



Solutions for Human Nutrition & Health

Catalogue 2016



HEALTH · NUTRITION · MATERIALS



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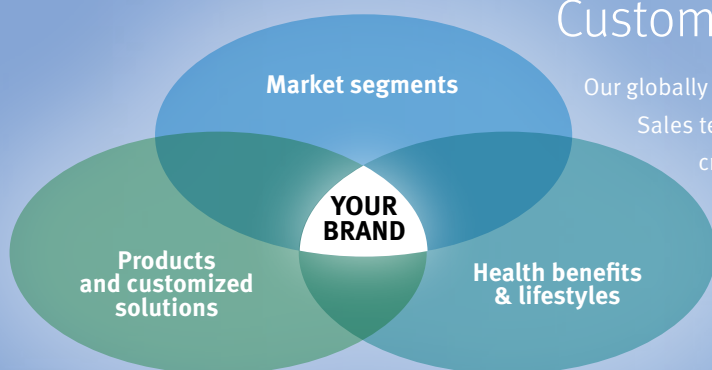
DSM Nutrition – Human Nutrition and Health

We help customers get to market faster and safer with appealing nutritional solutions that work. In all corners of the world.

We provide customized support throughout the new product development process, reaching out to a unique breadth of expertise and capabilities. Innovative delivery formats, scientific and technological expertise around nutritional and functional ingredients, global presence from our Marketing and Sales teams and their supporting functions: we can rely on them all for the successful development of our customers' products.

DSM is the leading supplier of vitamins, carotenoids, Omega-3 & 6 nutritional lipids, nutraceutical ingredients and nutritional premixes to the food supplement and food industries, and a dedicated range of products for the pharmaceutical industry. This catalogue provides an introduction into our offering. Also this year, you will discover new products and new product forms.

Solutions tailored to your brands: Customer Brand Solutions



Our globally present Marketing and Sales teams help our customers create brands and products that are loved by their target consumers. It is a journey that starts and ends with the consumer.

It embraces a plurality of aspects and disciplines. Marketing and positioning is one of them.

In the core of all observations: your brand.

The resulting solutions focus on nutrition, coloration, food protection, and much more.

Solutions

Health Benefit Solutions

Our Health Benefit Solutions address major health concerns of consumers, and their lifestyle. They are built on strong foundations, with DSM's decades of expertise in nutrition, and include latest nutrition science.

LIFE'S ESSENTIALS



Our complete mix of nutrients are the solid foundation for a healthy life.



Our nutritional solutions for infants and young children can help shape healthier futures.



Our tailored nutrients can help children during all phases of childhood to grow up to their full potential.



Solutions for men's specific needs.



Our tailored ingredients can help fulfill women's specific needs.



We can help add more life to years.



Our know-how helps protect health.

TARGETED HEALTH



Rely on us to help protect the heart and take pressure out.



Protect and improve eyesight with the help of our carotenoids and vitamins.



Our natural source ingredients help you to flex freely.



Bones live! Build them throughout life with our portfolio of bone actives.



Solutions for healthy digestion.



Stay ahead! Boost one's mind with our ingredients.



Energize the brain with functional ingredients developed to promote mental performance and focus.



Relax and unwind with the help of functional ingredients designed to help clear thoughts and calm one's mind.

LIFESTYLE



Charging the body to reach beyond one's limits.



Ingredient solutions to help support the specific nutritional needs of vegetarians.



Our ingredients help protect or repair skin, hair or nails from within.



Our natural ingredients help to shape up and resist temptation.



Coloration

Our innovative portfolio of carotenoids, from synthetic and natural sources, is at the core of our coloration solutions.



Antioxidants for longer shelf life, using non-artificial products

DSM has a broad portfolio of natural technical antioxidants and industry-leading application expertise to help you develop effective, clean label solutions.



Customized premixes

Fortitech® Premixes provide a precisely customized blend of functional ingredients in one single efficient, homogeneous premix.

Market-ready solutions and completely customized combinations in dry and liquid forms are available in all corners of the world.

Broad expertise and capabilities



Nutrition Innovation Centers

Because every customer application is different, and, because we know the challenges behind fortification, stabilization or coloration, we help customers to turn concepts into nutritional and colorful consumer products.

In every region, our Nutrition Innovation Centers keep on building expertise, while taking advantage of DSM's decades of experience in nutrition and coloration. A global network of application-savvy colleagues supports these activities.

A broad expertise and capabilities, to support customer brand solutions

Developing nutritious and colorful consumer products requests many capabilities and expertise.

Our globally-present Marketing and Sales teams can rely on a wide array of tools and expertise.

We help our customers create brands and products that are loved by their target consumers.



Nutrition Science and Advocacy Quality for Life®

Nutrition science is core to our business. Nutrition Science and Advocacy engages in a comprehensive strategy that addresses the requirements of those around the world in need of nutritional solutions. It combines science, partnerships, communication and advocacy.

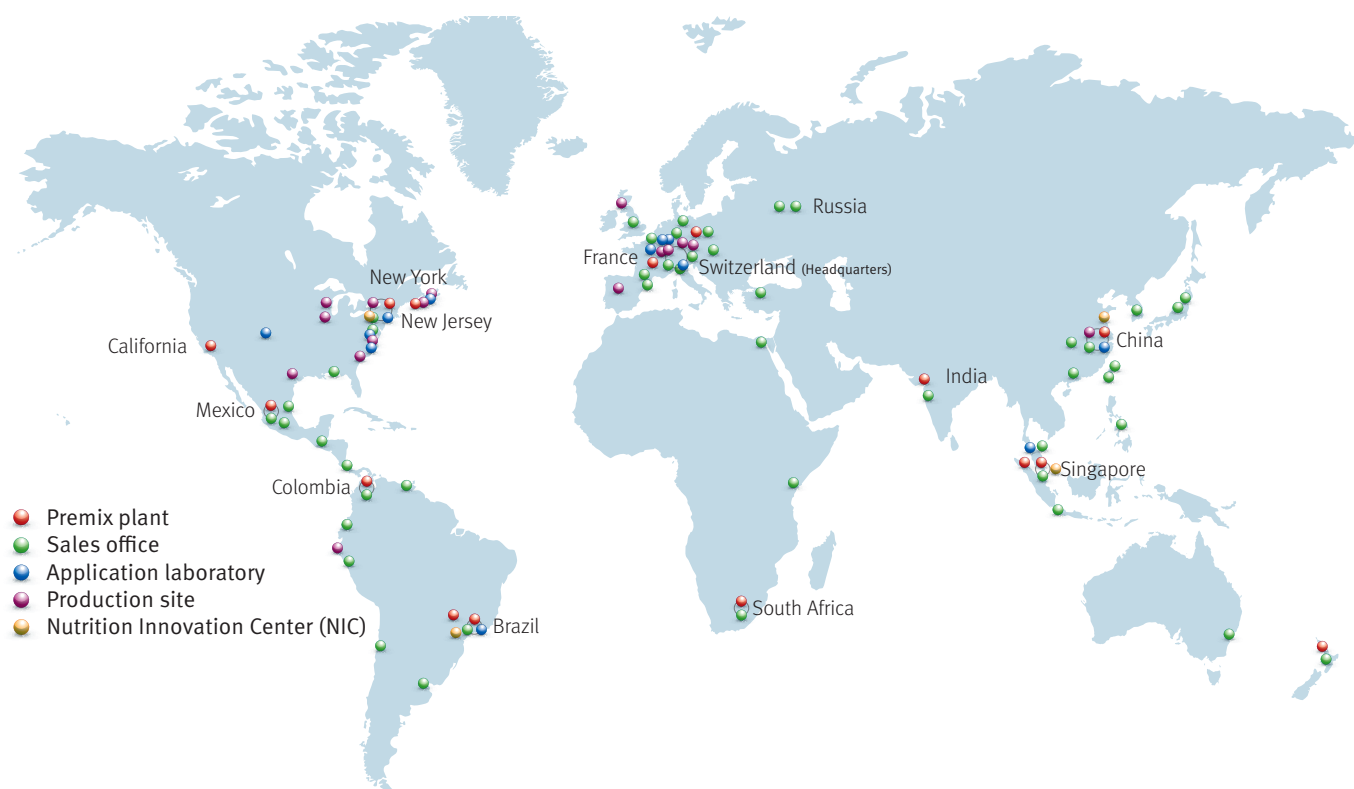


Valued Customer Brands can be backed by our Quality for Life promise: Quality, Reliability, Traceability, and, Sustainability.

