

The Shaklee Ingredient Philosophy

Selecting Ingredients...We Look to Nature First

Founded on the philosophy of offering products in harmony with nature and good health, Shaklee adheres to the principles that were established by our founder, Dr. Forrest C. Shaklee. When we select ingredients for our products, we hold to two important principles. These principles set us apart as a company and are the basis for our advanced approach to product development and production.

First of all, our ingredients must be as natural as possible. Secondly, those ingredients must reflect the most recent scientific and technological advances. The superior quality of Shaklee products is a result of our respect for nature's wisdom and our use of state-of-the-art research and production methods.

The ingredient glossary that follows is a testament to the principles and philosophy established by Dr. Shaklee. Information is the key to understanding. In our **Nutritional Products Ingredient Glossary**, you will find a description of every ingredient found in Shaklee nutritional and products. Included is information about ingredient sourcing and processing, as well as the roles the ingredients perform in our products and in our bodies.

Natural Ingredients

Our number one priority is to use *natural* ingredients in our products whenever possible. In fact, when you look through the glossary, you will notice that the vast majority of our ingredients are naturally sourced and are categorized as natural. For example, beta carotene is harvested from specially grown algae, and vitamin E is obtained from soybean oil. We also include many plant-derived ingredients in our products as potential sources of what Dr. Shaklee referred to as unknown nutritional factors, or, those dietary factors that may be important to health but have yet to be identified by scientists.

The mineral ingredients that we use are also categorized as natural ingredients. Minerals are natural elements of the earth, and some are dietary essentials for good health. Sometimes, essential minerals can be sourced directly as they are found within the earth—for example, calcium from limestone. But more commonly, minerals must be purified and bound to specific carriers to enhance their bioavailability and digestibility. When a mineral source has a carrier, it is noted in the **Nutritional Products Ingredient Glossary**. Those mineral carriers include natural compounds like *mineral salts*, *organic acids*, and *protein/amino acids*.

Naturally Derived Ingredients

Although an ingredient may be found in nature, it may not occur in a concentration that is high enough for our high-potency formulations. Fortunately, such ingredients can often be derived from natural sources through processes such as fermentation. Vitamin C is a good example. Rose hips and acerola are two of nature's most concentrated sources of vitamin C, but they are not concentrated enough for high-potency vitamin C-containing formulations. Fortunately, vitamin C can be derived from the carbohydrate that is present naturally in corn through a multi-step process that includes fermentation. Ingredients like these are categorized as *naturally derived*.

There are certain ingredients that are derived from natural sources that may be modified to perform a certain function. For example, soy lecithin can be modified to make hydroxylated soy lecithin. This modification of soy lecithin increases its solubility in water and enhances its ability to coat and protect tablets. So, modified natural ingredients like these are also categorized as *naturally derived*.

Scientifically Formulated Ingredients

Sometimes, a sufficiently concentrated source of an ingredient cannot be found in nature, nor can it be derived from natural sources. In these instances, advances in nutritional technology allow us to use highly bioavailable ingredients formulated from biochemical building blocks. Whenever we use these types of ingredients, they are tested thoroughly to ensure bioavailability, purity, and potency. The B vitamin, thiamin, is an example of a nutrient that is formulated from biochemical building blocks.

Another category of *scientifically formulated* ingredients are those that originate from a natural source, but are modified so that their final form is structurally and functionally different. An example is the ingredient hydroxypropyl methylcellulose. Cellulose is a natural plant fiber. The cellulose is modified so that it takes on different properties that make it functionally advantageous to a product. Ingredients like these are categorized in the glossary as *scientifically formulated*.

Ingredients with Special Functions

Not only do Shaklee products contain a host of essential nutrients or important herbs, they often contain specific ingredients that have a functional role in improving the bioavailability or acceptability of a product. Scientifically Advanced Vita-Lea® Multivitamin and Multimineral Dietary Supplement tablets, for example, are coated with a mixture of spirulina and cellulose gum. Spirulina gives Vita-Lea its natural green color and the cellulose gum coating makes the tablet smooth and easier to swallow. The core of each Vita-Lea tablet features another ingredient, croscarmellose sodium. Also called modified cellulose gum, croscarmellose sodium's function is to absorb water rapidly and promote the breaking apart of the tablet and subsequent release of nutrients for absorption. Is another example of a product whose ingredients have specific functions. Its Sustained Release Vita-C® 500 mg vitamin C supplement sustained-release tablet technology is based entirely on natural gums and waxes from plants.

The Shaklee Difference — The Highest Standards

Our **Nutritional and Herbal Products Ingredient Glossary** is a reflection of the Shaklee philosophy and principles at work. Each ingredient is as natural as can be, and illustrates the leading advances in science and technology. That's the approach to making products that Dr. Shaklee pioneered: exacting the highest ingredient standard possible.

The ingredients, though, are only one part of the Shaklee Difference. Our unique blend of ingredients coupled with the cumulative power of the ongoing science behind our products make Shaklee unique. The Shaklee Difference is reflected in our research, in our product development, in the care we take to adhere to strict clinical testing, and in our meeting the highest manufacturing standards in the industry. That's the combination that sets Shaklee products apart from all others. That's the Shaklee Difference — demanding and providing the best and the purest — by setting the highest of standards.

A

Acacia Gum (natural)

Acacia gum, also known as gum arabic, is a natural plant gum that seeps from breaks in the bark of Acacia trees, which are grown in the Middle East and Africa. The hardened gum is collected, dried, put into solution, and then spray dried into a powder. Acacia gum is used in Shaklee food products as a natural source of dietary fiber, as an emulsifying agent to improve flavor, texture, and mouthfeel, and as a natural binder to help hold tablets together.

Acerola Extract (natural)

Acerola (*Malpighia glabra*), also known as the West Indian cherry, is a small, bright-red fruit indigenous to Central America and Puerto Rico. Acerola berries are crushed and the juice extracted under carefully controlled conditions to avoid oxidation. The juice is then prepared into a dried, powdered extract. Acerola berries are among nature's most concentrated sources of natural vitamin C.

Agar-Agar (natural)

Agar-agar is a natural plant gum with gel-forming properties obtained from red seaweed (*Rhodophyceae*). It is hot-water extracted, dried, and prepared into a powder. Agar-Agar is a component of the natural plant gum and wax sustained-release system featured in Shaklee Sustained Release Vita-c® 500 mg Vitamin C tablets.

Alcohol 20% (naturally derived)

Alcohol, also known as ethanol, is a liquid that is used during the maceration and extraction process of the natural ingredients used in the Shaklee Appetite Reducing Spray. It also serves as a diluent and carrier for the finished product.

Alfalfa Concentrate, Powder (natural)

Alfalfa concentrate and powder are made from premium alfalfa leaves (*Medicago sativa*) grown in California under carefully controlled conditions. After being harvested, alfalfa plant cuttings are dried in the sun and open air. The leaves are separated from the stems and milled into a fine, green powder or concentrated under special conditions. Alfalfa leaves are a natural source of the plant pigment, chlorophyll, and the mineral magnesium. Also present are trace amounts of iron, copper, zinc, boron, chromium, molybdenum, manganese, potassium, beta carotene, and vitamin K. In ancient times, alfalfa was called the "father of all foods."

Alginic Acid (natural)

Alginic acid is the acidic and insoluble form of algin, a natural plant gum obtained from brown seaweed such as *Macrocystis pyrifera*. It is a component of the natural plant gum and wax sustained-release system featured in Shaklee Sustained Release Vita-C® tablets.

Alpha Carotene

(See **Palm Oil Carotenes**.)

d-Alpha Tocopherol (Vitamin E) (natural)

d-Alpha Tocopherol Concentrate (Vitamin E) (natural)

d-Alpha Tocopheryl Acetate (Vitamin E Acetate) (natural)

d-Alpha Tocopheryl Acid Succinate (Vitamin E Succinate) (natural)

d-Alpha tocopherol is natural vitamin E that has high antioxidant potency. Vitamin E is an essential, fat-soluble, antioxidant vitamin that helps neutralize free radicals that can cause cell damage. d-Alpha tocopherol concentrate (vitamin E) is obtained from soybean oil (see **Soybean Oil**) and is used in capsule products. Vitamin E (d-Alpha tocopherol) is also combined with the organic acids, acetic acid, or succinic acid to produce d-Alpha tocopheryl acetate (vitamin E acetate), or d-Alpha tocopheryl acid succinate (vitamin E succinate), which are stable forms of natural vitamin E that can be incorporated into tablets. The body converts these stable forms to free tocopherols that can act as antioxidants in the body.

Alpha d-Galactosidase Enzyme (naturally derived)

Alpha d-galactosidase is an enzyme derived from a plant source (*Aspergillus niger*) by the natural process of fermentation. The enzyme is purified by filtration or centrifugation. It is then concentrated and dried under vacuum and controlled temperature to preserve its activity. Alpha d-galactosidase aids in the breakdown of certain complex sugars present in beans, whole grains, and some vegetables and fruits. Undigested, these complex sugars can be metabolized by bacteria in the colon, producing gases as a by-product. Alpha d-galactosidase is a key ingredient in Shaklee EZ-Gest®.

Alpha Lipoic Acid (scientifically formulated)

Alpha lipoic acid is a sulfur-containing compound formulated from biochemical building blocks. Produced within the body, alpha lipoic acid plays a role in carbohydrate metabolism and the production of energy compounds. Both water and fat soluble, alpha lipoic acid is recognized for its antioxidant properties, and is involved in the recycling of other antioxidants such as vitamins C, E, and glutathione. It is a component of Shaklee Glucose Regulation Complex* and Shaklee Craving Reduction Complex.*

Amylase Enzyme (naturally derived)

Amylase is an enzyme derived from a plant source (*Aspergillus oryzae*) by the natural process of fermentation. The enzyme is purified by filtration or centrifugation. It is then concentrated and dried under vacuum and temperature controlled to preserve its activity. Amylase helps break down complex carbohydrate to its smaller sugar components. Amylase enzyme is an ingredient in Shaklee EZ-Gest®.

Anise Seed Powder (natural)

Anise (*Pimpinella anisum*) is an herb native to Egypt and cultivated in Turkey and Spain. After harvesting, the seed is sifted and ground into a powder. Anise seed has an aromatic scent and a sweet, licorice-like taste that makes it a popular flavoring ingredient in herbal blends. Traditionally, anise seed has been a valued ingredient in herbal formulas.

Annatto (natural)

Annatto powder is a natural color derived from the seeds of the annatto tree (*Bixa orellana*). Annatto seed coatings contain a natural plant carotenoid called bixin, which is pale yellow to dark orange in color. Annatto powder serves as a natural vegetable coloring in Shaklee products.

Apis Mellifica (natural)

Honeybee (*Apis mellifica*) is of European origin and widely distributed throughout the civilized world. This ingredient is macerated, diluted, and succussed prior to use. The tincture derived from the bee acts as a diuretic to reduce excess water retention and to promote optimal kidney function. This homeopathic ingredient is included in Shaklee Appetite Reducing Spray.

Artichoke Extract (natural)

The artichoke (*Cynara scolymus*) is a well-known plant that grows to a height of 5 feet. It is widely cultivated in central Europe and the northern United States as a food. The leaves, stem, and root contain a number of enzymes, tannins, and other compounds, including cynarin. Fresh leaves are put through an extraction process. The extract is then concentrated, filtered, and spray-dried. Artichoke extract is an ingredient in Shaklee Liver DTX® Complex.

Ascorbic Acid (naturally derived)

Ascorbic acid, the scientific name for vitamin C, is derived through a process that includes the hydrolysis and enzymatic fermentation of the carbohydrate glucose, which is obtained from the starch naturally present in corn (*Zea mays*). Vitamin C is an essential, water-soluble vitamin critical to the development of collagen found in cartilage, bones, teeth, and healthy gums. Vitamin C also promotes the absorption of iron from foods, and is recognized as a protective antioxidant nutrient that helps neutralize free radicals that can cause cell damage.

Ascorbyl Palmitate (scientifically formulated)

Ascorbyl palmitate is a fat-soluble form of vitamin C (see **Ascorbic Acid**) made by combining naturally derived ascorbic acid with palmitic acid, a natural fatty acid obtained from plants. Vitamin C is an essential, water-soluble vitamin critical to the development of collagen found in cartilage, bones, teeth, and healthy gums. Vitamin C also promotes the absorption of iron from foods, and is recognized as a protective antioxidant nutrient that helps neutralize free radicals that can cause cell damage. Ascorbyl palmitate, along with mixed tocopherols (Vitamin E) (see **Mixed Tocopherols**) and rosemary extract (see **Rosemary Extract**), are the components of ShakleeGuard®, Shaklee's unique, patented, natural antioxidant system used in Menopause Balance Complex*, GLA Complex, and Shaklee Garlic Complex.

Ashwagandha Root Extract (natural)

Ashwagandha (*Withania somnifera*) is an evergreen shrub widely distributed in the Mediterranean and Middle Eastern regions. The roots are extracted, and the extract is then concentrated and dried. It is standardized to contain 1.5% withanolides. Ashwagandha is traditionally used in Ayurvedic medicine, where it is valued as a tonic, that promotes calm and vitality. It is a component of Shaklee Stress Relief Complex.*

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Asian Plantago Seed Extract (natural)

Asian Plantago (*Plantago asiatica*) is native to Asia. It is an ingredient in the MACH™ proprietary blend of Macrophage Activating Chinese Herbs in Immune Building Complex.*

B

Badiaga (natural)

Fresh Water Sponge (*Badiaga*), also known as the River Sponge, is found in the waters of Russia and Germany, where it grows detached from the soil. It is greenish in color and when dried it pulverizes easily. It is an ingredient in Shaklee Craving Reduction Complex.* As a homeopathic ingredient, it is macerated, diluted, and succussed prior to use. It is used to relieve nausea with a feeling of abdominal pressure and to alleviate muscle soreness. It also has beneficial effects on glandular activity, especially the thyroid. This homeopathic ingredient is included in Shaklee Appetite Reducing Spray.

Banaba Leaf extract (natural)

Banaba leaf extract is derived from the banaba tree (*Lagerstroemia speciosa*), which grows throughout Asia. The mature leaves are washed and extracted, and the extract is then filtered, concentrated, and spray-dried. It is standardized to contain 1% colosolic acid. Banaba has been traditionally valued in the Philippines as a medicinal herb. It is a key ingredient in Shaklee Glucose Regulation Complex* and Shaklee Craving Reduction Complex.*

Barley (natural)

Barley bran flour is made by grinding and sifting the high-fiber bran layer of barley (*Hordeum vulgare*). It is a natural source of water-insoluble dietary fiber.

