquiring, and managing goods and services from global suppliers. This can be a complex task that requires careful planning, communication, and understanding of international trade dynamics.

- ▶ Market Research
- ▶ Supplier Selection
- ▶ Risk Management:
- ▶ Regulatory Compliance
- ▶ Negotiation and Contracts
- ▶ Communication and Cultural Understanding
- ▶ Technology and Tools
- ▶ Quality Assurance
- ▶ Logistics and Transportation
- ▶ Sustainability and Corporate
- ▶ Social Responsibility
- ▶ Continuous Improvement

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# Bio Greenware Ltd

Bio Greenware Ltd is a United Kingdom based company dealing with Oleo-chemicals, Petrochemicals, Palm products and solvents employed in supply of Home care & Personal care products. Focusing on quality and on-time delivery to clients across the globe.

## Vision

**To support high quality and cost competitive products meeting ethical and regulatory compliances, and to enhance stake holder's value.**

## Values

### Integrity & Hardwork

A honest hard working service provided by a team of qualified professionals having a diverse set of skills and experiences.

### Long term relationship

We value Loyalty and relationship with our customers, suppliers, employees and investors more than our margins. We believe in win-win.

### Customer focus

We go out of the way to tailor the requirement of customer need and consider every request and feedback very seriously from start to end.

### why choose us

- Cost-effective trades with importance given to Loyalty
- Strong network of reputed suppliers and customers enabling us to deliver high volumes.
- Smooth, timely, hassle-free delivery with prime focus on customers.
- Highly skilled team in sourcing & supply chain.
- We deal with REACH, RSPO, RTRS certified products.

# OUR MARKET WORLDWIDE

## Bio Greenware

### Personal Care

We have dedicated specialists in this area who work hard to meet our customers unique needs.

### Food and Beverage

This can span from domestic to industrial of variety of purposes and we cater to majority of needs.

### Cosmetics

This is a big market and we take extreme care to adhere to Health and Safety compliances.

### Paints

With experts on our side, we are looking forward to an increased volume of trade in this area and the scope is huge.

### Home Care

With the modern world equipped with these, we have delved deeper into the stay up-to-date with the market.

### ...and more

we have also dealt with more products based on our customer demands meeting their special purpose. Feel free to enquire if your market is not listed here.



# Oleochemicals

**Palm oil** is a vegetable oil derived from the fruit of oil palm trees. It is used in cooking, baking, margarine & shortening, processed foods, chocolate, skincare, haircare, cosmetics, soaps & detergents, biodiesel, animal feed, candles, lubricants, pharmaceuticals

**Palm Olein** is a derivative of palm oil, specifically the liquid fraction obtained after the process of fractionation. It is also used in most of the applications mentioned under Palm oil.

**Palm Kernel Oil** is derived from the kernel of the oil palm fruit and has distinct physical properties: Palm kernel oil and palm oil are both derived from the palm fruit, but they have different compositions and properties, leading to distinct advantages of each. Here are some advantages of palm kernel oil over palm oil:

- Higher Lauric Acid Content
- Higher Melting Point
- More Intense Flavour
- Solid at Room Temperature
- Foaming and Lathering Properties
- Biodiesel Production

**Palm Stearin** is a solid fraction obtained from palm oil through the fractionation process, specifically crystallizing the higher melting-point triglycerides. It is characterized by its semi-solid to solid state at room temperature.

**Palm stearin** is commonly used in the food industry, particularly in the production of margarine, shortening, and baked goods, where its solid consistency enhances texture and stability. Its higher melting point makes it suitable for applications requiring a firmer texture, such as in the confectionery industry for chocolate production, candle manufacturing etc. Palm stearin, like other palm oil derivatives, has faced scrutiny due to environmental concerns, prompting efforts for sustainable and responsible sourcing in the palm oil industry.