We offer the possibility to make this promise visible to consumers in the form of Trade License Agreements.



Global presence



Operations, Global Quality Management and Regulatory Affairs

DSM Nutritional Products constantly strives to maintain and advance its own high quality standards. Our aim is not only to be the benchmark for the industry but also to give our customers the peace of mind that comes with quality.

- We apply industry-appropriate Good Manufacturing Practice to our production operations worldwide.
- Every part of the process is managed so as to ensure the highest levels of process safety and product quality.
- All processes are designed to anticipate customer requirements and market trends.
- Beside product specifications, DSM Nutritional Products provides clear statements concerning, for example, GMO ingredients, BSE/TSE, residual solvents limits, and the absence of allergenic potentials. In many cases, Kosher and Halal certificates issued by highly reputed international organizations are available.

- We apply strict change control procedures, which are certified via the GFSI recognized standard FSSC22000.
- Our dietary and food ingredients are manufactured following the HACCP concepts.
- DSM Nutritional Products produces vitamins for use as active pharmaceutical ingredients, operating in compliance with the worldwide accepted GMP standard ICHQ7A. CEPs (Certificate of Suitability to the European Pharmacopoeia) are available for our full range of vitamins.

Our manufacturing sites enjoy process optimization. R&D is often there to support.

Research and Development

Our broad R&D and Innovation team keeps on exploring new fields in various areas, such as optimizing an active's bioavailability or handling properties, screening for efficacious nutritional actives, developing the analytics that goes along, and improving manufacturing processes. They are of course a valuable source of information and support, for our colleagues around the globe.





Fortitech® Premixes

Seize the opportunities

Nutrition-savvy consumers everywhere are looking for foods, beverages and supplements that serve a functional need, from preventing and managing health conditions to delivering essential nutrition. With Fortitech® Premixes, you can provide custom solutions to every market.

Partner with Fortitech® Premixes

Fortitech® Premixes provide a precisely customized blend of functional ingredients – sourced from over 1,400 vitamins, minerals, amino acids, nucleotides, and botanicals – in one single, efficient, homogenous premix. From market-ready powdered solutions to completely customized combinations in dry or liquid form. Any nutrient. Any application. Anywhere in the world.

Get a development, production and a marketing and sales advantage...

Fortitech® Premixes' custom solutions will help you:

- Ensure safety, quality, and security
- Reduce equipment, labor, and testing costs
- Accelerate product development
- Lower purchasing/inventory costs

...and gain a competitive edge

- We have unmatched customized fortification expertise.
- We help you differentiate your products and seize new market opportunities.
- We provide a global platform for production and distribution – delivering the premixes you need, on time, everywhere.

TAKE THE NEXT STEP

Request a free sample to get your next top-selling product started and read through our free tech papers at fortitechpremises.com

Follow Fortitech® Premixes





Carotenoids for fortification and coloration

Product and description

Cert.

Pack size (KG)

Product code

Main application

β-Carotene – Natural source (Pro-Vitamin A)



CaroCare® Nat. β-Carotene 1% CWS/M Powder, cold water dispersible. Based on medium chain triglycerides	Kosher, Halal	5 20	50 12120.304 50 12120 341	For fortification and coloration of instant products and various foods. Color range: yellow.
CaroCare® Nat. β-Carotene 10% CWS Star Beadlet ^{††} , cold water dispersible. Starch-based	Kosher, Halal	5 20	50 10934.304 50 10934.341	For fortification and coloration of beverages and various foods. Color range: yellow-orange to orange.
CaroCare® Nat. β-Carotene 10% CWS/S Spray-granulated powder, cold water dispersible. Starch-based	Kosher, Halal	10	50 14842.141	For direct compression tablets and hard-shell capsules. For fortification and coloration of beverages and various foods. Color range: yellow-orange to orange.
CaroCare® Nat. β-Carotene 20% CWS/S-TG Spray-granulated powder, cold water dispersible. Starch-based	Kosher, Halal	10	50 14844.141	For direct compression tablets and hard-shell capsules, for instant products, and various foods. Color range: yellow-orange to orange.
CaroCare® Nat. β-Carotene 30% S Fluid suspension	Kosher, Halal	5	50 14808.302	For soft gelatin capsules. For fortification and coloration of fat-based foods. Color range: yellow.

^{††} Product formulations which utilise Actilease[®] beadlet technology. Actilease[®] combines easy handling, bioavailability, and stability of the active.

β-Carotene (Pro-Vitamin A)