Barley Flour and Powdered Roasted Barley (natural)

Barley flour is a powder made from grinding and sifting barley (*Hordeum vulgare*). Powdered roasted barley is made from raw barley that has been malted (sprouted and dried) and roasted. These barley flours serve as sources of natural color and as components of the natural ingredient base in select Shaklee products.

Barley Malt Extract (natural)

Barley malt extract is made from barley (*Hordeum vulgare*), that has been sprouted and dried. This process produces enzymes that convert starch into simple carbohydrates, such as dextrans and maltose. The barley and malted barley are mashed in hot water and the resulting enzyme-containing extract is dried into a powder. Barley malt extract serves as a natural means of adding sweetness and enhancing flavor.

Baryta carbonica (natural, mineral salt)

Carbonate of Baryta (*Baryta carbonica*), or barium carbonate, is a white, tasteless and odorless powder that is produced by the exposure of barium oxide to the air or by combining barium chloride with ammonium carbonate. This ingredient is macerated, diluted, and succussed prior to use. It eases stomach discomfort or the heavy feeling after eating and helps ease gastric weakness as we age. This homeopathic ingredient is included in Shaklee Appetite Reducing Spray.

Beeswax (natural)

Beeswax is the purified yellow wax obtained from honeycombs. It is used as a means of suspending ingredients within certain encapsulated products.

Beet Fiber (natural)

Beet fiber is made from the fibrous portions of the sugar beet (*Beta vulgaris*). It serves as a natural source of dietary fiber in Shaklee Fiber Plan® Tablets.

Berberis Vulgaris (natural)

Barberry (*Berberis vulgaris*) is a deciduous shrub that is native to Europe to eastern Asia and now naturalized in northeastern North America. It has gray arching grooved branches and bright-yellow flowers that appear in May and June. This ingredient is macerated, diluted, and succussed prior to use. It supports the digestive process to relieve heartburn, and reduce stomach cramps and feelings of nausea before breakfast. This homeopathic ingredient is included in Shaklee Appetite Reducing Spray.

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Beta Carotene (natural)

Beta carotene (*provitamin A*) is a natural yellow-orange plant pigment found in many plant foods. The beta carotene in Shaklee Cartomax is provided by palm oil carotenes (see **Palm Oil Carotenes**) and also by specially grown and harvested *Dunaliella salina* algae. Corn oil (see **Corn Oil**) is used to extract beta carotene and other carotenoids from the algae. Vitamin A is an essential fat-soluble vitamin required for healthy skin, skeletal development, and normal vision. Beta carotene is converted to vitamin A as the body needs it. When beta carotene is not needed to form vitamin A, it is safely stored in body tissues where it functions as an antioxidant.

Beta-Sitosterol (natural)

Beta-sitosterol is a common phytosterol found in grains, beans, fruits, and vegetables. Beta-sitosterol is produced by distilling soybean oil under high a vacuum. Phytosterols and fats are then crystallized out of the vitamin E-rich distillate. Beta sitosterol and other important phytosterols such as campesterol, stigmasterol, and brassicasterol are purified further by a sequence of recrystallization and filtration steps. These sterols are a primary component of Shaklee Saw Palmetto Complex. Beta-sitosterol is also an ingredient in Shaklee Stress Relief Complex.*

Bifidobacterium longum (natural)

Bifidus (*Bifidobacterium longum*) is one of the most important and dominant of the beneficial microflora found in the human gastrointestinal tract. These beneficial microflora help to maintain healthy intestinal microbial balance.*

Bifidobacterium longum is cultured under stringent laboratory conditions where it is protected from contamination. It is easily destroyed and needs to be protected from heat, light, moisture, acidity and other environmental factors. Bifidus is a key ingredient in the Optiflora® Probiotic Complex.

Bilberry Extract (natural)

Bilberry (*Vaccinium myrtillus*) is a small, shrubby perennial plant that grows in the woods of Europe, Asia, and North America. The fruit, which is very rich in anthocyanin flavonoids, is ground, put through an extraction process and the extract is concentrated. The concentrate is spray-dried to produce a powdered extract. Bilberry extract is an ingredient in Shaklee Mental Acuity™ Plus.

Bio-Build®

(See **Exclusive Shaklee Ingredient Complexes**.)

Bioflavonoid Complex (Lemon, Orange, Grapefruit, and Hesperidin Complex) (natural)

Bioflavonoid complex and hesperidin complex are special blends of bioflavonoids obtained from the inner peels of lemon (*Citrus limon*), orange (*Citrus sinensis*) and grapefruits (*Citrus paradisi*). These citrus peels are crushed and then undergo a series of extractions. The resulting mixture is dried into powder form. Bioflavonoids are a family of compounds found naturally in plants and believed to act as antioxidants.

Biotin (scientifically formulated)

Biotin is formulated from biochemical building blocks including the organic acid, fumaric acid. It is an essential, water-soluble B vitamin that functions in the metabolism of fats, amino acids, and carbohydrates.

Black Cohosh Extract (natural)

Black cohosh (*Cimicifuga racemosa*) is a perennial herb that is native to the rich, wooded areas of North America. The extract is prepared from the dried roots and rhizomes of the plant, which contains many constituents, including triterpene glycosides, and isoflavones, a class of phytoestrogens. These components are extracted, concentrated under vacuum, and then spray-dried and standardized to contain a minimum of 2.5% triterpene glycosides. Black cohosh extract is a key herbal ingredient in Shaklee Menopause Balance Complex.*

Blue Malva Flower Powder (natural)

Blue malva (*Malva sylvestris*) is an herb grown in Eastern Europe. Its purplish-pink flowers are collected, dried, and prepared into a powder. Traditionally, blue malva flower has been appreciated for its soothing properties.

Borage Oil (natural)

Borage (*Borago officinalis*) is a hardy annual found throughout Europe and North America. It produces bright-blue flowers that form brownish-black seeds when mature. Borage seeds are crushed to extract crude borage oil. The crude oil is then blanketed with nitrogen to protect it from oxidation, sprayed under vacuum to remove water, and then decolorized using citric acid and clay. These materials are removed in a filter press, producing clean, purified oil that has the highest natural concentration of gamma-linolenic acid (GLA) available. Borage oil is the primary source of GLA in Shaklee GLA Complex.

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Boron Rice Protein Hydrolysate (natural, protein/amino acid bound)

Boron rice protein hydrolysate is a trace mineral-protein/amino acid-bound complex. It is produced by enzymatically hydrolyzing rice protein and then combining the resulting peptides (small protein fragments) with boron. Boron, a trace mineral, is found in numerous tissues in the body.

Brewer's Yeast (natural)

Brewer's yeast (*Saccharomyces cerevisiae*) is a nutritional yeast and a natural source of B vitamins. It is produced during commercial brewing processes when malted grain extracts are fermented for the production of beer. The yeast is separated from the brew and washed to remove the bitter flavor without affecting the nutritional value of the yeast. The yeast is pasteurized and spray-dried producing a powder. Brewer's yeast is an ingredient used in the base of Shaklee B-Complex tablets.

Note: The nutritional yeasts used in Shaklee products are not active and they cannot grow in the body. They serve solely as a source of natural nutrition.

Broccoli Sprouts Extract (natural)

Broccoli sprouts extract is derived from whole three-day-old sprouts (*Brassica oleracea italica*), which are grown in the rich valleys of California. The freshly germinated sprouts contain an abundance of glucosinolates, especially sulforaphane. Broccoli sprouts extract contains 1,000 times as much of this important phytonutrient as mature broccoli. The fresh sprouts are washed, extracted, concentrated under vacuum and spray-dried to a powder form. Broccoli sprouts extract is an ingredient in CarotoMax®.

Brown Rice Syrup (natural)

Brown rice syrup is made from whole-grain brown rice (*Oryza sativa*) that has been cooked to convert its starch to maltose and dextrin. The liquid produced from the cooking process is filtered and concentrated by evaporation, yielding a syrup. Brown rice syrup is used as a natural flavoring agent in Shaklee Fiber Plan® Daily Crunch™.

Buckthorn Bark Powder (natural)

Buckthorn bark (*Rhamnus frangula*) is obtained from the bark of buckthorn, a shrub or small tree native to Europe, Western Asia, and Northern Africa. Traditionally, buckthorn bark has been used in many herbal formulas, and is an ingredient in Shaklee Herb-Lax® tablets.

C

Calcareae Carbonica (natural, mineral salt)

Carbonate of Lime (*Calcareae carbonica*), or calcium carbonate, is derived from oyster shells. The pure, white portion of fractured shells is washed and then reduced to a fine powder. This ingredient is macerated, diluted, and succussed prior to use. It helps to reduce the feeling of hunger that returns shortly after a meal and helps ease the feeling of drowsiness after a meal. This homeopathic ingredient is included in Shaklee Appetite Reducing Spray.

Calcareae Fluorica (natural, mineral salt)

Fluoride of Lime (*Calcareae fluorica*), or calcium fluoride, is a whitish-gray mineral powder that occurs naturally in large deposits. This ingredient is macerated, diluted, and succussed prior to use. It is used to relieve flatulence and stomach discomfort after eating. This homeopathic ingredient is included in Shaklee Appetite Reducing Spray.

Calcium Carbonate (natural, mineral salt)

Calcium carbonate is a bioavailable source of the essential mineral calcium, made from limestone (see **Ground Limestone**) by processes that include the use of calcium chloride and sodium bicarbonate. Calcium is necessary for the development and maintenance of healthy bones and teeth, blood clotting, muscle contraction, and conduction of nerve impulses.

Calcium Citrate (natural, mineral salt)

Calcium citrate is a highly bioavailable source of the essential mineral calcium. It is prepared by combining calcium carbonate or hydroxide with citric acid, an organic acid (see **Citric Acid**). Calcium is necessary for the development and maintenance of healthy bones, teeth, blood clotting, muscle contraction, and conduction of nerve impulses. Calcium citrate is one of the two sources of calcium in Super Cal Mag Plus and Chewable Cal Mag Plus.

Calcium Lactate (natural, organic acid bound)

Calcium lactate is a bioavailable source of the essential mineral, calcium, made by combining calcium carbonate or calcium hydroxide with the organic acid, lactic acid. Lactic acid is produced by the fermentation of simple carbohydrates found in sugar beets (*Beta vulgaris*). Calcium is necessary for the development and maintenance of healthy bones and teeth, blood clotting, muscle contraction, and conduction of nerve impulses.

Calcium Pantothenate (scientifically formulated)

Calcium pantothenate is a bioavailable form of the B vitamin, pantothenic acid. It is formulated from biochemical building blocks by the condensation of d-pantolactone with the calcium salt of beta-alanine. Pantothenic acid is a water-soluble B vitamin required for the metabolism of carbohydrates, fats, and protein, and the synthesis of cholesterol, phospholipids, and some hormones.

Calcium Sodium Caseinate (natural)

Casein is a bioavailable protein naturally present in milk. Calcium sodium caseinate is the isolated form of this milk protein. Nonfat milk is first pasteurized and the natural casein and whey milk proteins are isolated by coagulation using a special process involving lactic acid-producing microorganisms and the natural enzyme, rennet. Whey protein is removed, yielding a casein curd. The curd is mixed with calcium hydroxide and sodium hydroxide and dried. Caseinate is used in protein-containing food products for its mild flavor, smooth mouthfeel, and ease in mixing in powdered drinks.

Calcium Stearate (naturally derived)

Stearic acid (*a fatty acid*) is derived from a vegetable oil, such as soybean oil. Calcium stearate is prepared by combining soybean oil with sodium hydroxide and mixing it with calcium chloride. A calcium stearate precipitate is formed, filtered, washed, dried, and ground. Calcium stearate serves as a natural lubricant that aids in the tableting process, which allows the tablet to be easily removed from the tablet press during manufacturing.

Canola Oil (natural)

Canola oil is a natural vegetable oil extracted from an edible variety of rapeseed (*Brassica*). A natural source of monounsaturated fatty acids, canola oil is one of the vegetable oils lowest in saturated fatty acids. It is also a source of the essential fatty acid, linoleic acid. Canola oil is the main fat and essential fatty acid source in Shaklee Slim Plan Drink Mix and Shaklee Slim Plan Gold™ Shake.

Carbohydrate Gum (scientifically formulated)

(See **Hydroxypropyl Methylcellulose**.)

Carnauba Wax (natural)

Carnauba wax is a natural plant wax obtained from the leaves of the Brazilian wax palm tree (*Copernicia cerifera*). The wax is separated from the leaves, melted, resolidified, and milled into a powder. Similar to dietary fiber, natural plant waxes pass through the digestive tract unabsorbed. A thin layer of the natural plant wax is used to coat Shaklee Scientifically Advanced Vita-Lea® Multivitamin and Multimineral Dietary Supplement tablets. It provides a protective moisture barrier and aids in swallowing. Carnauba Wax is a component of the natural plant gum and wax sustained-release system featured in Shaklee Sustained Release Vita-C® 500 mg Vitamin C tablets.

Carrageenan (natural)

Carrageenan is a natural gum with gel-forming properties, obtained from red seaweeds (*Chondrus crispus* and *Gigartina mammillosa*) that grow in the shallow seawaters along the coastlines of France, Ireland, Portugal, the United States, and Canada. It is a component of the patented, natural plant gum and wax sustained-release system featured in Shaklee Sustained Release Vita-C® 500 mg Vitamin C tablets.

Carrot Powder (natural)

Carrot powder is prepared from freshly harvested carrots (*Daucus carota*) that have been washed and gently dehydrated. The dried carrots are ground into a fine powder and used as a natural source of dietary fiber, flavor, and color in Shaklee Fiber Plan® Tablets.

Cellulose (natural)

Cellulose is obtained from the pulp of natural plant fibers, and is purified and made into a powder. Cellulose powder serves as a natural means for binding ingredients together in tablets.

Choline Bitartrate (scientifically formulated)

Choline bitartrate is formulated from biochemical building blocks including the organic acid, tartaric acid. Choline is a component of lecithin (phosphatidylcholine) and a key component of cell and nerve membranes, lipoproteins, and the neurotransmitter, acetylcholine.

Cholecalciferol (naturally derived)

(See **Vitamin D₃**.)