**Hydrogenated Palm Stearin** is a processed form of palm stearin where hydrogenation is employed to modify its physical characteristics. This involves the addition of hydrogen to the palm stearin to increase its saturation level and solidify it further. The hydrogenation process enhances the stability and shelf life of the product, making it suitable for various applications in the food industry. Hydrogenated palm stearin is commonly used in the production of margarine, spreads, and baked goods, providing a stable fat source with desirable texture and mouthfeel. While it offers functional benefits, concerns about the environmental impact of palm oil cultivation, a key source for palm stearin, have led to increased demand for sustainable and responsibly sourced alternatives.

**Food grade Palm Stearin** is a refined and purified derivative obtained through the fractionation of palm oil, specifically isolating the higher-melting-point triglycerides. This process results in a semi-solid to solid fat with desirable characteristics for use in the food industry. It undergoes stringent quality control measures to meet food safety standards, ensuring its suitability for human consumption. Food-grade palm stearin is commonly utilized in the production of margarine, shortening, and baked goods, contributing to the texture, stability, and mouthfeel of these products. Due to its versatility and functional properties, it is a key ingredient in the formulation of various food items, including confectionery and pastry products. Increasing attention is given to sourcing food-grade palm stearin sustainably, addressing concerns





related to environmental impact and ethical practices in the palm oil industry. Non-food grade Palm Stearin refers to a variant of palm stearin that does not meet the strict standards required for human consumption. It is derived from the fractionation process of palm oil and possesses a semi-solid to solid state at room temperature. This form of palm stearin is primarily utilized in non-food applications due to its lower purity and potential impurities. Common industrial uses include the production of soaps, detergents, candles, and lubricants, where its solid consistency and stability contribute to the desired properties of these products

**Non-food grade palm stearin** is often chosen for its functional attributes rather than its suitability for direct human consumption. Similar to its food-grade counterpart, sourcing practices for non-food grade palm stearin are increasingly scrutinized for environmental and ethical considerations in response to concerns about the palm oil industry's impact.



**Palm Stearic Acid** is a fatty acid derived from palm oil through a process called fractionation, which isolates the higher-melting-point triglycerides. It is a saturated fatty acid with a solid, waxy consistency at room temperature. Palm stearic acid finds widespread use in the manufacturing of cosmetics, candles, soaps, and various personal care products. Its ability to act as a thickening agent, emulsifier, and stabilizer makes it valuable in cosmetic formulations. The environmental impact of palm oil production, a primary source for palm stearic acid, has led to increased demand for sustainably sourced and certified alternatives in the industry. The versatility and functional properties of palm stearic acid contribute to its role as a key ingredient in the formulation of many skincare and personal care items.



**Palm shortenings** is a type of vegetable shortening derived from palm oil through a process that involves hydrogenation to solidify the oil at room temperature. It has a semi-solid to solid consistency and is commonly used as a plant-based alternative to traditional animal-based shortenings like lard. Palm shortening is versatile and widely employed in baking and cooking, providing a stable fat source with a neutral flavor profile. Its solid texture at room temperature makes it suitable for creating flaky pastries, cookies, and other baked goods. In addition to its culinary applications, palm shortening is often used in the production of non-dairy creamers, providing a creamy texture. The environmental impact of palm oil production, a key source for palm shortening, has led to increasing efforts to source sustainable and responsibly produced palm shortening.



**Palm Fatty Acid Distillate (PFAD)** is a byproduct of the refining process of crude palm oil. It is obtained through the distillation of free fatty acids from crude palm oil. PFAD is typically brownish-yellow in color and has a high content of free fatty acids. Due to its composition, PFAD finds application in various industries, including soap manufacturing, where it is used as a raw material for soap production. PFAD is also utilized in the production of animal feed, particularly as a source of energy for livestock.

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Despite being a byproduct, PFAD has faced scrutiny due to concerns about environmental and sustainability issues associated with the palm oil industry, prompting efforts to promote responsible sourcing and utilization of byproducts. Efforts are being made to find alternative uses for PFAD, including in the production of biodiesel, to address sustainability concerns.