β-Carotene 1% CWS/M Powder, cold water dispersible. Based on medium chain triglycerides	Kosher, Halal	5 25	50 03741.304 50 03741.368	For fortification and coloration of instant products and various foods. Color range: yellow.
β-Carotene 3% CWS/M Powder, cold water dispersible. Based on medium chain triglycerides	Kosher, Halal	5	50 03636.304	For fortification and coloration of water-based foods, instant products, beverages, puddings, confectionery and milk products. Color range: yellow.
β-Carotene 7% CWS Powder, cold water dispersible	Kosher, Halal	10	04 82285.231	For fortification and coloration of beverages, puddings, confectionery and milk products. Color range: clear yellow.
β-Carotene 10% CWS Beadlet ^{††} , cold water dispersible	Kosher, Halal	1 5 25	04 34825.268 04 34825.304 04 34825.368	For fortification and coloration of beverages, soups, sauces, cereals and confectionery. Color range: yellow-orange to orange.
β-Carotene 10% CWS/S Powder, cold water dispersible. Starch-based	Kosher, Halal	5 20	50 15767.304 50 15767.341	For fortification and coloration of beverages, soups, sauces, cereals and confectionery. Color range: yellow-orange to orange.
β-Carotene 10% B Beadlet ^{††}	Kosher, Halal	25	04 34833.368	For fortification of dry food products as a non-coloring nutrient.
BetaTab® 10% E Beadlet ^{††} , tablet grade		5 25	04 34140.304 04 34140.368	For effervescent tablets. Color range: yellow to orange.
BetaTab® 20% S Beadlet ^{††} , tablet grade. Starch-based	Kosher, Halal	5 25	50 04004.304 50 04004.368	For direct compression tablets and hard-shell capsules.
BetaTab® 20% S Ph Beadlet ^{††} , tablet grade. Starch-based	Kosher, Halal	25	50 14352.368	For direct compression tablets and hard-shell capsules.
β-Carotene 15% LCS Powder, cold water dispersible	Kosher, Halal	5 20	50 08409.304 50 08409.341	For fortification of instant drinks and meal replacement beverages. Very low color saturation.
β-Carotene 10% Emulsion Red Liquid emulsion	Kosher, Halal	6	50 12538.147	For fortification and coloration of juice and non-juice beverages, ice cream, yogurt and salad dressings. Color range: pink to strawberry red.
β-Carotene 10% EM Yellow Liquid emulsion	Kosher, Halal	5	50 02427.301	For fortification and coloration of juice and non-juice beverages, ice cream, yogurt and salad dressings. Color range: yellow.
β-Carotene 5% EM K Liquid emulsion	Kosher, Halal	5 25	50 11256.311 50 11256.356	For fortification and coloration of juice and non-juice beverages, ice cream, yogurt and salad dressings. Color range: yellow-orange to orange.
β-Carotene 2.5% Emulsion CC Liquid emulsion	Kosher, Halal	6	50 14778.147	For fortification and coloration of beverages, especially those requiring high transparency and clarity. Color range: yellow to orange.
β-Carotene 30% FS Fluid suspension	Kosher, Halal Kosher	1 5 5 1 [†] 20 [†]	04 27233.266 04 27233.311 04 27233.294 (Origin: France) 50 08735.175 50 08735.199 (Origin: USA)	For soft gelatin capsules. For fortification and coloration of fat-based foods. Color range: yellow to orange.
β-Carotene 30% FS Ph Fluid suspension	Kosher, Halal	5	50 14387.294	For soft gelatin capsules.
β-Carotene 30% FS/SF Fluid suspension in sunflower oil	Kosher, Halal	5	50 00238.311	For soft gelatin capsules. For fortification and coloration of fat-based foods. Color range: yellow.
β-Carotene 22% HSS Fluid suspension, heat stable	Kosher, Halal	20 [†]	04 66042.313	For soft gelatin capsules. For coloration of popcorn, popping and frying oils. Color range: yellow.

[†] Only for North America.

^{††} Product formulations which utilise Actilease® beadlet technology. Actilease® combines easy handling, bioavailability, and stability of the active.

Apocarotenal (8'-apo-β-Carotenal)

Apocarotenal 1% CWS/M Powder, cold water dispersible. Based on medium chain triglycerides	Kosher, Halal	5 25	50 06317.304 50 06317.368	For fortification and coloration of instant beverages, puddings, confectionery and milk products. Color range: orange to orange-red.
Apocarotenal 10% WS/N Beadlet ^{††}	Kosher, Halal	1	04 87376.268	For fortification and coloration of beverages. Color range: orange-red to red.
Apocarotenal 20% S Fluid suspension	Kosher, Halal	1 5	04 80932.266 04 80932.311	For coloration of oil-based foods such as salad dressings, sauces, edible oils, margarine and processed cheese. Color range: yellow-orange to orange.
Apocarotenal 2.5% Emulsion CC Liquid emulsion	Kosher, Halal	6	50 14786.147	For fortification and coloration of beverages, especially those requiring high transparency and clarity. Color range: orange to orange-red.
Carotenal Solution #2 2% 8'-apo-β-Carotenal	Kosher	20 20 [†]	04 82277.313 (Origin: France) 04 82277.199 (Origin: USA)	For coloration of oil-based foods such as salad dressings, pastry and processed cheese. Color range: yellow-orange to orange.
Carotenal Solution #73 1.4% 8'-apo-β-Carotenal and 0.6% β-Carotene solution (70:30 ratio)	Kosher	20 20 [†]	04 80541.313 (Origin: France) 04 80541.199 (Origin: USA)	For coloration of oil-based foods such as salad dressings, pastry and processed cheese. Color range: yellow-orange to orange.

[†] Only for North America.

^{††} Product formulations which utilise Actilease[®] beadlet technology. Actilease[®] combines easy handling, bioavailability, and stability of the active.

Astaxanthin

AstaSana[®] (Astaxanthin) 5% CWS/S-TG Powder, tablet grade and cold water dispersible. Starch-based	Kosher, Halal	5	50 15298.304	For direct compression tablets and hard-shell capsules.
AstaSana[®] (Astaxanthin) 10% FS Fluid suspension	Kosher, Halal	5	50 15299.304	For soft gelatin capsules.

Canthaxanthin

Canthaxanthin 10% CWS/S Powder, cold water dispersible. Starch-based	Kosher, Halal	1	50 05256.268	For coloration of beverages, tomato soups, sauces, confectionery and meat substitution products, in some regions. In EU, for coloring matter in medicinal products only. Color range: orange-red to red.
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Product and description	Cert.	Pack size (KG)	Product code	Main application
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Lutein



FloraGLO® Lutein 1% SD/S Powder, cold water dispersible. Starch-based	Kosher, Halal	5	50 15149.341	For fortification of infant formula products and instant products. Very low color saturation.
FloraGLO® Lutein 5% CWS/S-TG Beadlet ^{††} , tablet grade and cold water dispersible. Starch-based	Kosher, Halal	5 25 5 [†] 25 [†]	50 12066.304 50 12066.368 (Origin: Switzerland) 50 12066.605 50 12066.606 (Origin: USA)	For direct compression tablets and hard-shell capsules. For fortification of beverages, bars and other selected foods.
FloraGLO® Lutein 10% CWS/S-TG Beadlet ^{††} , tablet grade and cold water dispersible. Starch-based	Kosher, Halal	5 20 5 [†] 20 [†]	50 11868.304 50 11868.368 (Origin: Switzerland) 50 11868.605 50 11868.606 (Origin: USA)	For direct compression tablets and hard-shell capsules. For fortification of beverages, bars and other selected foods.
FloraGLO® Lutein 20% SAF Fluid suspension in safflower oil	Kosher, Halal	1 5 20 1 5 [†] 20 [†]	50 11876.261 50 11876.294 50 11876.331 (Origin: France) 50 11876.263 50 11876.694 50 11876.335 (Origin: USA)	For soft gelatin capsules. For fortification of selected fat-based foods.
FloraGLO® OPTISHARP® 5:1 24% FS Fluid suspension, with a lutein:zeaxanthin ratio of 5:1	Kosher, Halal	5 20	50 15896.294 50 15896.311	For soft gelatin capsules. For fortification of selected fat-based foods.

FloraGLO® is a trademark of Kemin Industries, Inc.

[†] Only for North America.

^{††} Product formulations which utilise Actilease® beadlet technology. Actilease® combines easy handling, bioavailability, and stability of the active.

Lycopene



redivivo® (Lycopene) 10% CWS/S-TG Powder, tablet grade and cold water dispersible. Starch-based	Kosher, Halal	5 25	50 03792.304 50 03792.368	For direct compression tablets and hard-shell capsules. For fortification of beverages, bars and other selected foods.
redivivo® (Lycopene) 10% FS Fluid suspension	Kosher, Halal	5 20	50 00203.294 50 00203.336	For soft gelatin capsules. For fortification of selected fat-based foods.

Zeaxanthin



OPTISHARP® (Zeaxanthin) 5% CWS/S-TG Beadlet ^{††} , tablet grade and cold water dispersible. Starch-based	Kosher, Halal	5 25	50 03563.304 50 03563.368	For direct compression tablets and hard-shell capsules. For fortification of beverages, bars and other selected foods.
OPTISHARP® (Zeaxanthin) 20% FS Fluid suspension	Kosher, Halal	1 5 20	50 02001.270 50 02001.294 50 02001.336	For soft gelatin capsules. For fortification of selected fat-based foods.