Chromium nicotinate, polynicotinate (natural, organic acid bound)

Chromium nicotinate is a bioavailable source of the essential trace mineral, chromium, made by combining trivalent chromium (Cr³⁺) obtained from chromium chloride with the nicotinic acid form of the B vitamin, niacin (see **Niacin**). Chromium is an essential trace mineral that works with insulin to facilitate the uptake of blood glucose into cells. It is a key ingredient in Shaklee Glucose Regulation Complex* and Shaklee Craving Reduction Complex.*

Chromium Yeast (natural, protein/amino acid bound)

Chromium yeast is a natural source of organically bound and organically based chromium. It is prepared by growing nutritional yeast cells (*Saccharomyces cerevisiae*) in a chromium-rich medium. Chromium is incorporated into the protein structure of the yeast cells which are then harvested and dried. An essential trace mineral, chromium works with insulin to facilitate the uptake of blood glucose into cells.

Note: The nutritional yeasts used in Shaklee products are not active and they cannot grow in the body. They serve solely as a source of natural nutrition.

Citric Acid (naturally derived)

Citric acid is an organic acid derived by fermentation from cornstarch and molasses. It is the predominant organic acid found in citrus fruits. The tartness of citric acid enhances the natural citrus and fruit flavors in chewable tablets and in drink mixes. Citric acid also helps maintain the acidity of Shaklee Liqui-Lea® Multivitamin plus High-Potency Multivitamin Plus Iron Dietary Supplement and serves as a natural preservative.

Citrus Fiber Blend (natural)

Citrus fiber blend is a special fiber concentrate made from the pulp and peels of lemons (*Citrus limon*), oranges (*Citrus sinensis*), and grapefruit (*Citrus paradisi*). It is made by removing the juice and oils from thoroughly washed and cleaned whole fruits. The citrus pulp and peels are cleaned and pressed to remove any remaining water and soluble citrus compounds. After further dehydration and concentration, the pulp and peels are ground and blended into a powder. Citrus fiber blend serves as a natural source of dietary fiber in Shaklee Fiber Plan® Tablets.

Cobalamin Concentrate (naturally derived)

Cobalamin is the scientific name for vitamin B₁₂. Cobalamin concentrate is produced naturally by yeast fermentation. Vitamin B₁₂ is an essential, water-soluble vitamin that functions in the metabolism of carbohydrate, protein, and fat. It is also involved in the synthesis of genetic material within all cells, and the maintenance of the protective sheath around nerve fibers.

Cocoa and Lowfat Cocoa (natural)

Cocoa powder is made from the beans of cocoa trees (*Theobroma cacao*) grown in the equatorial belt. Much of the commercially grown cocoa comes from South America. After the cocoa beans are harvested, cleaned, and shelled, the cocoa is alkalized (Dutch processed), roasted, ground, and pressed into cakes. The cakes are ground into a fine cocoa powder. The total fat content of this powder can be reduced to suit its use in specific products. Cocoa powder is used in select Shaklee products for its natural cocoa flavor and rich brown color.

Coenzyme Q₁₀ (naturally derived)

Coenzyme Q₁₀ (CoQ₁₀), also known as ubiquinone, is a yellow crystalline powder produced by the fermentation of sugar beets (*Beta vulgaris*). Coenzyme Q₁₀ is also made naturally within the body, where it plays a vital role in the production of cellular energy. CoQ₁₀ is recognized for its protective antioxidant properties that help to neutralize free radicals that can cause cell damage.*

Copper Gluconate (natural, organic acid bound)

Copper gluconate is prepared by combining copper sulfate with gluconic acid, an organic acid produced by the fermentation of glucose from corn (*Zea mays*). Copper is an essential mineral that is a constituent of many enzymes in the body, including the antioxidant enzyme, superoxide dismutase (SOD). Copper functions in the formation of red blood cells, the protein hemoglobin, and collagen found in bone and connective tissue. In addition, copper contributes to the synthesis of hormone-like compounds, called prostaglandins, that help regulate heart rate and blood pressure.

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Copper Lysinate (natural, protein/amino acid bound)

Copper lysinate is a bioavailable source of the essential mineral, copper. It is made by binding copper obtained from the mineral salt, copper sulfate, with the amino acid, lysine. Copper is an essential mineral that is a constituent of many enzymes in the body, including the antioxidant enzyme, superoxide dismutase (SOD). Copper functions in the formation of red blood cells, the protein hemoglobin, and collagen found in bone and connective tissue. In addition, copper contributes to the synthesis of hormone-like compounds, called prostaglandins, that help regulate heart rate and blood pressure.

Copper Oxide (natural, mineral salt)

Copper oxide occurs in nature as the minerals tenorite and paramelaconite. Copper is an essential trace mineral that is a constituent of many enzymes in the body, including the antioxidant enzyme, superoxide dismutase (SOD). Copper functions in the formation of red blood cells, the protein hemoglobin, and collagen found in bone and connective tissue. In addition, copper contributes to the synthesis of hormone-like compounds, called prostaglandins, that help regulate heart rate and blood pressure.

Cordyceps Extract (natural)

Cordyceps (*Cordyceps sinensis*) is a black, blade-shaped mushroom. Once harvested from remote, high-altitude regions on the Chinese-Tibetan border, this once rare mushroom is now hydroponically grown. To prepare the extract, the mature fruiting body is removed, concentrated and then dried. Cordyceps has traditionally been one of the most valued Chinese medicinal herbs. It is one of the key ingredients in Shaklee CorEnergy®.

Corn Bran (natural)

Corn bran is derived from the high-fiber bran layer of yellow corn (*Zea mays*). Whole corn is harvested and after the bran is separated from the rest of the kernel, the corn bran is ground and roasted. It serves as a natural source of water-insoluble dietary fiber in Shaklee Fiber Plan® Daily Mix.

Corn Oil (natural)

Corn oil is extracted from the crushed germ of corn (*Zea mays*). It is a natural source of polyunsaturated fatty acids and the essential fatty acid, linoleic acid.

Corn Syrup (natural)

Corn syrup is a viscous liquid containing maltose, dextrin, dextrose and other carbohydrates. It is obtained from the hydrolysis of starch in corn (*Zea mays*) and serves as a key structural component and a natural sweetener in select Shaklee products.

Corn Syrup Solids (natural)

Corn syrup solids is a dried, powdered form of corn syrup (see **Corn Syrup**) containing maltose, dextrin, dextrose, and other carbohydrates. Used in products where the liquid syrup would be impractical, it serves as a natural binder and natural sweetener in select chewable tablets.

Croscarmellose Sodium (Modified Cellulose Gum) (scientifically formulated)

Croscarmellose sodium, also known as modified cellulose gum, is made from natural cellulose obtained from cotton (*Gossypium* spp.) linters (the fuzz that adheres to cottonseeds). The cellulose is modified through a number of processes to form a highly absorbent gum. Croscarmellose sodium binds tableted ingredients together and assists with the disintegration of tablets by helping to break them apart when they come in contact with the fluid environment of the digestive tract.

Culver's Root Powder (natural)

Culver's root (*Veronicastrum virginicum*), also commonly referred to as black root, is native to the United States. Traditionally, the dried root or its extract have been made into herbal teas. Culver's root is an ingredient in Shaklee Herb-Lax® tablets. In homeopathy, it is used to ease constipation and gaseous rumblings in the bowel and reduces the tendency to wake at night with feelings of hunger. This homeopathic ingredient is included in Shaklee Appetite Reducing Spray.

Cyanocobalamin (naturally derived)

(See **Vitamin B₁₂**.)

D

d-Alpha Tocopherol Concentrate (Vitamin E) (natural)**d-Alpha Tocopheryl Acetate (Vitamin E Acetate)** (natural)

d-Alpha Tocopheryl Acid Succinate (Vitamin E Succinate) (natural)

(See **d-Alpha Tocopherol**.)

d-Biotin (scientifically formulated)

(See **Biotin**.)

d-Calcium Pantothenate (scientifically formulated)

(See **Calcium Pantothenate**.)

Dandelion Extract (natural)

Native throughout the northern hemisphere, the dandelion plant (*Taraxacum officinale*) contains a number of triterpenes, sterols, carotenoids, and potassium. The root and leaves are dried, cut, and milled. An extract is then prepared that is concentrated, filtered, and spray-dried. Dandelion extract is an important ingredient in Shaklee Liver DTX® Complex.

Devil's Claw Extract (natural)

Devil's claw plant (*Harpagophytum procumbens*) is a native plant of southern Africa. Devil's claw plant extract is prepared from the roots of the plant. The dried roots are chopped and cleaned. A concentrated liquid is extracted from the herb by percolation. Devil's claw plant root extract is an important ingredient in Shaklee Joint Health Complex.*

Dextrose (natural)

Dextrose, also called glucose, is a natural, simple carbohydrate made from the hydrolysis of starch in corn (*Zea mays*). Mildly sweet, dextrose is used to enhance flavors without imparting excessive sweetness in select products that contain simple carbohydrates.

Dicalcium Phosphate (natural, mineral salt)

Dicalcium phosphate is a bioavailable form of the essential minerals, calcium, and phosphorus. It is produced by the reaction of phosphoric acid (made from acidified phosphate rock) and calcium oxide (made from natural limestone), or calcium hydroxide (made from natural limestone that has been hydrated with water). Calcium is necessary for the development and maintenance of healthy bones and teeth, blood clotting, muscle contraction, and conduction of nerve impulses. Phosphorus is second only to calcium as the most abundant mineral in the body. In fact, about 85% of phosphorus is found combined with calcium in bones and teeth. It also serves as a natural buffer in blood, is a component of genetic material in cells, and plays many key roles in cellular metabolism. In addition to its role as a source of calcium and phosphorus, dicalcium phosphate can serve as a natural means for binding tablet ingredients together.

Dong Quai Extract

Dong Quai (*Angelica sinensis*) is a stout biennial or perennial herb, native to China, which has been used traditionally for several thousand years. Dong Quai extract is prepared from the clean and dried roots, from which the components, such as ligustilides and ferulic acid are extracted. The extract is filtered, concentrated, and spray dried to a powdered form. Dong Quai extract is an important herbal ingredient in Shaklee Menopause Balance Complex.*

d-Panthenol (scientifically formulated)

(See **d-Panthenol**.)

Dried Yeast (natural)

(See **Primary Grown Yeast**.)

E

Echinacea Purpurea Powdered Extract (natural)

Echinacea (*Echinacea purpurea*) is a perennial herb native to North America and extensively cultivated in the U.S. and Europe. The powdered extract is prepared from the dried root and leaves of the plant, which contain active components such as phenols, cichoric acid, and alkylamides. These components are extracted, concentrated, and spray dried. The powdered extract has a characteristic aroma and taste, and may impart a tingling sensation in the mouth. Echinacea purpurea powdered extract is a key ingredient in Shaklee Defend & Resist Complex.

Elderberry Powdered Extract (natural)

Black Elder (*Sambucus nigra*) is a tall shrub native to Europe. The extract is prepared from the ripe, black berries that contain flavonoid compounds such as anthocyanidins, which are the source of the berries' rich color. These components are extracted, concentrated under a vacuum, then spray dried and standardized for anthocyanidin content. Elderberry powdered extract is a key ingredient of Shaklee Defend & Resist Complex.

Elderberry Juice Powder Concentrate (natural)

Black Elder (*Sambucus nigra*) is a tall shrub native to Europe. A concentrate of the juice is obtained from the ripe, black berries. The concentrate has a sweet, berry flavor and is a source of flavonoid compounds such as anthocyanidins, which provide the berries' rich color. Elderberry juice powder concentrate is a key ingredient in Shaklee Defend & Resist Complex.

Eleutherococcus senticosus (formerly known as Siberian Ginseng) (natural)

Eleutherococcus senticosus is an herb grown in northeastern China, Russia (Eastern Siberia), Manchuria and Korea. A concentrated liquid extract is prepared from cut and cleaned roots by percolation, and then spray-dried into powder. Traditionally, *Eleutherococcus senticosus* has been valued for its use in herbal formulas. *Eleutherococcus senticosus* extract is an ingredient in Shaklee MoodLift®.

Eucalyptus Leaf Extract (natural)

Eucalyptus leaf comes from eucalyptus trees (*Eucalyptus globulus*) grown in Spain. The leaves are harvested, milled, and ground, and a concentrated liquid is extracted from the leaves by percolation. After purification, the extract is spray dried into a powder. Traditionally, eucalyptus has been valued for its use in herbal formulas.

Eucalyptus Oil (natural)

Eucalyptus oil is a natural, aromatic oil obtained by steam distillation from the fresh leaves of eucalyptus trees (*Eucalyptus globulus*) grown in Australia. The oil has a characteristic, camphor scent and a pungent, cooling, spicy taste. Traditionally, eucalyptus and its oil have been valued for their use in herbal formulas.

F

Fennel Seed Powder (natural)

Fennel (*Foeniculum vulgare*) is an herb native to the Mediterranean region and is also cultivated in China. Fennel is harvested and the seed is sifted and ground into a powder. The seed of the plant has a pleasant, aromatic scent and sweet flavor that makes it a popular flavoring in foods and in herbal blends. Traditionally, fennel seed has been valued for its use in herbal formulas.

Ferric Ammonium Citrate (natural, organic acid bound)

Ferric ammonium citrate is a mineral salt containing iron complexed with ammonia and the organic acid, citric acid (see **Citric Acid**). It is prepared by combining ferric hydroxide with citric acid. Following the addition of ammonium hydroxide, it undergoes a drying and evaporation process. Ferric ammonium citrate is a bioavailable, water-soluble form of the essential trace mineral, iron. Iron is a component of hemoglobin which transports oxygen from the lungs to the body's cells. Iron is also an essential component of myoglobin, the protein that stores oxygen reserves in muscle. Ferric ammonium citrate serves as the water-soluble source of iron in Shaklee Liqui-Lea® Plus High-Potency Plus Iron Dietary Supplement.

Ferrous Fumarate (natural, organic acid bound)

Ferrous fumarate is prepared by mixing hot solutions of ferrous sulfate and sodium fumarate (fumaric acid, an organic acid). The resulting slurry is separated and dried into a reddish-brown powder. Ferrous fumarate is a bioavailable form of the essential trace mineral, iron. Iron is a component of hemoglobin which transports oxygen from lungs to the body's cells. Also, iron is an essential component of myoglobin, the protein that stores oxygen reserves in muscle.

Ferrous Lactate (natural, organic acid bound)

Ferrous lactate is prepared by combining calcium lactate (see **Calcium Lactate**) or sodium lactate with ferrous sulfate, or by directly mixing iron filings with the organic acid, lactic acid. Lactic acid is produced by the fermentation of simple carbohydrates found in sugar beets (*Beta vulgaris*). Ferrous lactate is a bioavailable form of the essential trace mineral, iron. Iron is a component of hemoglobin, which transports oxygen from lungs to the body's cells. Also, iron is an essential component of myoglobin, the protein that stores oxygen reserves in muscle.