**Palm Kernel Fatty Acid Distillate (PKFAD)** is a byproduct derived from the distillation process of free fatty acids obtained during the refining of crude palm kernel oil. It is typically brownish-yellow and possesses a high content of free fatty acids. PKFAD finds application in various industries, notably in the manufacturing of soaps and detergents, where it serves as a key raw material. Due to its fatty acid composition, PKFAD contributes to the cleansing properties of soaps and detergents. It is also used in the production of animal feed, providing a source of energy for livestock. Similar to PFAD (Palm Fatty Acid Distillate), PKFAD has faced environmental scrutiny, leading to increased efforts to promote sustainable sourcing practices within the palm oil industry and explore alternative applications, such as in the production of biofuels.

**Glycerine (Glycerol)** is a versatile and colorless liquid that is odorless and has a sweet taste. Chemically, it is a trihydric alcohol, containing three hydroxyl groups in its molecular structure, contributing to its high water solubility. This substance is widely utilized in various industries, such as cosmetics, pharmaceuticals, and food production, due to its ability to act as a humectant, attracting and retaining moisture. Glycerine plays a crucial role in skincare products, contributing to their moisturizing properties and skin hydration. Additionally, it serves as a key ingredient in the manufacturing of soaps, pharmaceuticals, and is employed in the food and beverage industry for its versatile applications.

**Coconut wax** is a natural and renewable wax derived from the oil of coconuts, specifically the hydrogenation and refinement of coconut oil. It is known for its clean-burning properties and ability to hold fragrance well. Coconut wax is often used as an eco-friendly alternative to other candle waxes like paraffin and soy wax. It has a low melting point, allowing for a longer and cleaner burn with minimal soot. Coconut wax is popular in the production of scented candles, where its slow and even burn enhances the dispersal of fragrances. Its sustainability, pleasant aesthetic, and eco-friendly characteristics make it a preferred choice for environmentally conscious consumers seeking natural candle options.

**Soap noodles** is a type of wax used in the formulation of soaps, providing hardness, texture, and stability to the final product. It is often a blend of various waxes and fats, including palm-based stearic acid, hydrogenated oils, or other vegetable-based sources. Soap wax contributes to the firmness of the soap bar, allowing it to maintain its shape and durability during use. The inclusion of soap wax in soap formulations helps enhance lather formation and improves the overall cleansing properties. Depending on the specific formulation, soap waxes may also serve as emollients, imparting moisturizing benefits to the skin. The choice of soap wax can impact the soap's texture, appearance, and performance, making it a crucial ingredient in soap manufacturing processes.





**Soy Wax** is a natural and renewable wax derived from soybean oil, making it a sustainable and eco-friendly alternative to traditional paraffin wax. It is produced through a process called hydrogenation, turning soybean oil into a solid state suitable for candle-making. Soy wax is known for its clean-burning characteristics, producing minimal soot and smoke during combustion. It has a lower melting point than paraffin wax, resulting in a longer and cooler burn. Soy wax is often used in the production of scented candles, where it holds fragrance well and provides a slow, even burn. Its biodegradability and renewable sourcing make it an environmentally conscious choice for candle enthusiasts seeking a greener option.



**Rapeseed Wax** is a natural wax derived from the oil of the rapeseed plant (*Brassica napus*), also known as canola. It is produced through the extraction and processing of the oil to create a solid and waxy substance. Rapeseed wax is a renewable and sustainable alternative to traditional paraffin wax, offering eco-friendly characteristics. It has a low melting point, which allows for a longer and cleaner burn in candles. The wax is known for its ability to hold and release fragrances effectively, making it a popular choice in scented candle production. Its biodegradable nature and minimal environmental impact contribute to its appeal for those seeking sustainable candle options. Rapeseed wax is versatile and can be utilized in various applications, including cosmetics, skincare products, and other industrial uses.