^{††} Product formulations which utilise Actilease® beadlet technology. Actilease® combines easy handling, bioavailability, and stability of the active.

Zeaxanthin – Natural source



OPTISHARP® Natural (Zeaxanthin) 5% CWS/S-TG Powder, cold water dispersible. Starch-based.	Kosher, Halal	5 25	50 15799.304 50 15799.368	For direct compression tablets and hard-shell capsules. For fortification of beverages, bars and other selected foods.
OPTISHARP® Natural (Zeaxanthin) 14% Safflower Oil Fluid suspension.	Kosher, Halal	1 25	50 15766.263 50 15766.298	For soft gelatin capsules. For fortification of selected fat-based foods.



Fat-soluble vitamins

Product and description Cert. Pack size (KG) Product code Main application

Vitamin A – liquid (Retinol)



Vitamin A Acetate 1.5 MIU/g Stabilized with tocopherol. Oily solution, based on peanut oil. 450 mg Retinol Equivalents/g	Kosher, Halal	5	04 18846.294	For dietary supplements and foods, including infant nutrition.
Vitamin A Palmitate 1.0 MIU/g Stabilized with tocopherol. Oily solution, based on peanut oil. 300 mg Retinol Equivalents/g	Kosher, Halal	5	04 31400.294	For dietary supplements and foods.
Vitamin A Palmitate/M 1.0 MIU/g Stabilized with tocopherol. Oily solution, based on medium chain triglycerides. 300 mg Retinol Equivalents/g	Kosher, Halal	5	50 08530.294	For dietary supplements and foods, including infant nutrition.
Vitamin A Palmitate 1.0 MIU/g Stabilized with BHA/BHT. Oily solution, based on peanut oil. 300 mg Retinol Equivalents/g	Kosher, Halal	5	04 20603.294	For dietary supplements and foods.
Vitamin A Palmitate 1.7 MIU/g Stabilized with BHA/BHT. Oily liquid. 510 mg Retinol Equivalents/g	Kosher, Halal	5 20	04 24013.294 04 24013.336	For dietary supplements and foods.
Vitamin A Palmitate 1.7 MIU/g Stabilized with tocopherol. Oily liquid. 510 mg Retinol Equivalents/g	Kosher, Halal	5 20 190	04 18579.294 04 18579.336 04 18579.422	For soft gelatin capsules. For fortification of fat-based foods, milk, margarine, dairy products and dairy substitutes.
Vitamin A Palmitate 1.7 MIU/g Without stabilizers. Oily liquid. 510 mg Retinol Equivalents/g	Kosher, Halal	5 20 190	04 24005.294 04 24005.336 04 24005.420	For soft gelatin capsules. For fortification of fat-based foods, milk, margarine, dairy products and dairy substitutes.

Product and description	Cert.	Pack size (KG)	Product code	Main application
Vitamin A Palmitate 1.0 MIU/g and Vitamin D3 100,000 IU/g Stabilized with tocopherol. Oily solution (corn oil). 2.5 mg cholecalciferol/g and 300 mg Retinol Equivalents/g	Kosher, Halal	5	50 11558.294	For soft gelatin capsules. For fortification of fat-based foods, milk, margarine, dairy products and dairy substitutes.
Vitamin A Water-miscible Type 100 Stabilized with BHA/BHT. 30 mg Retinol Equivalents/g	Kosher, Halal	6 L	04 21316.126	For liquid dietary supplements.
Vitamin A + D3 Water-miscible Type 100/20 Stabilized with BHA/BHT. 0.5 mg cholecalciferol/g and 30 mg Retinol Equivalents/g	Kosher, Halal	6 L	50 11566.126	For liquid dietary supplements.

Vitamin A – powder (Retinol)

Dry Vitamin A Acetate 500 B Stabilized with BHT. Beadlet, tablet grade. Based on bovine gelatin. 500,000 IU Vitamin A/g. 150 mg Retinol Equivalents/g	Kosher	5 20	50 12279.609 50 12279.341	For direct compression tablets and hard-shell capsules. For general food fortification.
Dry Vitamin A Acetate 325 CWS/A Stabilized with tocopherol. Beadlet, cold water dispersible. Based on gum acacia. 325,000 IU Vitamin A/g. 97.5 mg Retinol Equivalents/g	Kosher, Halal	5 20	50 10330.304 50 10330.341 (Origin: Switzerland) 50 13526.304 50 13526.341 (Origin: USA)	For general food preparation including infant nutrition.
Dry Vitamin A Palmitate, Type 250 CWS Stabilized with BHA, BHT. Beadlet, cold water dispersible. 250,000 IU Vitamin A/g. 75 mg Retinol Equivalents/g		25	04 29937.368	For dry dietary supplements and foods which are reconstituted with liquids, especially for effervescent tablets. For fortification of sugar.
Dry Vitamin A Palmitate, Type 250 CWS/F Stabilized with tocopherol. Beadlet, cold water dispersible. Based on fish gelatin. 250,000 IU Vitamin A/g. 75 mg Retinol Equivalents/g	Kosher, Halal	25	04 21871.368	For effervescent and coated tablets and hard-shell capsules. For fortification of dry food products, including flour, dry milk and beverage powders and water-based foods.
Dry Vitamin A Palmitate 250 S/N Stabilized with BHT. Powder, spray dried. Starch-based. 250,000 IU Vitamin A/g. 75 mg Retinol Equivalents/g	Kosher, Halal	15	50 12554.341 (Origin: France) 50 03814.281 (Origin: Switzerland)	For fortification of flour, beverages, sugar and water-based foods.
Dry Vitamin A Palmitate 250 S/N-B Stabilized with BHT and sodium ascorbate. Beadlet, cold water dispersible. Starch-based. 250,000 IU Vitamin A/g. 75 mg Retinol Equivalents/g	Kosher, Halal	5 25	50 03814.304 50 03814.606	For dry dietary supplements and foods, especially for fortification of sugar.

Vitamin D3 – liquid (Cholecalciferol)

Vitamin D3 1.0 MIU/g Stabilized with tocopherol. Oily solution (medium chain triglycerides). 25 mg cholecalciferol/g	Kosher, Halal	5	50 11574.294	For soft gelatin capsules. For fortification of fat-based foods, edible oils, fats, milk, margarine and dairy products, including infant nutrition.
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Vitamin D₃ – powder (Cholecalciferol)

Vitamin D₃ Crystalline 40,000,000 IU Vitamin D ₃ /g. 1,000,000 µg cholecalciferol/g	Kosher, Halal	250g	50 09278.258	For dietary supplements, foods and pharmaceutical applications.
Dry Vitamin D₃, Type 100 CWS Stabilized with tocopherol. Beadlet, cold water dispersible. 100,000 IU Vitamin D ₃ /g. 2.5 mg cholecalciferol/g	Kosher	5 25	50 12015.304 50 12015.368	For direct compression tablets and hard-shell capsules. For fortification of water-based or instant foods and beverages.
Dry Vitamin D₃ 100 CWS/AM Stabilized with tocopherol. Powder. Based on gum acacia. 100,000 IU Vitamin D ₃ /g. 2.5 mg cholecalciferol/g	Kosher, Halal	25	50 11477.368	For hard-shell capsules. For fortification of water-based or instant foods and beverages, including infant nutrition.
Dry Vitamin D₃ 100 SD/S Stabilized with tocopherol. Spray dried, cold water dispersible. Starch-based/Allergen free. 100,000 IU Vitamin D ₃ /g. 2.5 mg cholecalciferol/g	Kosher, Halal	5 20	50 10950.304 50 10950.341	For direct compression tablets and hard-shell capsules. For fortification of water-based or instant foods and beverages, including infant nutrition.