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Fig Powder (natural)

Fig powder is made from the fruit of fig trees (*Ficus carica*). The figs are dried, cut, and ground into a fine powder. Fig powder provides a mild, sweet, and fruity taste in select Shaklee products.

Flaxseed Extract

Flaxseed (*Linum usitatissimum*) is a tall, erect, annual plant with star-shaped, turquoise-blue blossoms. It has been cultivated in many regions since the time of the ancient Egyptians. Today, the world leader for flax production is Canada. The extract is produced from whole seeds, which contain lignans, a class of phytoestrogens. Flax seeds are the richest source of lignans, providing 75–800 times more than most plant foods. The seeds are ground, extracted, concentrated, filtered and spray-dried to a powder form. Flaxseed extract is a key ingredient in Shaklee Menopause Balance Complex.*

Flaxseed Oil

Flaxseed oil is a seed oil extracted from flaxseed (*Linum usitatissimum*). The seeds are ground and steamed, then the oil is pressed out, cooled and filtered. A unique feature of flaxseed oil is its high ratio of alpha-linolenic acid (an omega-3 fatty acid) to linoleic (an omega-6 fatty acid). Flaxseed serves as the main ingredient in the oil base of Shaklee Menopause Balance Complex* capsules.

Folic Acid (scientifically formulated)

Folic acid is a water-soluble B vitamin formulated from biochemical building blocks, including triamine hydro-chloride. It is involved in amino acid metabolism and plays an important role in the synthesis of compounds needed for the formation of genetic material, RNA and DNA, which are essential to cell division.

FOS (natural)

FOS (*Fructooligosaccharides*) is a family of short-chain carbohydrates extracted from the roots of the chicory plant (*Chicorium intybus*). FOS is extracted from cleaned chicory roots using a water-extraction process, resulting first in inulin (see **Inulin**), which is then enzymatically reduced to form FOS. Alternately, FOS is derived from beets (*Beta vulgaris*) using a water extraction method. FOS is not broken down or absorbed in the stomach or small intestine. It reaches the colon intact, where it is metabolized by *Bifidobacteria*. FOS from chicory roots is a key ingredient in the Optiflora® prebiotic. Beet-derived FOS, combined with soy extract, serves as a natural sweetener in Chewable Cal Mag Plus.

Fructose (naturally derived)

Fructose is a natural simple carbohydrate found in many fruits and vegetables and made commercially by the enzymatic conversion of dextrose (see **Dextrose**) derived from corn (*Zea mays*). Also known as fruit sugar, fructose is the sweetest of all naturally occurring sugars, and serves as a natural sweetener in select Shaklee products.

Fucus Vesiculosus (natural)

Sea kelp (*Fucus vesiculosus*) is a brownish-green seaweed found in the North Atlantic and Pacific oceans. It attaches itself to the rocky seabottom by its expanded, woody root. This ingredient is macerated, diluted, and succussed prior to use. It helps to relieve poor digestion and tendencies toward flatulence and constipation due to its beneficial effects on the thyroid gland. This homeopathic ingredient is included in Shaklee Appetite Reducing Spray.

G

Galium Aparine (natural)

Goose grass (*Galium aparine*) is a reclining annual herb that often forms dense mats in the woods, thickets, and seashores from Newfoundland to Alaska, and south to New England, Florida, and Texas. This ingredient is macerated, diluted and succussed prior to use. It produces small clusters of white flowers from May through July. It acts as a diuretic to relieve excess water retention. This homeopathic ingredient is included in Shaklee Appetite Reducing Spray.

Garlic Powder (natural)

Garlic (*Allium sativum*) is an herb native to Europe and central Asia. Shaklee garlic is cultivated in California. Shaklee garlic powder is made from whole garlic cloves that undergo a gentle temperature-controlled drying process. The special drying process removes moisture from whole garlic, producing a pure powder that retains the natural phytochemical components found in fresh garlic. Additionally, this process controls garlic odor for enhanced consumer acceptance. Traditionally, garlic has been valued as a culinary herb and for its use in herbal formulas. Shaklee garlic powder is the main herbal ingredient in Shaklee Premium Garlic Complex.

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Gelatin (natural)

Gelatin is a naturally occurring protein obtained by the partial hydrolysis of collagen found in animal skin, connective tissue, and bones. Gelatin is used for its natural gel-forming properties and is the primary component of soft-gel capsule shells.

German Chamomile Flower Extract (natural)

German chamomile flower (*Matricaria chamomilla*) is grown in South America. A concentrated liquid extract is made from dried flowers by percolation, and spray-dried into a powder. Traditionally, the flower has been a valuable ingredient in herbal formulas and teas throughout Europe. The extract is used as an ingredient in Shaklee Gentle Sleep Complex.*

Ginger Root Powder (natural)

Ginger (*Zingiber officinale*) is an herb grown in China and India. The ginger root is cleaned, dried, and ground into a fine powder. Ginger has been valued for over 2,500 years as a spice and flavoring agent in cooking. Traditionally, ginger root has also been valued for its use in herbal formulas.

Ginkgo Biloba Extract (natural)

Ginkgo biloba (*Ginkgo biloba*), native to Japan and China, is one of the world's oldest living tree species. It bears distinctive fan-shaped leaves which contain many constituents, including flavone glycosides, terpene lactones, bioflavones and proanthocyanidins. Dried ginkgo leaves are crushed and put through an extraction process. The liquid extract is concentrated, filtered and purified in a series of steps to produce an extract containing a minimum of 24% flavone glycosides and 6% terpene lactones. Ginkgo biloba extract is the key herbal ingredient in Shaklee Mental Acuity Plus™.

Ginseng Root Extract (natural)

Ginseng (*Panax ginseng*) is native to Northeast China and Korea. The name ginseng means "man root," a reference to its shape, which resembles the human form. Mature ginseng roots contain saponin compounds, also known as ginsenosides. The cleaned roots are extracted, concentrated, and dried, then standardized to contain a minimum of 10% ginsenosides. Traditionally, Panax ginseng has been valued as a tonic that promotes vitality. Ginseng root extract is a key ingredient in Shaklee CorEnergy®.

Glucosamine Hydrochloride (natural)

Glucosamine hydrochloride is derived from chitin, which is most abundant in the shells of crabs, shrimps, and lobsters. Chitin is extracted from these shells. Through a series of further extraction and filtration steps, chitin is broken down into single units of glucosamine, which is then converted to glucosamine hydrochloride, an acid salt form that is more stable than its free form. Upon ingestion, glucosamine hydrochloride molecules are completely ionized into free glucosamine. Glucosamine hydrochloride is a key ingredient in Shaklee Joint Health Complex.*

Glucose (natural)

(See **Dextrose**.)

Glycerin (natural)

Glycerin is a clear and viscous liquid obtained by the hydrolysis of fats or oils (e.g. coconut, canola, tallow, or others), which involves a continuous high pressure steam process. The glycerin then is concentrated, refined, and purified. Glycerin acts as a humectant to help maintain the integrity of soft-gelatin capsule shells. It also promotes the hydration of gum ghatti (see **Gum Ghatti**) used in Shaklee Liqui-Lea® Plus High-Potency Multivitamin Plus Iron Dietary Supplement.

Glyceryl Palmitostearate (naturally derived)

Glyceryl palmitostearate is a viscous liquid composed of the naturally occurring fatty acids palmitic and stearic acids as glycerides, the compounds that provide fatty acids in foods. Glyceryl palmitostearate is made from fatty acids derived from vegetable oil. Glyceryl palmitostearate helps suspend Coenzyme Q₁₀ (see **Coenzyme Q₁₀**) in the soybean oil base present in CoQHeart® which contributes to CoQ₁₀'s enhanced bioavailability.

Gotu Kola Extract (natural)

Gotu kola (*Centella asiatica*) is a slender, creeping plant that grows in swampy areas of India, Madagascar, and the tropics. Extracts of the plant contain a number of triterpenoid compounds. The components are extracted from the dried herb. The extract is concentrated under vacuum and then spray-dried. Gotu kola is not related to Kola nut and has no caffeine. Gotu kola extract is an ingredient in Shaklee Mental Acuity Plus™.

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Grapefruit Oil (natural)

Grapefruit oil is an aromatic, flavorful oil extracted from the peels of grapefruit (*Citrus paradisi*). It is used as a natural flavor in Shaklee Vita-C® vitamin C supplements.

Grapeseed Extract (natural)

Grapeseed extract is derived from red grapes (*Vitis vinifera*.) which are cultivated worldwide. The extract is prepared from the seeds and skins, which are rich in flavanols, especially proanthocyanidins. The seeds and skins are separated from the grape pomace and washed prior to extraction. The extract is then purified, concentrated, and standardized for proanthocyanidin content before drying. Grapeseed extract is an ingredient in CarotoMax® and Vita-E Complex.

Green Oats Powder Extract (natural)

Green oats (*Avena Sativa*) is an herb native to northern Europe, and now grown worldwide as a cereal crop. The young green parts of the oat plant, also known as oat straws are harvested in late summer. A concentrated liquid is extracted by percolation from the cut and cleaned herb, and then spray-dried into powder. Oat straw has been used in herbal folk remedies. Green oats extract is an ingredient in Shaklee MoodLift® Complex.

Green Tea Extract (natural)

Green tea (*Camellia sinensis*) is an evergreen shrub native to East Asia. The beverage prepared from its dried, cured leaves is second only to water as the most consumed beverage worldwide. Tea leaves are rich in polyphenol compounds such as catechins which possess antioxidant activity. After harvesting, the leaves are cleaned and extracted, then concentrated, dried and standardized to a content of 50% polyphenols. In Asia, green tea has been traditionally valued as a healthful beverage for thousands of years. Green tea extract is a key ingredient in Shaklee CorEnergy®.

Guar Gum (natural)

Guar gum is obtained from the seed of the guar plant (*Cyamopsis tetragonoloba*), grown in India. The seeds are dehusked, dried, and ground into a fine powder. Guar gum is a water-soluble dietary fiber that thickens when mixed in water. It is a key dietary fiber in Shaklee Fiber Plan® and Shaklee Slim Plan Gold™ shake, a component of the natural plant gum and wax sustained-release system featured in Shaklee Sustained Release Vita-C® tablets.

Gum Ghatti (natural)

Gum ghatti is a natural plant gum that seeps from breaks in the bark of a tree *Anogeissus latifolia*, which grows in the forests of India and Sri Lanka. The hardened gum is collected, sorted by color, and ground into a powder. Gum ghatti is used as an emulsifier and thickener. In Shaklee Liqui-Lea® Plus High-Potency Multivitamin Plus Iron Dietary Supplement, gum ghatti helps control viscosity or thickness and aids in the emulsification of fat-soluble vitamins.

Gutta Gamba (natural)

Gambogia (*Gutta gamba*) is a gum resin derived from several species of *Garcinia*, a small tree found in Thailand, Cambodia, and the southern parts of Vietnam. The trees yield a yellow, opaque juice that hardens upon exposure into air to an odorless solid. This ingredient is macerated, diluted, and succussed prior to use. It helps to relieve food cravings, abdominal distention, and diarrhea. This homeopathic ingredient is included in Shaklee Appetite Reducing Spray.

H

Hawthorn Extract (natural)

Hawthorn (*Crataegus oxyacantha*) is a spiny bush that grows to 25 feet in height, bearing leaves that are divided into three to five lobes and strong-smelling flowers that grow in large bunches. The leaves and flowers contain the flavonoids hyperoside and vitexin-rhamnoside, as well as oligomeric proanthocyanidins. The leaves and flowers are dried, cut, and milled. A liquid extract is prepared, which is concentrated, filtered and spray-dried. Hawthorn extract is an important ingredient in Shaklee Mental Acuity Plus™.

High Oleic Sunflower Oil Powder (natural)

High Oleic Sunflower Oil Powder is derived from the seed oil of the sunflower (*Helianthus annuus* L.). This ingredient adds flavor and a rich mouthfeel to beverages, and provides a source of polyunsaturated fat to your healthy, well-balanced diet. High Oleic Sunflower Oil Powder is a key ingredient in Shaklee Slim Plan Gold™ shake, Vanilla and Chocolate.

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High-Fructose Corn Syrup (naturally derived)

High-fructose corn syrup is made through the enzymatic conversion of a portion of the dextrose (glucose) in corn syrup (see **Corn Syrup**) to the natural, simple carbo-hydrate, fructose. High-fructose corn syrup tastes sweeter than glucose. It is a key structural component and energy source in Carbo-Crunch® Energizing Snack Bars.

Histaminum Muriaticum (scientifically formulated)

Histamine hydrochloride (*Histaminum muriaticum*) is an odorless, colorless, or white crystalline powder with an acid, saline taste. This ingredient is macerated, diluted, and succussed prior to use. It eases poor digestion due to its positive influence on gastric secretions and relieves general allergic responses such as sneezing or swollen, watery eyes. This homeopathic ingredient is included in Shaklee Appetite Reducing Spray.

Hydroxylated Soy Lecithin (naturally derived)

Hydroxylated soy lecithin is made from lecithin, found naturally in soybean oil (*Glycine max*), which is then specially modified to make it highly water dispersible. It is incorporated into coating solutions that can be sprayed on tablets to help prevent the tablet coating from cracking or becoming brittle.

Hydroxypropyl Cellulose (scientifically formulated)

Hydroxypropyl cellulose is made from natural cellulose obtained from pine trees (*Pinus* species). The cellulose is modified under elevated temperature and pressure to form a gum like material which serves as an excellent means of binding tablet ingredients together. Hydroxypropyl cellulose is a functional ingredient in Super Cal Mag Plus.

Hydroxypropyl Methylcellulose (Carbohydrate Gum) (scientifically formulated)

Hydroxypropyl methylcellulose, also known as carbohydrate gum, is made from natural cellulose obtained from pine trees (*Pinus species*) or cotton (*Gossypium species*) linters (the fuzz that adheres to cottonseeds). The natural cellulose is then modified to form a gum or gel like material (modified cellulose) which serves as an excellent means of binding tablet ingredients together. As a component of the tablet coating, it aids ease of swallowing.

I

Inositol (natural)

Inositol is a nutrient, which is present as phytic acid in corn (*Zea mays*) and rice (*Oryza sativa*) bran. Corn or rice bran is subjected to a series of hydrolysis, filtration, concentration, and crystallization steps and then dried to become fine crystalline inositol. Inositol is a component of phosphatidylinositol, a phospholipid, which is an enzyme modulator and key component of cell membranes and lipoproteins.