**Bees Wax** is a natural substance produced by honeybees (*Apis mellifera*) through the secretion of wax glands on the abdomen. It is harvested from honeycomb cells and then purified for various applications. Beeswax is a versatile material with a wide range of uses, including candle making, where it burns cleanly and emits a subtle honey-like fragrance. It has natural waterproofing properties, making it suitable for creating protective coatings and balms. Beeswax is often utilized in cosmetics and skincare products for its moisturizing and emollient qualities. Due to its non-toxic nature, it is also used in food-grade applications, such as coating cheese or forming the outer layer of certain candies. Beeswax has been valued for centuries for its malleability, pleasant scent, and numerous practical applications in both traditional and modern contexts. Hydrogenated Castor Oil is a derivative of castor oil that undergoes a hydrogenation process, resulting in a solid or semi-solid waxy substance. This hydrogenation increases the stability and viscosity of castor oil, altering its physical properties for various industrial applications.



**Hydrogenated castor oil** is commonly used as a thickening or gelling agent in cosmetic and personal care products, including creams, lotions, and lip balms. Its thickening properties enhance the texture and consistency of formulations. Due to its moisturizing capabilities, hydrogenated castor oil is also utilized in skincare products to improve hydration and prevent moisture loss. The hydrogenation process imparts stability to the oil, making it suitable for applications in the pharmaceutical and food industries as well. The resulting product, often known as castor wax, finds use in various formulations, benefiting from its versatility and unique properties.

We also have **sunflower oil** and **canola oil** available.

E L T D

## Petrochemicals

**Paraffin wax** (different grades) is a white or colorless, odorless, and tasteless wax derived from petroleum, specifically crude oil refining. It is a highly versatile and widely used wax with a variety of applications. Paraffin wax has a low melting point, allowing it to solidify quickly, making it suitable for candle-making. It is often used in the production of scented candles due to its ability to hold and release fragrances effectively. In addition to candles, paraffin wax is employed in industries such as cosmetics, where it contributes to the texture and stability of various products like lotions and creams. Its waterproofing and insulating properties make paraffin wax suitable for coating materials, such as paper or cardboard, to create water-resistant packaging. Despite its popularity, the environmental impact of paraffin wax, a petroleum byproduct, has led to increased interest in alternative, more sustainable waxes. We do various fully refined and semi refined Paraffin waxes.

**Slack wax** is a crude wax obtained during the production of base oil through the refining of crude oil. It is a byproduct that remains after the dewaxing process. The composition of slack wax includes a mixture of oil and wax, making it a semi-solid substance with a relatively low melting point. It is commonly used in various industries, including the production of candles, matches, and certain types of packaging. Slack wax can undergo further processing, such as solvent deoiling, to remove excess oil content and produce refined wax with specific characteristics. Its versatility makes it valuable in different applications, such as in the rubber industry for tire production and as a component in certain formulations in the cosmetic and pharmaceutical industries.

**Microcrystalline wax** is a type of refined mineral wax characterized by small crystal size and a higher molecular weight compared to paraffin wax. It is derived from the refining of crude oil and is known for its flexible and pliable nature. Microcrystalline wax has a higher melting point and a more complex hydrocarbon structure than paraffin wax, giving it unique properties. It is commonly used in the formulation of various products, including cosmetics, pharmaceuticals, and polishes, due to its excellent binding and adhesive qualities. Its ability to enhance the texture and viscosity of formulations makes it suitable for use in lipsticks, ointments, and other skincare products. Microcrystalline wax is also used in industrial applications, such as in the manufacturing of rubber products, electrical insulations, and certain types of adhesives. Food-grade microcrystalline wax is a specialized form of microcrystalline wax that meets stringent standards set for use in the food industry. Derived from refined mineral wax, it undergoes purification processes to ensure its safety and compliance with food regulations.

**Food-grade microcrystalline wax** is often used as a glazing agent, coating, or release agent in the food industry. It provides a protective layer for fruits and vegetables, enhancing their appearance and extending shelf life. Due to its non-toxic nature, it is also utilized in the production of certain food coatings, chewing gum, and confectionery products. Its resistance to moisture and flexibility make it suitable for creating glossy finishes on candies, chocolates, and other treats. Food-grade microcrystalline wax plays a crucial role in ensuring food safety and quality while meeting the specific requirements of various food applications.