Vitamin E – liquid (dl- α -Tocopherol, dl- α -Tocopheryl Acetate)

dl-α-Tocopherol 1100 IU Vitamin E/g. 738 mg α -Tocopherol Equivalent/g	Kosher, Halal	5 20 50	04 10276.294 04 10276.336 04 10276.396	For soft gelatin capsules. As an antioxidant stabilizing oils and fat-based foods, including infant nutrition.
dl-α-Tocopheryl Acetate 1000 IU Vitamin E/g. 671 mg α -Tocopherol Equivalent/g	Kosher, Halal	5 20 190 900	04 20085.301 04 20085.331 04 20085.422 04 20085.476	For soft gelatin capsules. For fortification of fat-based foods, including infant nutrition.

Vitamin E – powder (dl- α -Tocopheryl Acetate)

Dry Vitamin E 15% CC Spray dried, cold water dispersible. Starch-based. Crystal clear. 150 IU Vitamin E/g. 101 mg α -Tocopherol Equivalent/g	Kosher, Halal	15	50 01285.281	For fortification of foods and beverages requiring optical clarity, such as clear juices and mineral drinks.
Dry Vitamin E 15% CC-SMP Spray-dried, cold water dispersible. Starch based. Crystal clear. 150 IU Vitamin E/g. 101 mg- α -Tocopherol Equivalent/g	Kosher, Halal	15	50 15321.281	For fortification of foods and beverages requiring optical clarity, such as flavored waters, energy and sports drinks, soft drinks.
Dry Vitamin E 50% CWS/S Spray dried, cold water dispersible. Starch-based. 500 IU Vitamin E/g. 336 mg α -Tocopherol Equivalent/g	Kosher, Halal	20 20	50 01129.341 (Origin: Switzerland) 50 12740.341 (Origin: France)	For tablets, effervescent tablets and hard-shell capsules. For fortification of foods and beverages, including infant nutrition.
Dry Vitamin E 50%, Type SD Spray dried. 500 IU Vitamin E/g. 336 mg α -Tocopherol Equivalent/g	Kosher	15	50 14077.281	For tablets and hard-shell capsules. For fortification of dry food products, including those to be mixed with cold water before use.
Dry Vitamin E Acetate 50% Type SD Spray dried. 500 IU Vitamin E/g. 336 mg α -Tocopherol Equivalent/g	Kosher	50 [†]	04 88550.395	For tablets and hard-shell capsules. For fortification of dry food products, including those to be mixed with cold water before use.
Dry Vitamin E 75 HP Beadlet, high potency. 750 IU Vitamin E/g. 503 mg α -Tocopherol Equivalent/g	Kosher, Halal	20 50 [†]	04 83567.341 04 83567.402	For higher levels of vitamin E in tablets and hard-shell capsules.

[†] Only for North America.

Product and description	Cert.	Pack size (KG)	Product code	Main application
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Vitamin E – Natural Source (d- α -Tocopheryl Acetate and d- α -Tocopherol)



d-α-Tocopheryl Acetate 1360 IU Vitamin E/g. 913 mg α -Tocopherol Equivalent/g	Kosher, Halal	20 190	04 86574.343 04 86574.422	For soft gelatin capsules. For fortification of oils and fat-based foods.
Natural Vitamin E SF Oil. α -tocopherol from non-GM sunflower. Min. 900 IU Vitamin E/g. Min. 604 mg α -Tocopherol Equivalent/g	Kosher, Halal	18 190	50 15574.575 50 15574.422	For soft gelatin capsules. For fortification of oils and fat-based foods.
Dry Vitamin E 700 NS Spray dried, cold water dispersible. Starch-based. 700 IU Vitamin E/g. 470 mg α -Tocopherol Equivalent/g	Kosher, Halal	20	50 11892.341	For fortification of foods and beverages.
Dry Vitamin E Acetate 950 NS Beadlet, High potency. 950 IU Vitamin E/g. 638 mg α -Tocopherol Equivalent/g	Kosher, Halal	5 20 50 [†]	04 86884.304 04 86884.341 04 86884.402	For higher levels of vitamin E in tablets and hard-shell capsules.

[†] Only for North America.

Mixed Tocopherols



Mixed Tocopherols 95 Oily liquid. Min. 95% tocopherols	Kosher, Halal	20 190	50 02893.343 50 02893.422	As an antioxidant stabilizing oils and various foods. For soft gelatin capsules.
Mixed Tocopherols 70 IP Oily liquid. Non-GM source. Min. 70% tocopherols	Kosher, Haal	18 190	50 15573.575 50 15573.422	As an antioxidant stabilizing oils and various foods. For soft gelatin capsules.
Dry Mixed Tocopherols 30% Powder. Starch based. Min. 30% tocopherols	Kosher, Halal	20	50 00149.341	As an antioxidant stabilizing various foods.
Dry Mixed Tocopherols 30% IP Powder. Starch based. Non-GM source. Min. 30% tocopherols	Kosher, Halal	20	50 15721.341	As an antioxidant stabilizing various foods.


Vitamin K1 (Phylloquinone, Phytonadione, Phytomenadione)




Vitamin K1 Oily liquid	Kosher, Halal	0.1 1	04 35015.246 04 35015.264	For soft gelatin capsules. For fortification of selected foods, including infant nutrition.
Dry Vitamin K1 5% SD Spray-dried. Based on gum acacia. 50 mg Vitamin K1/g	Kosher, Halal	1 20	04 34922.268 04 34922.341	For tablets and hard-shell capsules. For fortification of dry food products, including those to be mixed with cold water before use, including infant nutrition.



Water-soluble vitamins

Product and description	Cert.	Pack size (KG)	Product code	Main application
				
Thiamine Hydrochloride	Kosher, Halal	20	04 13038.341	For dietary supplements. For fortification of foods and beverages, including infant nutrition.
Thiamine Mononitrate	Kosher, Halal	20	04 18943.341	For dietary supplements. For fortification of foods and beverages, including infant nutrition.
ROCOAT® Thiamine Mononitrate 33 1/3% Coated	Kosher, Halal	5 50 [†]	04 29473.304 04 29473.402	For chewable tablets. For fortification of foods where improved stability or taste masking is desired.

[†] Only for North America.

				
Riboflavin Universal	Kosher, Halal	10	04 70406.231	For the fortification of light-protected foods and beverages, including infant nutrition.
Riboflavin Universal Fine Powder	Kosher, Halal	5 2 x 2.5	50 08611.186 50 08611.304	For dietary supplements. For the fortification of cereals, pasta products, dietetics and other dry foods, including infant nutrition, and for the coloration of light-protected foods.
Riboflavin 5'-Phosphate Sodium	Kosher, Halal	1 5 25	04 21413.608 04 21413.605 04 21413.672	For fortification of foods and beverages, including infant nutrition, where high solubility is desired. For effervescent tablets.
Riboflavin Tablet Grade	Kosher, Halal	10	04 70295.231	For direct compression of tablets. May also be used for fortification of light-protected foods and beverages.
ROCOAT® Riboflavin 33 1/3% Coated	Kosher, Halal	5 50 [†]	04 29465.304 04 29465.402	For chewable tablets. For fortification of foods where improved stability or taste masking is desired.