Inulin (natural)

Inulin is a mixture of long-and short-chain carbohydrates, which occur naturally in the roots of the chicory plant (*Chicorium intybus*). Inulin is extracted from clean chicory roots using a water-extraction process, then purified and spray-dried into a powder form. Inulin is not broken down or absorbed in the stomach or small intestine. It reaches the colon intact, where it is metabolized by *Bifidobacteria*. Inulin is a key ingredient in the Optiflora® prebiotic Complex.

J

Japanese Honeysuckle Flower Bud Extract (natural)

Japanese Honeysuckle (*Lonicera japonica*) is native to Asia. The flower buds have been used in Chinese medicine and herbal tea. It is an ingredient in the MACH™ proprietary blend of Macrophage Activating Chinese Herbs in Immune Building Complex.*

Jerusalem Artichoke Flour (natural)

Commonly found in the southern parts of the United States, Jerusalem artichokes (*Helianthus tuberosus*), also known as sunchokes, are members of the sunflower family. The tubers of Jerusalem artichoke are a natural source of inulin (see **Inulin**) and FOS (see **FOS**). After harvest, the tubers are washed, then ground into slurry and spray-dried into a powder. Jerusalem artichoke flour is a component in the Optiflora® prebiotic Complex.

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K

Karaya Gum (natural)

Karaya gum is a natural plant gum that seeps from a tree (*Sterculia urens*), which is native to India. Karaya gum serves as a natural means for binding ingredients together in Shaklee Herb-Lax® tablets.

L

L-Taurine (scientifically formulated)

Taurine is a bioavailable sulfur amino acid formulated from biochemical building blocks, including sodium sulfite. It is then purified and dried into a white powder. The main dietary sources of taurine are meats and fish. It is also produced in the body where it functions as an antioxidant, and in detoxification and cell membrane stabilization. Taurine is a component of Shaklee Glucose Regulation Complex.*

L-Theanine (scientifically formulated)

L-theanine is formulated from biochemical building blocks including L-glutamine. It is an amino acid found naturally, and almost exclusively, in tea (*Camellia sinensis*), where it constitutes about 1–2% of the dried leaves. Green tea is second only to water as the most consumed beverage worldwide. L-theanine is a key component of Shaklee Stress Relief Complex.*

L-Tyrosine (natural)

L-tyrosine is an amino acid derived from sugar beet (*Beta vulgaris*) molasses. Sugar is extracted from the beet, and L-tyrosine is separated from the sugar mixture using ionic column separation. Produced in the body, L-tyrosine is needed for the manufacture of many important compounds, including the neurotransmitters norepinephrine and epinephrine. L-tyrosine is a component of Shaklee Stress Relief Complex.*

Lactase Enzyme (Beta d-Glactosidase) (naturally derived)

Beta d-galactosidase, also known as lactase, is an enzyme derived from a plant source (*Aspergillus oryzae*) by the natural process of fermentation. The enzyme is purified by filtration or centrifugation. It is then concentrated and dried under vacuum and temperature controlled to preserve its activity. Lactase enzyme breaks down lactose (milk sugar) into simple sugars that can be absorbed, and thus aids in the digestion of dairy products. Lactase enzyme is a key ingredient in Shaklee EZ-Gest®.

Lactobacillus acidophilus (natural)

Lactobacillus acidophilus commonly known as acidophilus is one of the most important and dominant of the beneficial microflora found in the human gastrointestinal tract. These beneficial microflora help to maintain healthy intestinal microbial balance. *Lactobacillus acidophilus* is cultured under stringent laboratory conditions where it is protected from contamination. Acidophilus is a key ingredient in Optiflora® probiotic Complex.

Larch Tree Powdered Extract (natural)

Larch tree powdered extract is obtained from the heartwood of the larch tree (*Larix* sp.), which is a member of the pine family. The heartwood is rich in immuno-active carbohydrate compounds known as arabinogalactan. It is extracted under pressure, purified, and then spray dried to yield a fine white powder. Larch tree powdered extract is an important ingredient in Shaklee Defend & Resist Complex.

Licorice Extract

Licorice (*Glycyrrhiza glabra*) is a shrub, with graceful feathery foliage and spikes of small yellowish or purplish flowers, native to Southeast Europe and Southwest Asia. The extract is prepared from the cleaned and dried roots and rhizomes which contain mainly glycyrrhizin and naturally occurring sugars. The roots are crushed and boiled, and the decoction is filtered, concentrated and spray dried to a powder form. Licorice extract is an important herbal ingredient in Shaklee Menopause Balance Complex.*

Licorice Root Powder (natural)

Licorice root (*Glycyrrhiza glabra* and *Glycyrrhiza uralensis*) is cultivated in China, India, Pakistan, and the Middle East. The rhizomes and root of licorice are cleaned, dried, and milled into a fine powder. Licorice root is known for its characteristic sweet taste. *Glycyrrhiza glabra* is the species used most often in European herbal formulas. *Glycyrrhiza glabra* is one of the herbs in Shaklee Herb-Lax®.

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Lipase (naturally derived)

Lipase is an enzyme derived from a plant source (*Aspergillus niger*) by the natural process of fermentation. The enzyme is purified by filtration or centrifugation. It is then concentrated and dried under vacuum and controlled temperature to preserve its activity. Lipase helps break down fats in foods to its smaller components, fatty acids and glycerol. Lipase enzyme is an ingredient in Shaklee EZ-Gest®.

Locust Bean Gum (natural)

Locust bean gum, also called carob gum, is obtained from the seeds of the Mediterranean-grown locust tree (*Ceratonia siliqua*). After removal of the husk, the endosperm or gum-containing part of the seed is ground into a fine powder. Locust bean gum is a key dietary fiber in Shaklee Fiber Plan® and a component of the natural plant gum and wax sustained-release system featured in Shaklee Sustained Release Vita-C® tablets.

Lutein and Zeaxanthin

Lutein and zeaxanthin are naturally occurring dark yellow carotenoid pigments abundant in plants such as yellow and dark green leafy vegetables, pumpkins and corn. The commercial extract is prepared from marigold flowers (*Tagetes erecta*). The marigold oleoresin is extracted, washed and centrifuged to form a refined oleoresin, which is then hydrolyzed and filtered to remove the non-carotenoid components. The free lutein and zeaxanthin are standardized and suspended in vegetable oil. Lutein is a key ingredient in Shaklee CarotoMax®.

Lycopene (natural)

Lycopene is a naturally occurring red carotenoid pigment found in vegetables and fruits such as tomatoes, watermelon and pink grapefruit. Shaklee Lycopene is produced via an extraction process from selected ripe tomatoes bred and cultivated for high lycopene content. Lycopene is a key ingredient in Shaklee CarotoMax®.

Lycopodium Clavatum (natural)

Club Moss (*Lycopodium clavatum*) is an evergreen, trailing plant found in the dry woods and hilly pastures of Europe and the United States. It blooms in July and August, producing brown flowers with erect spikes. This ingredient is macerated, diluted, and succussed prior to use. It relieves stomach distension, heartburn, and sour regurgitation after eating. It also assists detoxification and excessive hunger due to its positive effects on the liver. This homeopathic ingredient is included in Shaklee Appetite Reducing Spray.

M

Magnesium Carbonate (natural, mineral salt)

Magnesium carbonate powder is prepared from naturally occurring dolomite and saltwater brine. Magnesium is an essential mineral that works with calcium to help muscles contract and relax, and in the transmission of nerve impulses. As a component of many enzymes in the body, magnesium plays an important role in the synthesis of proteins and in the maintenance of genetic material within cells. Magnesium is an important constituent of bone.

Magnesium Gluconate (natural, organic acid bound)

Magnesium gluconate is prepared by combining a magnesium salt with gluconic acid, an organic acid produced by the fermentation of glucose from corn (*Zea mays*). Magnesium is an essential mineral that works with calcium to help muscles contract and relax, and in the transmission of nerve impulses. As a component of many enzymes in the body, it plays an important role in the synthesis of proteins and in the maintenance of genetic material within cells. Magnesium is an important constituent of bone.

Magnesium Oxide (natural, mineral salt)

Magnesium Oxide is a powder made by combining a magnesium chloride solution with calcium oxide. Magnesium is an essential mineral that works with calcium to help muscles contract and relax, and in the transmission of nerve impulses. As a component of many enzymes in the body, it plays an important role in the synthesis of proteins and in the maintenance of genetic material within cells. Magnesium is an important constituent of bone.

Malt and Barley Extract (natural)

(See **Barley Malt Extract**.)

Malt Powder (natural)

Malt powder is made from barley (*Hordeum vulgare*) that has been malted (sprouted and dried), and ground into a powder. The enzymes found naturally in malted barley break down starch into simple carbohydrates, such as dextrins and maltose. Malt powder serves as a natural means of adding sweetness and enhancing the flavor of products.

Maltodextrin (natural)

Maltodextrin is a carbohydrate made from the partial breakdown of starch present naturally in corn (*Zea mays*). The partial breakdown produces glucose polymers of varying chain lengths. The solution is filtered, spray-dried, and prepared into a powder. Because the starch is only partially broken down, it has a bland taste and a very low level of sweetness. Maltodextrin serves as a source of carbohydrate in food and nutritional products, a natural means for binding tablet ingredients together, and as a carrier for vitamins, minerals, and natural flavors and colors.

Maltose, Crystalline (natural)

Crystalline maltose is a simple carbohydrate made from the enzymatic breakdown of the starch naturally present in corn (*Zea mays*). The solution that results is filtered, spray-dried and prepared into a crystalline powder. Less sweet than sucrose, maltose serves as a natural sweetener in Shaklee Defend & Resist Complex.

Manganese Gluconate (natural, organic acid bound)**Manganese Sulfate** (natural, mineral salt)

Manganese gluconate is prepared by combining a manganese compound, such as manganese sulfate, with gluconic acid, an organic acid produced by the fermentation of glucose from corn (*Zea mays*). Manganese sulfate is prepared by combining a manganese salt with sulfuric acid. Manganese is an essential mineral that is a constituent of many enzymes in the body, including the antioxidant enzyme, superoxide dismutase (SOD). Manganese functions in the formation of connective tissue and bone and is important for normal growth and reproduction.

Mannitol (naturally derived)

Mannitol is naturally present in a variety of plants. It is found in seaweeds and in the honey-like fluid that seeps from the bark of the manna tree (*Fraxinus ornus*). Mannitol in Shaklee products is produced by the hydrogenation, purification, and crystallization of corn syrup (see Corn Syrup). Mannitol imparts a sweet, cooling sensation in chewable tablets such as in Shaklee Chewable Cal Mag Plus and Vita-E® 100 Iu Chewable tablets. Mannitol also serves as a natural means for binding ingredients together in tablets.

Microcrystalline Cellulose (natural)

Microcrystalline cellulose is a gum-like material purified from hydrolyzed cellulose derived from the hardwood pulp of trees. Used as a natural means for binding tablet ingredients together, it also assists with the disintegration of tablets by helping them break apart when they come in contact with the fluid environment of the digestive tract.

Milk Protein Isolate (natural)

Milk protein isolate is a bioavailable protein isolated from pasteurized, nonfat milk by coagulation — a process involving lactic acid-producing microorganisms and the enzyme, rennet. The milk protein is cooked, washed, and dried to form a powder. Milk protein isolate imparts a mild flavor and smooth mouthfeel, and aids in mixing of powdered drinks.

Milk Thistle Extract (natural)

Milk thistle (*Silybum marianum*) is an annual or biennial plant native to the Mediterranean region, but now widely found on most continents. Various preparations of the plant, especially the seeds, have been used for over 2000 years. Silymarin contains a mixture of isomeric flavonolignans found in the seeds. Almost all seeds used to produce milk thistle extract are now cultivated. The seeds are first ground and then put through an extraction process under controlled temperature conditions. The extract is filtered and then further concentrated and dried under vacuum. It is then combined with acacia gum to make a free-flowing, granular powder. Milk thistle extract is the key herbal ingredient in Shaklee Liver DTX® Complex.

Mixed Tocopherols (natural)

Mixed tocopherols is a blend of vitamin E forms (*alpha, beta, gamma and delta tocopherols*) naturally present in soybean oil. It provides the entire spectrum of tocopherols as they exist in nature. Mixed tocopherols help neutralize free radicals that can cause cell damage. Gamma tocopherol is a nutrient associated with colon health.

Modified Food Starch (naturally derived)

Modified food starch is made from starch obtained from potatoes (*Solanum tuberosum*) and has been modified for use in tableted products. Modified food starch assists with the disintegration of tablets by helping them break apart when they come in contact with the fluid environment of the digestive tract. It is also used as a carrier for some natural, powdered flavor ingredients.

Molybdenum Yeast (natural, protein/amino acid bound)

Molybdenum yeast is a natural source of organically bound molybdenum. It is prepared by growing nutritional yeast cells (*Saccharomyces cerevisiae*) in a molybdenum-rich medium. Molybdenum is incorporated into the protein structure of the yeast cells, which are harvested and dried. As an essential trace mineral, molybdenum is a component of many enzymes in the body and is necessary for normal growth and development.

Note: The nutritional yeasts used in Shaklee products are not active and they cannot grow in the body. They serve solely as a source of natural nutrition.

N

Natural Beet Powder (natural)

Natural beet powder is made by spray-drying the juice of red beets (*Beta vulgaris*) onto maltodextrin (see **Maltodextrin**). As a natural source of the red pigment betanin, beet powder serves as a natural vegetable color.

Natural Flavors (natural)

Natural flavors are the essential oils, essences, or extracts that contain flavoring constituents derived from fruits, vegetables, spices, herbs, and other plant sources. No animal or dairy-derived flavors are used in Shaklee products. Flavor components are prepared through processes which including heat, fermentation, extraction, and concentration. Depending on the flavor and its product application, a flavor may be in liquid or powder form. Some natural flavors used by Shaklee may be placed on a carrier such as maltodextrin (see **Maltodextrin**), dextrose (see **Dextrose**), and food gums. Natural flavors impart, create, or enhance the desired flavor and taste characteristics in Shaklee food and nutritional products.

Niacin (Niacinamide) (scientifically formulated)

Niacinamide is formed when nicotinic acid is reacted with ammonia to produce the amide form of niacin. Niacin is a water soluble B vitamin and functions in the body as a component of coenzymes that are essential for the release of energy from carbohydrates, fats, and proteins. Niacinamide is the form used in all Shaklee nutritional products that contain niacin as an ingredient.

Nonfat Dry Milk (natural)

Nonfat dry milk is made by evaporating the water from pasteurized nonfat milk. The concentrate is then spray-dried to produce a powder. It is a natural source of highly bioavailable protein and calcium. Nonfat dry milk is used in Shaklee Meal Shakes.