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## Speciality Waxes

**White oil** also known as white mineral oil, is a highly refined and purified form of mineral oil derived from petroleum. It is characterized by its colorless, odorless, and tasteless properties. White oil undergoes extensive processing to remove impurities, aromatics, and color, resulting in a clear and water-white appearance. Due to its high degree of purity, it finds applications in various industries, including pharmaceuticals, cosmetics, food processing, and textiles. It is commonly used as a lubricant, release agent, and base fluid in formulations where clarity and inertness are crucial, such as in baby oils, medical ointments, and food-grade lubricants. White oil's low volatility and chemical stability make it suitable for applications where a pure and non-reactive oil is required.



**Polyethylene wax (PE wax)** is a synthetic polymer-derived wax produced through the polymerization of ethylene, a hydrocarbon gas. It is characterized by its low molecular weight and high melting point, making it a versatile material with various applications. PE wax is commonly used as a processing aid in industries like plastics, where it acts as a lubricant and improves the flow and mold release properties of the polymer during manufacturing processes. It serves as an effective external lubricant in PVC processing, helping to reduce friction and enhance surface finish. PE wax also finds applications in coatings, adhesives, and printing inks, contributing to improved gloss, scratch resistance, and printability. Its compatibility with various polymers and its ability to modify the rheological properties of the material make PE wax a valuable additive in diverse industrial applications.



**Fischer-Tropsch (FT) wax** is a synthetic wax produced through the Fischer-Tropsch process, a method of converting carbon monoxide and hydrogen into liquid hydrocarbons. FT wax is typically derived from natural gas, coal, or biomass feedstocks, and it consists of long-chain hydrocarbons. It is characterized by its high molecular weight, straight-chain structure, and a wide range of melting points. FT wax has applications in various industries, including plastics, coatings, and adhesives, where it serves as a rheology modifier, lubricant, and modifier for improving hardness and durability. Due to its consistency and lack of impurities, FT wax is often used in formulations where precise control over properties such as melting point and molecular weight is crucial. Its synthetic nature allows for customization of properties, making it suitable for diverse applications in the production of candles, wax blends, and as a raw material in the cosmetics and personal care industry. The Fischer-Tropsch process enables the production of FT wax with a high degree of purity and consistency.



**Anti-ozone wax** is a specialized wax compound designed to protect rubber and elastomeric materials from the harmful effects of ozone exposure. Ozone, a reactive form of oxygen, can cause cracking, degradation, and deterioration in rubber products over time. Anti-ozone wax acts as a protective barrier, forming a film on the surface of rubber, which helps to mitigate the adverse effects of ozone exposure. This wax typically contains antioxidants and inhibitors that counteract the oxidative degradation caused by ozone, thereby extending the lifespan of rubber components. Anti-ozone wax is commonly used in the manufacturing of tires, seals, gaskets, and various rubber products that are exposed to outdoor environmental conditions. Its application helps maintain the structural integrity and performance of rubber materials, particularly in industries where resistance to weathering and ozone is critical. Regular use of anti-ozone wax contributes to the prevention of premature failure and ensures the longevity of rubber-based products.



## Polyboost

The POLYBOOST™ line of wax modifying polymers is based on the polymerization of Normal Alpha Olefin (NAO's). These unique, highly branched materials are effective crystal modifiers for most hydrocarbon waxes and non-polar resins. POLYBOOST™ can be used as an alternate additive to Stearic Acid or Microcrystalline Wax. In fact, POLYBOOST™ has been described as a "hyper-micro wax" due to its extremely branched molecular structure.

POLYBOOST™ is an n-Alpha Olefin derived waxy polymer. POLYBOOST™ has the ability to bind the oil in paraffins and disperses colorants and fragrances into the paraffin phase. When added in low concentrations to crude scale or slack wax, POLYBOOST™ polymer yields a blend which is harder, yet has basically the same melt viscosity, cloud point, and melt point as the paraffin. POLYBOOST™ has been found to be noticeably more effective than stearic acid for adding opacity and for imparting resistance to thermal shock.