[†] Only for North America.

Product and description	Cert.	Pack size (KG)	Product code	Main application
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Vitamin B₃ (Niacin, Niacinamide)



Niacinamide	Kosher, Halal	20	04 87848.340	For dietary supplements. For fortification of foods and beverages, including infant nutrition.
Niacinamide Free Flowing	Kosher, Halal	25 [†]	50 02141.346	For dietary supplements. For fortification of foods and beverages.
Niacinamide Powder	Kosher, Halal	25 [†]	50 10810.366	For dietary supplements. For fortification of foods and beverages.
Niacin Nicotinic acid powder	Kosher, Halal	20 500 [†]	50 10837.340 50 10837.429	For fortification of foods and beverages.
ROCOAT® Niacinamide 33 1/3% Coated	Kosher, Halal	5	04 29449.304	For chewable tablets. For fortification of foods where improved stability or taste masking is desired.

[†] Only for North America.

Vitamin B₅ (Pantothenic Acid, Panthenol)



Calcium D-Pantothenate Spray-dried	Kosher, Halal	25	04 12678.366	For dietary supplements. For fortification of foods and beverages, including infant nutrition.
D-Panthenol Liquid	Kosher, Halal	20	04 13852.331	For soft gelatin capsules. For fortification of foods and beverages.

Vitamin B₆ (Pyridoxine)



Pyridoxine Hydrochloride	Kosher, Halal	20	04 11604.340	For dietary supplements. For fortification of foods and beverages, including infant nutrition.
ROCOAT® Pyridoxine Hydrochloride 33 1/3% Coated	Kosher, Halal	5 50 [†]	04 29457.304 04 29457.402	For chewable tablets. For fortification of foods where improved stability or taste masking is desired.

[†] Only for North America.

Vitamin B₉ (Folate, Folic acid)



Folic Acid	Kosher, Halal	1 25	04 17823.268 04 17823.372	For dietary supplements. For fortification of foods and beverages, including infant nutrition.
Folic Acid Food Grade	Kosher, Halal	1 25	50 04357.268 50 04357.372	For fortification of foods and beverages, including infant nutrition.
Metafolin®*	Kosher, Halal	1	50 15571.270	For dietary supplements, food and beverage applications for selected segments only. Please consult us.

* Metafolin® is a registered trademark of Merck KGaA, Darmstadt, Germany.

Vitamin B₁₂ (Cyanocobalamin)



Vitamin B₁₂ Crystalline	Kosher, Halal	0.01 0.1 1	04 29155.234 04 29155.252 04 29155.264	For dietary supplements. For fortification of foods and beverages.
Vitamin B₁₂ 1% SD	Kosher, Halal	5 20	50 12511.304 50 12511.341	For higher B ₁₂ levels in tablets and hard-shell capsules. For fortification of foods and beverages.
Vitamin B₁₂ 0.1% WS	Kosher, Halal	5	04 29090.304	For lower B ₁₂ levels in tablets and hard-shell capsules. For fortification of foods and beverages, including infant nutrition.

Vitamin B7 (Biotin, Vitamin H)



D-Biotin	Kosher, Halal	0.05 1 25	50 11655.240 50 11655.270 50 11655.372	For dietary supplements. For fortification of foods and beverages, including infant nutrition.
Bitrit-1® Type A 1% trituration	Kosher, Halal	10 [†] 50 [†]	50 12732.190 50 12732.395	For dietary supplements, foods and beverages, when better distribution is desired.

[†] Mainly for North America.

Vitamin C (L-ascorbic acid, a scorbate)



Ascorbic Acid	Kosher, Halal	25 25 500	04 08050.366 04 08050.368 04 08050.429	For dietary supplements. For foods and beverages including infant nutrition. As nutrient, dough conditioner, antioxidant or meat curing agent.
Ascorbic Acid Fine Powder	Kosher, Halal	25 25	04 22460.366 04 22460.368	For dietary supplements. For foods and beverages. As nutrient, dough conditioner, antioxidant or meat curing agent.
Ascorbic Acid Ultra Fine Powder	Kosher, Halal	20	50 09766.341	For dietary supplements. For foods and beverages. As nutrient, dough conditioner, antioxidant or meat curing agent.
Ascorbic Acid Fine Granular	Kosher, Halal	25 25	04 08093.366 04 08093.368	For dietary supplements. For foods and beverages. As nutrient, dough conditioner, antioxidant or meat curing agent.
Ascorbic Acid 90% Granulation	Kosher, Halal	25	50 07577.368	For direct compression tablets and hard-shell capsules.
Ascorbic Acid 95% Granulation	Kosher, Halal	25	50 07747.368	For direct compression tablets and hard-shell capsules.
Ascorbic Acid 97% Granulation	Kosher, Halal	25	50 10322.368	For direct compression tablets and hard-shell capsules.
Coated Ascorbic Acid, Type EC 97.5% ascorbic acid content. Ethyl cellulose coating	Kosher, Halal	25	04 25117.368	For dry foods in countries where ethyl cellulose is permitted as food additive. For mono and multivitamin preparations.
Coated Ascorbic Acid, Type FC 94% ascorbic acid content. Fat coating	Kosher, Halal	25	04 40809.368	For dry foods.
Calcium Ascorbate	Kosher, Halal	25	04 19443.368	For fortification of low-sodium foods.
Sodium Ascorbate Crystalline	Kosher, Halal	25	04 08174.606	For dietary supplements. For foods and beverages, including infant nutrition. As nutrient, dough conditioner, antioxidant or meat curing agent.
Sodium Ascorbate 99% TG Tablet grade	Kosher, Halal	20	50 01420.341	For direct compression tablets and hard-shell capsules.
Ascorbyl Palmitate	Kosher, Halal	5 25	04 18595.304 04 18595.368	As an antioxidant to stabilize oils and fat-based foods.
RONOXAN® A Ascorbyl Palmitate, dl- α -Tocopherol, Lecithin	Kosher, Halal	1	04 42534.270	As an antioxidant for vegetable oils, animal fats, and fat containing products such as sauces, salad dressings, mayonnaise and biscuits.