O

Oat Bran (natural)

Oat bran is derived from the high-fiber bran layer of oats (*Avena sativa*). Oats are harvested, cleaned, and dehulled to produce oat groats. The groats are cut and milled into small particles. The bran particles are separated from the flour and then ground. Oat bran serves as a natural source of water-soluble dietary fiber in Shaklee Fiber Plan® Daily Mix.

OptiCarb®

(See **Exclusive Shaklee Ingredient Complexes**.)

P

Palm Oil Carotenes (natural)

Palm carotene is a suspension of natural mixed carotenoids extracted and purified from the fruit of the red palm (*Elaeis guineensis*). It contains a naturally occurring mixture of carotenoids, predominantly beta carotene and alpha carotene, which are precursors of vitamin A. It contains no cholesterol and no trans fatty acids. Palm oil from the fruit of the palm is physically and chemically different from either palm kernel oil, which is derived from the seed, and from coconut oil, both of which are highly saturated. The carotenoids are extracted from the crude palm oil, and then concentrated, purified, standardized and suspended in vegetable oil. Palm carotene is a key ingredient in Shaklee CarotoMax®.

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d-Panthenol (scientifically formulated)

d-Panthenol is a bioavailable liquid form of the B vitamin, pantothenic acid. It is formulated from biochemical building blocks including compounds such as d-pantolactone and beta-alanine. Pantothenic acid is a water-soluble B vitamin required for the metabolism of carbohydrates, fats, protein, and the synthesis of cholesterol, phospholipids, and certain hormones. d-Panthenol serves as a source of pantothenic acid in Shaklee Liqui-Lea® Plus High-Potency Multivitamin Plus Iron Dietary Supplement.

Partially Defatted Peanut Flour (natural)

Partially defatted peanut flour is made from raw peanuts (*Arachis hypogaea*) that are cleaned, blanched, and pressed to remove over half of their natural oil, then ground into a flour. Defatted peanut flour is a natural source of plant protein with an appealing nutty flavor, and is used in Shaklee peanut butter-flavored Carbo-Crunch® Energizing Snack Bars.

Passion Flower Extract (natural)

Passion flower (*Passiflora incarnata*) is native to the United States and grows in southern states from Virginia to Florida and west to Texas. The herbal extract is made from dried flowers by percolation. The liquid extract is spray dried into a powder. Traditionally, the flower has been a popular ingredient in both European and American herbal formulas. The extract is used as an ingredient in Shaklee Gentle Sleep Complex. In homeopathy, it is used to ease feeling of nervousness and to help relieve a heavy feeling after or between meals. This homeopathic ingredient is included in Shaklee Appetite Reducing Spray.

Peanut Butter (natural)

Peanut butter is made by roasting, blanching, grinding, and milling peanuts (*Arachis hypogaea*) into a creamy consistency. Peanut butter is a natural source of plant protein and has an appealing nutty flavor. It is used in both Shaklee peanut butter- and cocoa-flavored Carbo-Crunch® Energizing Snack Bars.

Pectin (natural)

Pectin is a natural plant gum extracted from apple (*Malus sylvestris*) pomace (the pulp that remains after the juice has been pressed from apples) or citrus fruit peels. Pectin is a water-soluble dietary fiber that thickens and forms a gel when mixed with water. It is a key dietary fiber in Shaklee Fiber Plan® Daily Mixes and a component of the natural plant gum and wax sustained-release system in Shaklee Sustained Release Vita-C® tablets.

Peppermint-Ginger Plus Herbal Blend (natural)

(See **Exclusive Shaklee Ingredient Complexes.**)

Peppermint Leaf Extract (natural)

Peppermint leaf (*Mentha piperita*) is an herb grown in the Pacific Northwest and in Europe. The leaves are harvested, milled, and ground, then a concentrated liquid is extracted from the leaves by percolation. It is purified and spray dried to form a powder. Traditionally, peppermint has been valued for its use in herbal formulas.

Peppermint Leaf Powder (natural)

Peppermint leaf (*Mentha piperita*) is an herb grown in the Pacific Northwest and in Europe. Its green leaves are gathered during the plant's flowering period. The leaves are dried, sifted, and prepared into a fine powder. A natural source of aromatic menthol, the herb is popular for its pleasant minty flavor and scent. Traditionally, peppermint has been appreciated for its value in herbal formulas and is an ingredient in Shaklee Stomach Soothing Complex.*

Peppermint Oil (natural)

Peppermint oil is steam distilled from the leaves and stems of the peppermint plant (*Mentha piperita*). Menthol is a natural constituent of the oil, and its minty aroma and taste make it a popular, natural flavor. Traditionally, peppermint and its oil have been appreciated for their value in herbal formulas and are ingredients in Shaklee Stomach Soothing Complex* and other select Shaklee products.

Polyglycerol dioleate (naturally derived)

Polyglycerol dioleate is a viscous liquid made from oleic acid, a naturally occurring fatty acid found in vegetable oil. As a solubility enhancer, it acts to make Coenzyme Q₁₀ (see **Coenzyme Q₁₀**) more soluble in oils. Along with glyceryl palmitostearate, polyglycerol dioleate increases the bioavailability of Coenzyme Q₁₀ in CoQHeart®.

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Potassium Chloride (natural, mineral salt)

Potassium chloride occurs in nature as the mineral salt, sylvite. Potassium chloride crystals are obtained when sylvite ore is dissolved in hot water, then vacuum chilled. The crystals are purified through a process of filtering and recrystallization. Classified as an electrolyte, potassium helps maintain a normal balance and distribution of fluid throughout the body. It works with other electrolytes to regulate blood pressure and heart rate, and is necessary for muscle contraction and nerve transmission.

Potassium Iodide (natural, mineral salt)

Potassium iodide is a bioavailable source of the essential mineral, iodine, and is prepared by combining hydriodic acid or hydrogen iodide with potassium bicarbonate. Iodine is an essential trace element that is a component of hormones produced by the thyroid gland. These hormones help regulate the rate of metabolism, growth, reproduction, nerve and muscle function, and the use of oxygen in the body.

Primary Grown Yeast (natural)

Primary grown yeast, commonly referred to as bakers' yeast (*Saccharomyces cerevisiae*), is grown on enriched cane (*Saccharum officinarum*) and beet (*Beta vulgaris*) molasses under carefully controlled conditions. After the yeast is grown, it is dried and ground into a powder.

Note: The nutritional yeasts used in Shaklee products are not active and they cannot grow in the body. They serve solely as a source of natural nutrition.

Pro-Carbo Complex® Crispie (natural)

(See **Exclusive Shaklee Ingredient Complexes**.)

Protease Enzymes (naturally derived)

Proteases are enzymes derived from a plant source (*Aspergillus oryzae*) by the natural process of fermentation. The enzymes are purified by filtration or centrifugation. They are then concentrated and dried under vacuum and temperature controlled to preserve their activity. Protease consists of three enzymes which are active at different pH ranges. The proteases help break long protein chains into smaller fragments and liberate amino acids that can be absorbed. Protease enzymes are an ingredient in Shaklee EZ-Gest®.

Prune Powder (natural)

Prune powder is made from the dried fruit of the plum tree (*Prunus domestica*). The prunes are specially prepared into a fine powder. Prune powder serves as a natural means of adding sweetness and enhancing flavor in Shaklee Fiber Plan® Tablets and Shaklee Gentle Sleep Complex.

Psyllium Husk (natural)

The husk, or outer seed coat, of whole psyllium seeds (*Plantago ovata*) is ground and sifted to create a psyllium powder. Psyllium is a water-soluble dietary fiber that thickens when mixed with liquid. It is a key dietary fiber in Shaklee Fiber Plan® Drink Mix and in Shaklee Fiber Plan® Daily Mix.

Pumpkin Seed Extract (natural)

Pumpkin plant (*Cucurbita moschata*) is native to North America, but cultivated worldwide. The commonly consumed seeds contain phytosterols, tocopherols (of the Vitamin E family), and trace elements. It is an ingredient in the MACH™ proprietary blend of Macrophage Activating Chinese Herbs in Immune Building Complex.*.

Pumpkin Seed Oil (natural)

Pumpkin seed oil is a dark greenish-brown oil derived from pressing the seeds of the common pumpkin (*Cucurbita pepo*). The constituents of pumpkin seed oil include tocopherols (vitamin E), as well as phytosterols. It serves as an ingredient in Shaklee Saw Palmetto Complex.

Purified Water (natural)

Purified water is drinking water that has undergone a process such as reverse osmosis or ion-exchange treatment, in order to reach an acceptable standard of purity. Purified water serves as a liquid medium in Shaklee Liqui-Lea® Plus High-Potency Multivitamin Plus Iron Dietary Supplement. This ingredient is also included in Shaklee Appetite Reducing Spray.

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Pyridoxine Hydrochloride (scientifically formulated)

Pyridoxine hydrochloride is a bioavailable form of the water-soluble B vitamin pyridoxine, or vitamin B₆. It is formulated from biochemical building blocks, including the amino acid, alanine. Vitamin B₆ is involved in the metabolism of carbohydrates, fats, and proteins. Also, vitamin B₆ is involved in the manufacture of most protein-related compounds, including enzymes, hormones, hemoglobin, and neurotransmitters.

Q

Quercetin (natural)

Quercetin is an important bioflavonoid that is widespread in the plant kingdom, especially in fruits and vegetables, and in beverages such as tea and wine. Quercetin is commercially extracted from several plants including the Brazilian Faviera tree (*Dimorphandra mollis*). The Faviera seed pods are extracted to produce rutin, another flavonoid, which is hydrolyzed to form raw quercetin. The material is then dissolved, filtered, crystallized, and dried to a pure powdered form. Quercetin is an ingredient in Shaklee CarotoMax®.

R

Red Clover Extract (natural)

Red clover (*Trifolium pratense*) is a perennial herb, with triple leaflets and rose-purple flowers, native to the meadowlands of Europe and naturalized in North America. The extract is made from the dried flowers, stems and leaves, which provide isoflavones (a class of phytoestrogens) such as biochanin and formononetin. The extract is filtered, concentrated, and spray-dried to a powdered form. Red clover extract is an important herbal ingredient in Shaklee Menopause Balance Complex.*

Reishi Mushroom Extract (natural)

Reishi mushroom (*Ganoderma lucidum*) is a woody fungus that is widely cultivated in southern China and has thousands of years of historical use. Major components include triterpenes and ganoderic acid. The raw fungus is sorted by hand then washed, sun-dried, and chopped. An extract is produced from the dried material in a process that removes essential oils. The essential oils are reintroduced creating an herb paste which is then spray-dried. Reishi mushroom extract is an ingredient in Shaklee Liver DTX® Complex.

Resveratrol (natural)

Resveratrol is a compound with antioxidant properties, which is found in red and purple grapes and mulberries. It is also extracted from the root of an herb (*Polygonum cuspidatum*) traditionally used in Japan and China, and considered to be one of the richest sources of resveratrol. Resveratrol is an ingredient in CoQHeart® which provides the amount typically found in a glass of red wine.

Rhubarb Root Powder (natural)

Rhubarb root (*Rheum palmatum* or *Rheum officinale*) is grown in China and Tibet. The roots are harvested, dried, and ground into a fine powder. Rhubarb root, traditionally valued for its use in herbal formulas, is an ingredient in Shaklee Herb-Lax® tablets.

Riboflavin (naturally derived)

Riboflavin is the scientific name for water-soluble vitamin B₂. Riboflavin is made from the simple carbohydrate, ribose, which is derived from the fermentation of starch from corn (*Zea mays*). Riboflavin is required for the metabolism of carbohydrates, amino acids, and fats. It also functions in the development and maintenance of nerves and red blood cells.

Riboflavin-Phosphate Sodium (naturally derived)

Riboflavin is the scientific name for vitamin B₂. Riboflavin-phosphate sodium is a more water-soluble form of riboflavin. It is prepared by combining riboflavin (see **Riboflavin**) with a phosphorus-containing compound. Riboflavin is required for the metabolism of carbohydrates, amino acids, and fats. It also functions in the proper development and maintenance of nerves and red blood cells. Riboflavin-phosphate sodium is the riboflavin source in Shaklee Liqui-Lea® Plus High-Potency Multivitamin Plus Iron Dietary Supplement, and Scientifically Advanced Vita-Lea® for Children Multivitamin and Multimineral Dietary Supplement.

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Rice Bran Powder (natural)

Rice bran is the nutritious layer of the whole-grain brown rice (*Oryza sativa*) located between the hull and endosperm. It is obtained when whole brown rice is dehulled and the bran layer is carefully removed. The rice bran is milled into a powder and provides a natural source of B vitamins.

Rice Flour (natural)

Rice flour is a powder made from ground, hulled rice (*Oryza sativa*). Rice can also be precooked and dried prior to milling. This results in a pregelatinized rice flour that creates a desirable texture in foods such as Carbo-Crunch® Energizing Snack Bars.

Rose Hips Powder (natural)

Rose hips powder is made from the select ripened and dehydrated rose hips fruit of *Rosa cania*, or related species. The dried rose hips are ground into a fine powder and sifted. Rose hips are among nature's most concentrated sources of natural vitamin C and include other constituents, such as carotenoids and flavonoids. Rose hips powder is an ingredient in Shaklee Chewable Vita-C® vitamin C supplements, Sustained Release Vita-C® vitamin C supplements and Scientifically Advanced Vita-Lea® multivitamin and multimineral Dietary Supplement tablets.

Rosemary Extract (natural)

Rosemary extract is obtained from rosemary leaves (*Rosmarinus officinalis*). The extract is concentrated by distillation and mixed with vegetable oil to form an oil extract. Also, it can be dispersed onto maltodextrin (see **Maltodextrin**) to form a powder. Rosemary extract, along with mixed tocopherols (see **Mixed Tocopherols**) and ascorbyl palmitate (see **Ascorbyl Palmitate**), are the components of ShakleeGuard®, Shaklee's unique, patented, natural antioxidant system used in Menopause Balance Complex,* GLA Complex, and Shaklee Garlic Complex Tablets. Powdered rosemary extract is an ingredient in Shaklee Mental Acuity Plus™.

S

Sabadilla (natural)

Cevadilla seed (*Sabadilla*) is the seed of several species of bulbous rooted, herbaceous plants found in grassy plains on open hills of Mexico, Guatemala, Venezuela, and the West Indies. This ingredient is macerated, diluted, and succussed prior to use. It helps ease constipation, intermittent nausea, and an empty feeling in the stomach. This homeopathic ingredient is included in Shaklee Appetite Reducing Spray.