POLYBOOST 130 for wax products with melt points less than 140°F (60°C)

POLYBOOST 165 for wax products with melt points greater than 140°F (60°C)

## Jelly wax - Gel wax

Jelly wax, also known as gel wax, is a unique type of wax made primarily from mineral oil and a polymer resin. It is transparent, rubbery, and has a jelly-like consistency, making it distinct from traditional waxes such as paraffin or soy wax. Its clarity and texture allow for creative and decorative applications, especially in the realm of candle making.



# GREENWARE

## Solvents



### DPM (Dipropylene glycol methyl ether)

Dipropylene glycol methyl ether (DPM) is known for its high solvency power, making it effective in dissolving a wide range of substances, including resins, oils, and various organic compounds. It is commonly used as a solvent in the formulation of paints, coatings, and inks due to its ability to improve flow, leveling, and stability of these products. DPM exhibits slow evaporation rates, making it suitable for applications requiring extended drying times, such as in the production of certain coatings and printing inks. Its low toxicity and pleasant odor contribute to its use in the cosmetics and personal care industry, where it may be found in products such as perfumes and lotions. DPM is also utilized in the electronics industry as a cleaning solvent for flux residues and as a carrier solvent in various industrial processes.

### DOA [Di(2-Ethylhexyl) Adipate]

Di (2-ethylhexyl) adipate (DOA) is a colorless and odorless liquid plasticizer that belongs to the class of adipate esters. It is synthesized through the esterification of adipic acid with 2-ethylhexanol. DOA is widely used as a plasticizer in the production of flexible PVC (polyvinyl chloride) and other polymer-based materials, where it imparts flexibility and durability. Its low temperature resistance makes it suitable for applications such as automotive interiors, films, and wire and cable coatings. DOA is known for its high solvency, providing excellent compatibility with a variety of polymers. It is often chosen for applications requiring low volatility, good electrical properties, and resistance to outdoor exposure. DOA is also used as a lubricant in metalworking fluids and as a carrier solvent in the formulation of certain personal care products and cosmetics.

### Di-Isopropyl Methylphosphonate

Diisopropyl methylphosphonate (DPMA) is a chemical compound with the molecular formula  $C_7H_{17}O_3P$ . It is a colorless liquid and belongs to the class of organophosphorus compounds. DPMA is commonly used as a flame retardant and plasticizer in the production of polymers, particularly polyurethanes and polyesters. Its flame-retardant properties make it valuable in applications where fire resistance is crucial, such as in textiles and foams. DPMA is also employed in the synthesis of various chemical intermediates, including pharmaceuticals and agrochemicals. Due to its chemical structure, DPMA can act as a phosphorylating agent in certain chemical reactions. It is important to handle DPMA with care, as organophosphorus compounds can have toxic properties, and safety precautions should be followed during its production, handling, and use.

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### DPG (Dipropylene Glycol)

Dipropylene glycol (DPG) is a clear, colorless, and odorless liquid with the chemical formula  $C_6H_{14}O_3$ . It is a member of the glycol ether family and is produced through the reaction of propylene oxide with water. DPG is known for its versatility and is widely used as a solvent, humectant, and carrier fluid in various industries. Its low volatility and hygroscopic nature make it valuable in applications such as cosmetics, personal care products, and pharmaceuticals, where it helps maintain moisture and improves product stability. DPG is also commonly used as a solvent in the formulation of perfumes, soaps, and cleaning products, providing a stable medium for fragrance compounds. Its compatibility with a wide range of materials, low toxicity, and biodegradability contribute to its acceptance in diverse industrial and consumer applications. Additionally, DPG serves as a safe and effective antifreeze agent in some specialized applications, particularly in food and beverage processing.