Vitamin C (L-ascorbic acid, ascorbate)

Jiangshan origin

VC Ascorbic Acid regular	Kosher, Halal	25	50 15838.368	For foods and beverages. As nutrient, dough conditioner, antioxidant or meat curing agent.
VC Ascorbic Acid 40-80 mesh	Kosher, Halal	25	50 15840.368	For dietary supplements. For foods and beverages. As nutrient, dough conditioner, antioxidant or meat curing agent.
VC Ascorbic Acid 100 mesh (90%)	Kosher, Halal	25	50 15841.368	For dietary supplements. For foods and beverages. As nutrient, dough conditioner, antioxidant or meat curing agent.
VC Ascorbic Acid 100 mesh (95%)	Kosher, Halal	25	50 15842.368	For dietary supplements. For foods and beverages. As nutrient, dough conditioner, antioxidant or meat curing agent.
VC Ascorbic Acid 100 mesh (99%)	Kosher, Halal	25	50 15843.368	For dietary supplements. For foods and beverages. As nutrient, dough conditioner, antioxidant or meat curing agent.
VC Ascorbic Acid 325 mesh	Kosher, Halal	20	50 15844.341	For dietary supplements. For foods and beverages. As nutrient, dough conditioner, antioxidant or meat curing agent.
VC Ascorbic Acid DC 90%	Kosher, Halal	25	50 15850.368	For direct compression tablets and hard-shell capsules.
VC Ascorbic Acid DC 90% LF Lactose free	Kosher, Halal	25	50 15851.368	For direct compression tablets and hard-shell capsules.
VC Ascorbic Acid DC 95% SF Starch free	Kosher, Halal	25	50 15853.368	For direct compression tablets and hard-shell capsules.
VC Ascorbic Acid DC 97%	Kosher, Halal	25	50 15854.368	For direct compression tablets and hard-shell capsules.
VC Ascorbic Acid DC 97% SF Starch free	Kosher, Halal	25	50 15855.368	For direct compression tablets and hard-shell capsules.
VC Coated Ascorbic Acid 97.5%	Kosher, Halal	25	50 15856.368	For dry foods in countries where ethyl cellulose is permitted as food additive. For mono and multivitamin preparations.
VC Sodium Ascorbate regular	Kosher, Halal	25	50 15846.368	For dietary supplements. For foods and beverages.
VC Sodium Ascorbate 100 mesh	Kosher, Halal	25	50 15903.368	For dietary supplements. For foods and beverages including infant nutrition. As nutrient, dough conditioner, antioxidant or meat curing agent.
VC Sodium Ascorbate DC	Kosher, Halal	25	50 15847.368	For dietary supplements. For direct compression and hard-shell capsules. For foods and beverages. When coarse particles are needed.
VC Calcium Ascorbate regular	Kosher, Halal	25	50 15848.368	For dietary supplements. For foods and beverages.
VC Calcium Ascorbate DC	Kosher, Halal	25	50 15849.368	For dietary supplements. For direct compression and hard-shell capsules. For foods and beverages. When coarse particles are needed.



Nutritional lipids

Product and description	Cert.	Pack size (KG)	Product code	Main application
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life'sDHA™ (Vegetarian Omega-3 Long Chain Polyunsaturated Fatty Acids)



DHASCO® Nutritional oil from microalgae containing min. 40% DHA	Kosher, Halal	9 18 200	50 13658.043 50 13658.044 50 13658.046	For fortification of infant formula products, supplements and products for pregnancy and nursing.
life'sDHA™ S17-P100 Not cold water dispersible. Free-flowing powder derived from microalgae containing 17% DHA (170 mg/g)	Kosher, Halal	12.5	50 13712.148	For fortification of selected food and beverage products.
life'sDHA™ S10-P200 Cold water dispersible. Free-flowing powder derived from microalgae containing 10% DHA (100 mg/g)	Kosher, Halal	12.5	50 13720.148	For fortification of foods, beverages and dietary supplements.
life'sDHA™ 100 mg Vegetarian Capsules DHA-S oil in a 300 mg (10 oval) carrageenan vegetarian capsule providing 100 mg DHA	Halal	8,000 capsules	50 13739.035	For use in a variety of supplement applications.
life'sDHA™ 200 mg Vegetarian Capsules DHA-S oil in a 600 mg (14 oval) carrageenan vegetarian capsule providing 200 mg DHA	Halal	8,000 capsules	50 13747.035	For use in a variety of supplement applications.
life'sDHA™ S35-O300 Nutritional oil derived from algae containing min. 35% DHA (350 mg/g)	Kosher, Halal	1 5 23 180	50 13755.264 50 13755.294 50 13755.037 50 13755.418	For fortification of foods, beverages and dietary supplements.
life'sDHA™ S40-O400 Nutritional oil derived from algae containing min. 40% DHA (400 mg/g)	Kosher, Halal	1 5 23 180	50 15090.264 50 15090.294 50 15090.037 50 15090.418	For fortification of foods, beverages and dietary supplements.

Product and description	Cert.	Pack size (KG)	Product code	Main application
life'sDHA™ C53-O100 Nutritional oil from microalgae containing min. 53% DHA (530 mg/g)	Kosher, Halal	9 18 200	50 13860.043 50 13860.044 50 13860.046	For fortification of pregnancy and nursing products.
life'sDHA™ C40-O100 Nutritional oil from microalgae containing min. 40% DHA (400 mg/g)	Kosher, Halal	9 18 200	50 13879.043 50 13879.044 50 13879.046	For fortification of pregnancy and nursing products.

life'sOMEGA™ (Vegetarian Omega-3 Long Chain Polyunsaturated Fatty Acids)



life'sOMEGA™ 45 (O2412 – O100) Nutritional oil from microalgae. Minimum 45% total Omega-3 by area percentage	Kosher, Halal	1 5 23 180	50 13690.264 50 13690.294 50 13690.037 50 13690.418	For fortification of foods, beverages and dietary supplements.
life'sOMEGA™ 60 (O55 – O100) Nutritional oil from microalgae. Minimum 60% total Omega-3 by area percentage	Kosher, Halal	1 5 23 180	50 15295.264 50 15295.294 50 15295.037 50 15295.418	For soft gelatin capsules.
life'sOMEGA™ 300 mg Vegetarian Capsules life'sOMEGA™ oil in a 790 mg (14 oval) carrageenan vegetarian capsule providing 300 mg DHA/EPA	Kosher, Halal	6,000 capsules	50 15010.034	For use in a variety of supplement applications.

life'sGLA™ (Vegetarian Omega-6 Long Chain Polyunsaturated Fatty Acids)



life'sGLA™ '10' n-6 Oil Refined Evening Primrose Oil. Minimum 9% γ-linolenic acid (GLA)	Kosher, Halal	25 185	04 22398.354 04 22398.222	For soft gelatin capsules, and for enrichment of selected foods.
life'sGLA™ '25' n-6 Oil Refined Borage Oil. Minimum 23% γ-linolenic acid (GLA)	Halal	25 185	50 08549.358 50 08549.223	For soft gelatin capsules, and for enrichment of selected foods.
life'sGLA™ '10' n-6 Powder Powder. Minimum 9% γ-linolenic acid (GLA)	Kosher, Halal	2.5	04 28981.276	For solid dietary supplements and selected foods.

life'sARA™ (Vegetarian Omega-6 Long Chain Polyunsaturated Fatty Acids)



ARASCO™ From fungi. Minimum 38% arachidonic acid (ARA)	Kosher, Halal	9 18 200	50 15002.043 50 15002.044 50 15002.046	For fortification of infant formula and baby food products.
life'sARA™ '12' n-6 ARA Powder Minimum 12% arachidonic acid (ARA)	Halal	5	50 03245.304	For fortification of infant formula and baby food products.

life'sDHA+ARA™ (Vegetarian Omega-3 and Omega-6 Long Chain Polyunsaturated Fatty Acids)



Formulaid™ (1:1 ARA:DHA) From fungi and microalgae containing 1 part ARASCO™ and 1 part DHASCO™	Kosher, Halal	9 18 200	50 13895.043 50 13895.044 50 13895.046	For fortification of infant formula products.
Formulaid™ (1.75:1 ARA:DHA) From fungi and microalgae containing 1.75 parts ARASCO™ and 1 part DHASCO™	Kosher, Halal	9 18 200	50 13887.043 50 13887.044 50 13887.046	For fortification of infant formula products.
Formulaid™ (2:1 ARA:DHA) From fungi and microalgae containing 2 parts ARASCO™ and 1 part DHASCO™	Kosher, Halal	9 18 200	50 13909.043 50 13909.044 50 13909.046	For fortification of infant formula products.