Safflower Flower Extract (natural)

Safflower (*Carthamus tinctorius*) is native to southern Asia. The flowers contain components like carthamin and carthamone. It is an ingredient in the MACH™ proprietary blend of Macrophage Activating Chinese Herbs in Immune Building Complex.*

Saw Palmetto Extract (natural)

Saw Palmetto (*Serenoa repens*) is a dwarf palm that grows over wide areas of the southeastern United States. It produces a green-yellow oblong berry, up to one inch long, which turns bluish to black when ripe. Shaklee Premium Saw Palmetto Extract is produced from dried saw palmetto berries, using a high-pressure process known as supercritical fluid extraction. The highly concentrated extract is standardized to contain 85–95% fatty acids and phytosterols.

Schizandra Extract (natural)

Schizandra (*Schizandra chinensis*) is a climbing, aromatic tree with white or reddish flowers that is native to northern China and eastern Russia. The extract of the fruit, contains a number of lignans. Ripe schizandra berries are dried and the components are extracted from the dried fruit. The extract is concentrated and spray-dried. Schizandra extract is an important ingredient in Shaklee Liver DTX® Complex.

Sea Kelp Powder (natural)

Sea kelp powder is produced from kelp plants (*Ascophyllum nodosum* or *Macrocystis pyrifera* and related species) grown in the ocean. The kelp is harvested, dried, and ground into a powder. Sea kelp is a natural source of iodine and other trace minerals.

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Selenium Yeast (natural, protein/amino acid bound)

Selenium yeast is a natural source of organically bound selenium. It is prepared by growing nutritional yeast cells (*Saccharomyces cerevisiae*) in a selenium-rich medium. Selenium is incorporated into the protein structure of the yeast cells that are then harvested and dried. An essential trace mineral, selenium functions as a component of the antioxidant enzyme, glutathione peroxidase. This selenium-dependent enzyme helps neutralize free radicals.

Note: The nutritional yeasts used in Shaklee products are not active and they cannot grow in the body. They serve solely as a source of natural nutrition.

Senna Leaf Powder (natural)

Senna leaf (*Cassia angustifolia*) is an herb that grows in India. Senna leaves are harvested, dried, and ground into a fine powder. The leaves have been valued for their natural laxative properties for more than 3,500 years.* The phytochemicals natural to senna leaf, called sennosides, have stimulant laxative properties useful for the relief of occasional constipation.* Sennosides act by stimulating peristalsis leading to elimination.* Senna leaf powder is an ingredient in Shaklee Herb-Lax® tablets.

Sesame Oil (natural)

Sesame oil is a natural vegetable oil obtained from the seed of one or more varieties of *Sesamum indicum*. Sesame seeds are dried, cleaned, crushed, and the oil is extracted and purified. Sesame oil is a natural source of polyunsaturated fatty acids, including the essential fatty acid, linoleic acid. Sesame oil is used as a carrier for the fat-soluble vitamins in Shaklee Liqui-Lea® Multivitamin Plus High-Potency Multivitamin Plus Iron Dietary Supplement.

ShakleeGuard®

(See **Exclusive Shaklee Ingredient Complexes.**)

Silicon Dioxide (natural mineral)

Silicon is one of the most abundant mineral elements on the earth's surface. Silicon dioxide is prepared by combining silicon tetrachloride, hydrogen, and oxygen in a high-temperature flame. Silicon dioxide is widely distributed in foods such as whole grains, vegetables, and beans. Silicon is most concentrated in the body in actively growing portions of bone.

Sodium Chloride (natural, mineral salt)

Sodium chloride occurs naturally, and when consumed in proper quantities, it is vital to good health. Sodium is important for regulating water volume of the body, maintaining body pH, and essential to muscle contraction and nerve transmission. This ingredient is also used to enhance the flavors of food. Sodium chloride is an ingredient used Shaklee Slim Plan Gold™ shake, Chocolate.

Sodium Citrate (naturally derived)

Sodium citrate is the trisodium salt of citric acid (see **Citric Acid**). It is produced by neutralizing a water solution of citric acid using sodium hydroxide or sodium carbonate, and then crystallizing the trisodium citrate. Sodium citrate is used as a source of the essential mineral sodium in Shaklee Slim Plan Drink Mix, Shaklee Slim Plan Gold™ shake, and Shaklee Performance® Maximum Endurance Sports Drink.

Sorbitol (naturally derived)

Sorbitol is a naturally sweet compound present in a variety of plants, including fruits such as ripe berries, cherries, and apples. It is also found in seaweeds and algae. Sorbitol is commercially produced by the hydrogenation of dextrose syrup (see **Dextrose**). It can be concentrated into a liquid form or further concentrated and crystallized into a powder form. Sorbitol is used as a natural sweetener in Shaklee Liqui-Lea® Multivitamin plus Iron Dietary Supplement and some chewable tablets. It also helps maintain a desirable texture in Shaklee Carbo-Crunch® Energizing Snack Bars.

Soy Bran (natural)

Soy bran is obtained by milling the hulls of soybeans (*Glycine max*). Soy bran serves as a source of water-insoluble dietary fiber in Shaklee Fiber Plan® Tablets.

Soy Extract (natural)

Soy extract is a concentrate prepared by cold extraction of soy beans (*Glycine max*). The extract has been naturally enriched with potassium. Blended with FOS, soy extract serves as a natural sweetener in Chewable Cal Mag Plus.

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Soy Fiber (natural)

Soy fiber is obtained from flakes of hulled and defatted soybeans (*Glycine max*). The insoluble carbohydrate and other components of soybean are separated from the protein portion of the legume and prepared into soy fiber. Soy fiber serves primarily as a source of water-insoluble dietary fiber in Shaklee Fiber Plan® Tablets, Shaklee Fiber Plan® Daily Crunch™, and Shaklee Fiber Plan® Daily Mix.

Soy Isoflavone Concentrate (natural)

Soy isoflavone concentrate is isolated from soybeans (*Glycine max*) that are rich in two major isoflavones, genistein and daidzein. The soybeans are hulled, flaked, defatted, and extracted to produce soy protein concentrate plus soy molasses. The sugars are then removed from the molasses, leaving a concentrated isoflavone solution, which is spray dried into a powder form. Soy isoflavone concentrate is a key ingredient in Shaklee Menopause Balance Complex.*

Soy Lecithin (natural)

Soy lecithin is obtained from natural soybean oil. Soybeans (*Glycine max*) are hulled, crushed, and the soybean oil is extracted. Through centrifugation of the oil, lecithin is separated. The lecithin undergoes further modifications to produce a variety of liquid and granular forms. Soy lecithin is a natural source of the essential fatty acid, linoleic acid, and the nutrients, choline (see **Choline Bitartrate**) and inositol (see **Inositol**). As an emulsifier, lecithin helps to blend fat and water-based ingredients together. In powdered products, lecithin helps the powder disperse quickly when mixed with liquids.

Soybean Oil (natural)

Soybean oil is extracted from soybeans (*Glycine max*). It is a natural source of polyunsaturated fatty acids and the essential fatty acid, linoleic acid. Soybean oil serves as an ingredient in Shaklee Lecithin and 400 IU Vita-E® Complex.

Soy Protein Isolate (natural)

Soy protein isolate is a highly concentrated and bioavailable protein obtained from soybeans (*Glycine max*). Soy protein is obtained from defatted soy flour which is prepared by the removal of carbohydrate, fat, and fiber from soybeans. The soy protein is extracted, precipitated, washed, neutralized, and dried into a powder form. Soy protein isolate serves as a source of quality vegetable protein in Shaklee Slim Plan Gold™ shake, Shaklee Instant Protein® Drink Mix, Shaklee Energizing Soy Protein Drink Mix, Shaklee Instant Protein® Soy Mix, and Carbo-Crunch® Energizing Snack Bars.

Spearmint Oil (natural)

Spearmint oil is steam distilled from the leaves and stems of the spearmint plant (*Mentha spicata*). Shaklee uses spearmint grown in the northwestern region of the United States. Its minty aroma and taste make spearmint a popular, natural flavor. Traditionally, spearmint and its oil have been valued for their use in herbal formulas.

Spinach Powder (natural)

Spinach powder is made from fresh spinach leaves (*Spinacia oleracea*). The leaves are washed, trimmed, diced, dried, and ground into a fine powder. Spinach powder is a natural ingredient used in the base of Shaklee Iron plus C Complex.

Spirulina Powder (natural)

Spirulina powder is produced from the blue-green microalgae (*Spirulina pacifica*) grown in ocean water. The algae is cultivated, harvested, screened, washed, dried and then prepared into a powder. Spirulina contains a number of nutrients and natural compounds such as carotenoids, protein, trace minerals, and chlorophyll. Spirulina is a key component in the Shaklee Scientifically Advanced Vita-Lea® Multivitamin and Multimineral Dietary Supplement tablet coating and provides it with its natural green color.

Stevia Leaf Powdered Extract (natural)

Stevia (*Stevia rebaudiana*) is a perennial herb native to Brazil and Paraguay, and known for its sweet-tasting leaves. The extract is prepared from the leaves, which are rich in compounds called steviolosides. It is then purified by filtration, and crystallized. Stevia Leaf powdered extract is an ingredient in Shaklee Defend & Resist Complex.

St. John's Wort Extract (natural)

St. John's Wort (*Hypericum perforatum*) is an aromatic perennial that is native to Europe and Western Asia. St. John's Wort extract is prepared from the aerial parts of the plant, which are gathered during the flowering season. A liquid extract of the herb is prepared by percolation of the ground clean herb, which is concentrated and spray-dried into powder form. The powdered herbal extract must meet a guaranteed level of total hypericin, a group of phytochemical compounds that occur naturally in St. John's Wort herb. St. John's Wort extract is a key ingredient in Shaklee MoodLift Complex®.

Sunflower Oil (natural)

Sunflower oil is a pale yellow oil derived by milling the seeds of sunflowers (*Helianthus annuus*). Sunflower oil is a natural source of the essential fatty acid, linoleic acid. Sunflower oil is an ingredient in Shaklee GLA Complex.

T

Thiamin Hydrochloride (scientifically formulated)

Thiamin is the scientific name for water-soluble vitamin B₁. Thiamin hydrochloride is the hydrochloride salt of thiamin and is a very water-soluble form. It is formulated by combining the biochemical building blocks, pyrimidine and thiazole. Thiamin is required for the metabolism of carbohydrates, proteins, fats, and nucleic acids. Also, thiamin is required for the normal functioning of all cells in the body.

Thiamin Mononitrate (scientifically formulated)

Thiamin is the scientific name for water-soluble vitamin B₁. Thiamin mononitrate is the mononitrate salt of thiamin. This form of thiamin is produced by dissolving thiamin hydrochloride (see **Thiamin Hydrochloride**) in an alkaline solution and reconstituting it with nitric acid. Thiamin is required for the metabolism of carbohydrates, proteins, fats, and nucleic acids. Also, thiamin is required for the normal functioning of all cells in the body.

Thuja Occidentalis (natural)

Arbor vitae (*Thuja occidentalis*), or white cedar, is an evergreen tree commonly found in swamps and cool, rocky banks of the United States, from Pennsylvania northward. This ingredient is macerated, diluted, and succussed prior to use. It relieves salt cravings, stomach distension with flatulence, and the tendency to belch after a meal. This homeopathic ingredient is included in Shaklee Appetite Reducing Spray.

Titanium dioxide (natural mineral)

Titanium occurs naturally in iron-containing mineral ores. After the iron content is removed, the enriched mineral fraction is treated with acid and heated to form the pure oxide of titanium. Due to its opaque, intense white color, titanium dioxide is widely employed as a safe, non-irritating natural pigment or coloring compound. Titanium dioxide is used to imprint the product name on the outer shell of Shaklee CorEnergy® capsules.

Tocopherol (natural)

(See **d-Alpha Tocopherol** and **Mixed Tocopherols**.)

Torula Yeast (natural)

Torula yeast is a nutritional yeast (*Candida utilis*) and a natural source of B vitamins. It is prepared by growing yeast cells in media containing simple carbohydrates, such as molasses and corn syrup. The yeast cells are harvested, cleaned, filtered, and dried. Torula yeast is an ingredient used in the base of Shaklee B-Complex tablets.

Note: The nutritional yeasts used in Shaklee products are not active and they cannot grow in the body. They serve solely as a source of natural nutrition.

Trace Mineral Rice Protein Hydrolysate (natural, protein/amino acid bound)

Vanadium, a trace mineral found in foods such as whole grains, is believed to play a role in regulating normal insulin function. It is produced by enzymatically hydrolyzing rice protein and then combining the resulting peptides (small protein fragments) with the following trace minerals: chromium, molybdenum, nickel, selenium, tin, and vanadium.

Chromium - is an essential trace mineral that works with insulin to facilitate the uptake of blood glucose into cells.

Molybdenum - is an essential trace mineral that is a component of several enzymes in the body, and necessary for normal growth and development.

Nickel - is a trace mineral that is present in the genetic material, RNA, and DNA.

Selenium - is an essential trace mineral that functions as a component of the antioxidant enzyme, glutathione peroxidase.

Tin - is a trace mineral that is found naturally occurring in many foods of plant and animal origin, and scientists are still investigating its role in human nutrition.

Vanadium - is a trace mineral found in foods such as whole grains, and scientists are still investigating its role in human nutrition.

Tricalcium Phosphate (natural, mineral salt)

Tricalcium phosphate is a bioavailable form of the essential minerals, calcium, and phosphorus. It is produced by combining phosphoric acid (made from acidified phosphate rock) and calcium oxide (made from natural limestone). Calcium is necessary for the development and maintenance of healthy bones and teeth, blood clotting, muscle contraction, and conduction of nerve impulses. Phosphorus is second only to calcium as the most abundant mineral in the body. In fact, about 85% of it is found combined with calcium in bones and teeth. Phosphorus serves as a natural buffer in blood, a component of genetic material in cells, and it plays many key roles in cellular metabolism. In addition to its role as a source of calcium and phosphorus, tricalcium phosphate can also aid the flowability of powdered products.

Trisodium Phosphate (natural, mineral salt)

Trisodium phosphate is a white crystalline powder prepared by combining phosphoric acid with sodium carbonate and sodium hydroxide. Commonly used in food systems as a buffering agent, it is used in Shaklee Fiber Plan® Daily Crunch™ and Shaklee Fiber Plan® Daily Mix to enhance flavor and texture.