### TMPTA (Triacrylate)

Trimethylolpropane triacrylate (TMPTA) is a highly reactive monomer and a member of the acrylate ester family. It is derived from trimethylolpropane, a trifunctional alcohol, and acrylic acid. TMPTA is widely used in the production of ultraviolet (UV) curable coatings, inks, and adhesives due to its ability to polymerize rapidly when exposed to UV light. The trifunctional nature of TMPTA allows for the formation of crosslinked polymer networks, imparting enhanced strength and durability to cured materials. Its fast curing speed and versatility make TMPTA a preferred choice in industries such as printing, electronics, and coatings. However, careful handling is necessary as it can cause skin and eye irritation. TMPTA plays a crucial role in the development of high-performance and environmentally friendly UV-cured materials.



### TPGDA (Tripropylene glycol diacrylate)

Tripropylene glycol diacrylate (TPGDA) is a clear and colorless liquid monomer belonging to the acrylate ester family. It is produced through the esterification of acrylic acid with tripropylene glycol. TPGDA is known for its high reactivity and ability to undergo rapid polymerization when exposed to ultraviolet (UV) light. This makes it a valuable component in the formulation of UV-curable coatings, inks, and adhesives. TPGDA's bifunctional structure allows for the creation of crosslinked polymer networks, contributing to the development of durable and high-performance materials. It is often used in applications requiring fast curing times, such as in the printing industry and electronic device manufacturing. Proper safety precautions are essential during handling and processing due to its potential to cause skin and eye irritation. TPGDA's versatility and quick curing characteristics make it a key ingredient in the development of UV-curable products for various industrial applications.

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## Esters

**Methyl Ester** is intended to be used as a replacement for petroleum diesel or it can be blended with petroleum diesel fuel in any proportion, so called, "Bio-diesel" and is generally regarded as being more environmentally friendly. Derived from soybean oil, in the form of a clear liquid. This product is commonly used in coatings, cosmetics, detergents, leather finishings, liquid soaps, personal care items, surfactants, and bio-fuels serve as a green alternative to harsher synthetic solvents.

**Palm Methyl Esters** Bio-diesel (methyl esters) is a clean alternative fuel which can be produced from many renewable resources. Palm oil like other vegetable oils can be used as feedstock for bio-diesel production. It is processed through transesterification to produce palm oil methyl ester.



## Speciality Salts

**Himalayan salt** is rock salt (halite) mined from the Punjab region of Pakistan. The salt, which often has a pinkish tint due to trace minerals, It is primarily used as a food additive to replace refined table salt but is also used for cooking and food presentation, decorative lamps and spa treatments.

Additionally, spending time in man-made salt caves formed out of Himalaya pink salt is popular. Both table salt and pink salt consist mostly of sodium chloride, but pink salt has up to 84 other minerals and trace elements. These include common minerals like potassium and calcium, as well as lesser-known minerals like strontium and molybdenum.

**Soda ash** is one of the basic materials for chemical industry, mainly used for metallurgy, glass, textile, dye printing, medicine, synthetic detergent, petroleum and food industry etc. Primarily used for glass manufacture. Also is used in Air cleaning, water softening, Manufacture of Caustic Soda and dyestuffs, Metallurgy (processing of steel and extraction of iron etc), Flat glass, sanitary pottery, and some other aspects, such as rock oil refining, paper manufacturing, paint, salt refining, softening of hard water, soap, medicine , food and so on.



## Speciality acids

### Acetic acid

Acetic acid, also known by its systematic name ethanoic acid, is an organic compound with the chemical formula  $\text{CH}_3\text{COOH}$ . It is a colorless liquid with a distinctive pungent smell and sour taste, commonly recognized as the main component of vinegar apart from water. Acetic acid is a vital chemical reagent and industrial chemical used in various applications across multiple industries.

### Humic acid

Humic acid is a complex mixture of many different acids containing carboxyl and phenolate groups. It is derived from the decomposition of organic matter, primarily plant material, and is a major component of humic substances, which are found in soil, peat, coal, and many upland streams, lakes, and ocean water.









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