Turmeric (natural)

Turmeric (*Curcuma longa*) is an herb of the ginger family that is native to southern Asia and cultivated extensively in India, China, Indonesia, and other tropical countries. Turmeric contains a natural plant yellow-colored pigment called curcumin. Dried turmeric rhizomes are ground and made into a soluble powder. Turmeric serves as a natural vegetable color in select Shaklee products. Turmeric extract is an ingredient in Shaklee Liver DTX® Complex.

U

Urtica Urens (natural)

Stinging Nettle (*Urtica urens*) is a stinging, annual herb found throughout the United States, although it was initially naturalized from Europe. It flowers from June to September. This ingredient is macerated, diluted, and succussed prior to use. It counters allergic reactions to shellfish and supports proper elimination. This homeopathic ingredient is included in Shaklee Appetite Reducing Spray.

V

Vanadium Amino Acid “chelate” (natural, protein/amino acid bound)

Vanadium amino acid complex is prepared by reacting the trace element with amino acids and peptides (small protein fragments) derived from soy (*Glycine Max*) and rice (*Oryza sativa*) under controlled temperatures. The mixture is then milled and dried. Found in foods such as whole grains, vanadium is a trace mineral that is believed to play a role in regulating normal insulin function. It is a component of Shaklee Glucose Regulation Complex* and Shaklee Craving Reduction Complex.*

Valerian Root Extract (natural)

Valerian root (*Valeriana officinalis*) is commercially grown in Holland and other European countries. Valerian root extract is prepared from dried valerian roots that have been coarsely ground and washed. A liquid extract of the herb is prepared by percolation, concentrated into a paste, and spray dried. The spray-dried herbal extract must meet a guaranteed level of valerenic acid, a phytochemical compound that occurs naturally in valerian roots. Traditionally, valerian root has been valued for its use in herbal formulas, and the extract is a key ingredient in Shaklee Gentle Sleep Complex.

Vegetable Juice Extracts (natural)

Vegetable juice extracts are natural coloring agents obtained from plants such as beets, cabbage, and carrots. These extracts serve as natural vegetable colors in Shaklee Scientifically Advanced Vita-Lea® for Children Chewable Multivitamin and Multimineral Dietary Supplement tablets.

Beet juice extract is derived from beets (*Beta vulgaris*) which have been cleaned and extracted with hot water to produce a thick liquid concentrate. The concentrate is spray dried onto maltodextrin (see **Maltodextrin**) to form a powder. Beets contain the natural red plant pigment, betanin.

Cabbage juice extract is derived from a species of cabbage (*Brassica oleracea*) primarily found in Japan and selected for its anthocyanin content, a group of natural blue, violet, and red plant pigments. The cabbage is cleaned and a thick liquid extract is prepared from the plant which is spray dried onto maltodextrin (see **Maltodextrin**) to form a powder.

Carrot oil extract is derived from carrots (*Daucus carota*) which are specially grown for their intense orange color. After cleaning, the carrots are crushed and the oil is removed by extraction. Carrots contain the natural orange plant pigment, beta carotene, the plant form of vitamin A.

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Vitamin A Acetate (scientifically formulated)

Vitamin A Palmitate (scientifically formulated)

Vitamin A acetate and vitamin A palmitate are two bioavailable forms of vitamin A that are formulated from biochemical building blocks. Vitamin A acetate is constructed from beta-ionone and the organic acid, acetic acid. Vitamin A palmitate is made by combining vitamin A acetate with the fatty acid, palmitic acid. Vitamin A is an essential fat-soluble vitamin required for healthy skin and skeletal development, and for normal vision.

Vitamin B₆ (scientifically formulated)

(See **Pyridoxine Hydrochloride**.)

Vitamin B₁₂ (naturally derived)

Vitamin B₁₂, also known as cyanocobalamin, is one of the water-soluble B vitamins. It is produced naturally by yeast fermentation. Vitamin B₁₂ functions in the metabolism of carbohydrate, protein, and fat. It is also involved in the synthesis of genetic material within cells, and the maintenance of the protective sheath around nerve fibers.

Vitamin C (natural)

(See **Ascorbic Acid**.)

Vitamin D₃ (naturally derived)

Vitamin D₃, also known as cholecalciferol, is a bioavailable form of vitamin D. Shaklee uses a vitamin D₃ source which is derived from cholesterol extracted from the natural fat found in lambs wool. It is the same form of vitamin D formed in human skin through exposure to natural sunlight. Vitamin D is an essential fat-soluble vitamin which promotes the absorption of calcium and phosphorous for proper formation of healthy bones and teeth.

Vitamin E (natural)

(See **d-Alpha Tocopherol** and **Mixed Tocopherol Concentrate**.)

Vitamin K (scientifically formulated)

Vitamin K, also known as phytonadione, is a bioavailable form of the fat-soluble nutrient, vitamin K. It is the same form of vitamin K (vitamin K₁) found in green plants. Phytonadione is constructed from the biochemical building blocks of phytol, derived from chlorophyll and a naphthoquinone. Vitamin K is important to the clotting of blood and the synthesis of a bone-building protein called osteocalcin.

W

Water

(See **Purified Water**.)

Wheat Germ Flour (natural)

Wheat germ flour is made from freshly milled wheat germ (*Triticum durum* or *Triticum aestivum*). It has a nut-like flavor and is recognized as a natural source of vitamin E. Wheat germ flour is a natural ingredient in the base of Shaklee Vita-E® tablets.

Wheat Germ Oil (natural)

Wheat germ oil is a vegetable oil extracted from wheat germ (*Triticum durum* or *Triticum aestivum*). Wheat germ is dried, ground through milling, and steamed. The oil is then pressed out, cooled, and filtered to produce a clear wheat germ oil. Wheat germ oil is recognized as a natural source of vitamin E. It serves as an ingredient in the oil base in Shaklee Vita-E® and Vita-E® Complex capsules.

Whey Protein Concentrate (natural)

Whey protein concentrate is a concentrated and bioavailable source of protein from milk. Whey protein is precipitated from milk to separate it from casein (another milk protein), milk fat, and lactose. Whey protein concentrate is used to improve the ability to blend and compress the beet, citrus, and soy fiber sources used in Shaklee Fiber Plan® tablets.

Whey Protein Isolate (natural)

Whey protein isolate is a concentrated and bioavailable source of protein from pasteurized milk. Whey protein is precipitated from milk to separate it from casein (another milk protein), milk fat, and lactose. As a result, whey protein isolate is 99% lactose-free. Whey protein isolate imparts a mild flavor and smooth mouthfeel, and aids in mixing of powdered drinks.

X

Xanthan Gum (naturally derived)

Xanthan gum is a natural gum obtained by microbial fermentation from the microorganism, *Xanthomonas campestris*. After fermentation, xanthan gum is precipitated, dried, and ground into a powder. Xanthan gum is a natural thickening and emulsifying agent in Shaklee Meal Shakes, Physique® Workout Maximizer Supplement, and Shaklee Fitness® Drink mixes.

Y

Yellow Wax (natural)

(See **Beeswax**.)

Z

Zeaxanthin

(See **Lutein**.)

Zinc Gluconate (natural, organic acid bound)

Zinc gluconate is prepared by combining a zinc compound with gluconic acid, an organic acid produced by the fermentation of glucose from corn (*Zea mays*). Zinc is an essential trace mineral that is a component of over 70 different enzymes in the human body, whose functions range from making the genetic materials, DNA and RNA, to helping with the metabolism of fatty acids, amino acids, and protein. It is part of one of the body's natural antioxidant enzymes, superoxide dismutase (SOD). Zinc is also involved in bone metabolism and normal immune function.

Zinc Glycinate (natural, protein/amino acid bound)

Zinc glycinate is a bioavailable source of the essential mineral zinc. It is made by binding zinc obtained from the mineral salt, zinc sulfate, with the amino acid, glycine. Zinc is an essential trace mineral that is a component of over 70 different enzymes in the human body, whose functions range from making the genetic materials, DNA and RNA, to helping with the metabolism of fatty acids, amino acids, and protein. It is part of one of the body's natural antioxidant enzymes, superoxide dismutase (SOD). Zinc is also involved in bone metabolism and normal immune function.

Zinc Oxide (natural, mineral salt)

Zinc oxide is prepared by boiling zinc that has been refined from zinc ore to form a zinc vapor. The vapor is oxidized, using a heated air process, to create zinc oxide powder. Zinc is an essential trace mineral that is a component of over 70 different enzymes in the human body, whose functions range from making the genetic materials, DNA and RNA, to helping with the metabolism of fatty acids, amino acids, and protein. It is an essential part of one of the body's natural antioxidant enzymes, superoxide dismutase (SOD). Zinc is involved in bone metabolism and normal immune system functions.

Exclusive Shaklee Ingredient Complexes

Bio-Build®

Bio-Build® is a unique sports nutrition ingredient designed by Shaklee research scientists. It is made by blending dextrose (glucose), maltodextrin, milk protein isolate, and whey protein isolate (**see each ingredient in glossary**). Bio-Build's unique blend of carbohydrates and protein has been clinically proven to help athletes recover after exercise by triggering the secretion of insulin into the blood stream. Insulin, the body's natural recovery hormone, promotes the uptake of carbohydrate and amino acids into muscle and other cells. Bio-Build is the key ingredient complex in Physique® Workout Maximizer Supplement, formulated for strength and endurance athletes.

Bio-Tone®

Bio-Tone® is a unique sports nutrition ingredient complex designed by Shaklee research scientists and patterned after Bio-Build® (see **Bio-Build®**). It is made by blending dextrose (glucose), milk protein isolate, whey protein isolate, maltodextrin, and fructose (**see each ingredient in glossary**). Bio-Tone's unique blend of carbohydrates and protein has been clinically proven to help recreational athletes recover after exercise by triggering the secretion of insulin into the blood stream. Insulin, the body's natural recovery hormone, promotes the uptake of carbohydrate and amino acids into muscle and other cells. Bio-Tone is the key ingredient complex in Shaklee Fitness® Drink Mix, the After Exercise Energizer, formulated for recreational athletes who participate in regular exercise.

OptiCarb®

OptiCarb® is a unique sports nutrition ingredient complex designed by Shaklee research scientists. It is made by blending maltodextrin, fructose, and glucose (**see each ingredient in glossary**). OptiCarb's unique blend of three carbohydrate sources is designed to provide immediate and sustained energy for endurance in an easy to absorb form. It is a key ingredient complex in Shaklee Performance® Maximum Endurance Sports Drink.

Peppermint-Ginger Plus Herbal Blend (natural)

Peppermint-Ginger Plus Herbal Blend is a unique blend of peppermint leaf (*Mentha piperita*), fennel seed (*Foeniculum vulgare*), anise seed (*Pimpinella anisum*), and ginger root (*Zingiber officinale*) powders (**see each ingredient in glossary**) developed by Shaklee research scientists. It is the key herbal ingredient in Shaklee Stomach Soothing Complex.

Pro-Carbo Complex® Crispie

Pro-Carbo Complex Crispie is a unique food ingredient complex designed by Shaklee research scientists and made by blending rice flour, soy protein isolate and malt extract (**see each ingredient in glossary**). The blend is extruded into a crisped rice form. Pro-Carbo Complex Crispie provides complex carbohydrate, protein, and the crunchy texture in Shaklee Carbo-Crunch® Energizing Snack Bars.

ShakleeGuard®

ShakleeGuard® is a unique antioxidant system developed and patented by Shaklee research scientists. It contains a synergistic blend of the antioxidant nutrients—ascorbyl palmitate (vitamin C), mixed tocopherol concentrate (vitamin E), and rosemary extract (**see each ingredient in glossary**). ShakleeGuard® is used as an ingredient in Menopause Balance Complex* and GLA Complex to ensure full product potency by protecting its nutrients against oxidation.

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General Terms

In the preceding glossary, we've used some of the following general terms to describe specific ingredients in Shaklee nutritional and herbal products.

Carotenoid

A group of yellow, orange, and red plant pigments present in a wide variety of fruits and vegetables.

Casein

Principal protein of cow's milk.

Cellulose

Constitutes the chief part of the cell walls of plants; occurs naturally in fibrous plants, e.g., cotton.

Emulsifier

An agent used to create an emulsion (e.g., a stable mixture of oil and water).

Free Radical

A highly reactive, unstable compound with at least one unpaired electron. Free radicals can attack cell membranes, enzymes, fats, proteins, and the genes within cells causing damage.

Homeopathic Medicine

Homeopathy is a natural pharmaceutical science that uses various plants, minerals, or animals in very small doses to stimulate a person's natural defenses. Homeopathic medicines are the treatments used in the practice of homeopathy. They include a number of different formulations. Those prepared and designated with the suffix "x" are diluted in a ratio of one part of the substance to nine parts of alcohol and water. Those designated with the suffix "c" are diluted in a ratio of one part of the substance to 99 parts alcohol and water. The number proceeding the "x" or "c" is the number of times the 1-in-10 or 1-in-100 dilution takes place.

Humectant

A hygroscopic (see **Hygroscopic**) material that attracts and holds water. Humectants prevent food products from drying out. Glycerin is one of the best known humectants.

Hydrolysis

A chemical reaction in which the breakdown of a substance into two new compounds is due to the addition of one or more molecules of water.

Hygroscopic

Readily taking up and retaining moisture.

Lipoprotein

A lipid (fat)-protein complex that is water soluble. As a result, lipoproteins are involved in the transport of lipids in the blood.

Maceration

The process of extracting the active parts of a natural ingredient, such as an herb or mineral, to be used in a homeopathic medicine. The process is achieved either by soaking the natural ingredient in an alcohol-water mixture for an extended period of time, or, if the natural ingredient is not liquid soluble, the ingredient is first pulverized and later diluted in an alcohol-water solution. The initial solutions containing the maximum amount of active ingredients are called homeopathic Mother Tinctures.

Oxidation

The process of oxidizing. The combining of oxygen with another element to form one or more new substances.

Percolation

The process of extracting soluble portions of a solid material (e.g., a dried herb) by passing a liquid through it.

Peristalsis

Intestinal movement; contractions along the intestinal walls.

Phospholipid

A complex lipid (fat) containing phosphorus. Lecithin is an example of a lipid classified as a phospholipid. Phospholipids are structural components of all living cells.

Phytochemical

A natural chemical from plants (phyto is derived from the Greek word for plant). Relating to the chemistry of plants and plant products.

Succussion

A specialized agitation procedure involving vigorous shaking anywhere between 10 to over 100 times. It is applied to homeopathic ingredients during serial dilution. Succussion is an important process by which homeopathic ingredients increase in potency.

Trace Mineral

Minerals that are required by the body in only small amounts. Examples of trace minerals include chromium, copper, iodine, iron, molybdenum, selenium, and zinc.