MEG-3™ (Marine Omega-3 Long Chain Polyunsaturated Fatty Acids)

MEG-3™ 1812 TG Oil Triglycerides, minimum 160 mg EPA, 100 mg DHA and 300 mg total Omega-3 per g	-	190	50 15165.420	For dietary supplements.
MEG-3™ 3525 TG Oil Triglycerides, minimum 290 mg EPA, 200 mg DHA and 540 mg total Omega-3 per g	Halal	190	50 15218.420	For dietary supplements.
MEG-3™ 30% TG Oil Triglycerides, minimum 260 mg EPA + DHA and 300 mg total Omega-3 per g	-	190	50 15198.420	For dietary supplements.
MEG-3™ 2050 EE Oil Ethyl esters, minimum 180 mg EPA, 440 mg DHA and 660 mg total Omega-3 per g	Halal	190	50 15171.420	For dietary supplements.
MEG-3™ 3020 EE P Oil Ethyl esters, minimum 270 mg EPA, 180 mg DHA and 500 mg total Omega-3 per g	Halal	190	50 15201.420	For dietary supplements.
MEG-3™ 3322 EE Oil Ethyl esters, minimum 290 mg EPA, 190 mg DHA and 530 mg total Omega-3 per g	Halal	190	50 15205.420	For dietary supplements.
MEG-3™ 3327 EE Oil Ethyl esters, minimum 300 mg EPA, 250 mg DHA and 600 mg total Omega-3 per g	Halal	190	50 15209.420	For dietary supplements.
MEG-3™ 3424 EE Oil Ethyl esters, minimum 300 mg EPA, 200 mg DHA and 600 mg total Omega-3 per g	Halal	190	50 15211.420	For dietary supplements.
MEG-3™ 4030 EE Oil Ethyl esters, minimum 360 mg EPA, 270 mg DHA and 680 mg total Omega-3 per g	Halal	190	50 15241.420	For dietary supplements.
MEG-3™ 4027 EE Oil Ethyl esters, minimum 342 mg EPA, 228 mg DHA and 640 mg total Omega-3 per g	Halal	190	50 15237.420	For dietary supplements.
MEG-3™ 5020 EE Oil Ethyl esters, minimum 460 mg EPA, 180 mg DHA and 700 mg total Omega-3 per g	Halal	190	50 15252.420	For dietary supplements.
MEG-3™ 1812 TG 8a Oil Steam deodorized triglycerides, minimum 160 mg EPA, 100 mg DHA and 280 mg total Omega-3 per g	Halal	190	50 15162.420	For dietary supplements.
MEG-3™ 4020 EE SD Oil Steam deodorized ethyl esters, minimum 360 mg EPA, 180 mg DHA and 590 mg total Omega-3 per g	Halal	190	50 15231.420	For dietary supplements.
MEG-3™ 4421 EE SD Oil Steam deodorized ethyl esters, minimum 400 mg EPA, 200 mg DHA and 720 mg total Omega-3 per g	Halal	190	50 15291.420	For dietary supplements.
MEG-3™ 4020 TG Oil Triglycerides, minimum 360 mg EPA, 180 mg DHA and 590 mg total Omega-3 per g	Halal	190	50 15234.420	For dietary supplements.
MEG-3™ 1050 TG e Oil Triglycerides, maximum 100 mg EPA, minimum 500 mg DHA and minimum 650 mg total Omega-3 per g	Halal	190	50 15159.420	For dietary supplements.
MEG-3™ DHA Food Oil Triglycerides, minimum 45 mg EPA, 220 mg DHA and 280 mg total Omega-3 per g	Halal	15.85 190	50 15268.152 50 15268.420	For fortification of food and beverages.
MEG-3™ 30% 8a Food Oil Triglycerides, minimum 250 mg – maximum 320 mg EPA+DHA, minimum 300 mg total Omega-3 per g	Halal	15.85 190	50 15184.152 50 15184.420	For fortification of food and beverages.
MEG-3™ DHA Inf Food Oil Triglycerides, minimum 45 mg EPA, 220 mg DHA and 280 mg total Omega-3 per g	Halal	190	50 15274.420	For fortification of infant formula products.

Product and description	Cert.	Pack size (KG)	Product code	Main application
MEG-3™ '30' n-3 INF Oil Triglycerides, minimum 30% total Omega-3. Minimum 23% DHA. Ratio DHA to EPA minimum 4.5	Kosher, Halal	4.5 25 190	50 15289.670 50 15289.372 50 15289.420	For fortification of selected foods especially infant formula and maternal products.
MEG-3™ '30' n-3 Food Oil Triglycerides, minimum 30% total Omega-3. Minimum 25% DHA + EPA. Minimum 9% EPA. Minimum 12.5% DHA	Kosher, Halal	4.5 25 190	50 15290.670 50 15290.372 50 15290.420	For use in foods and dietary supplements.
MEG-3™ '15' n-3 Emulsion LV Minimum 15% total Omega-3. Minimum 12.5% EPA + DPA + DHA. Minimum 6.25% DHA and 4.5% EPA	Halal	10 L	50 09685.098	For fortification of selected foods, especially dairy. Also for use in dietary supplements.

MEG-3™ Powder (Marine Omega-3 Long Chain Polyunsaturated Fatty Acids)



MEG-3™ 30% K Powder Microencapsulated powder ^{†††} based on fish gelatin, minimum 54 mg EPA, 35 mg DHA (Min 150 mg – Max 220 mg EPA + DHA) and 180 mg total Omega-3 per g	Kosher	10	50 15191.322	For fortification of food and beverages.
MEG-3™ 30% H Powder Microencapsulated powder ^{†††} based on fish gelatin, minimum 54 mg EPA, 35 mg DHA (Min 150 mg – Max 220 mg EPA + DHA) and 180 mg total Omega-3 per g	Halal	10	50 15189.322	For fortification of food and beverages.
MEG-3™ DHA H Powder Microencapsulated powder ^{†††} based on fish gelatin, minimum 27 mg EPA, 132 mg DHA (Min 168 mg – Max 220 mg EPA + DHA) and 184 mg total Omega-3 per g	Halal	10	50 15270.322	For fortification of food and beverages.
MEG-3™ '10' n-3 INF Powder S/SD Minimum 7% DHA. Ratio DHA to EPA minimum 4.5	Halal	5	50 06392.304	For use in food, baby food and nutritional applications.
MEG-3™ '10' n-3 Food Powder S/SD Minimum 7% DHA + EPA	Halal	5	50 09529.304	For fortification of selected foods.
MEG-3™ '10' n-3 INF Powder Minimum 7% DHA. Ratio DHA to EPA minimum 4.5	Halal	5	04 80398.304	For fortification of selected foods especially infant formula and maternal products. Also for use in dietary supplements.


^{†††} Product formulations which utilise Powderloc™ technology.

MEG-3™ products – notes

Additional products not listed are available. For more information contact your regional sales office.



Nutraceuticals and specialty products

Product and description	Cert.	Pack size (KG)	Product code	Main application
				
ALL-Q® (Coenzyme Q10) 10% CWS/S Beadlet ^{††} , cold water dispersible. Starch-based	Kosher, Halal	5 25	50 04160.304 50 04160.368	For foods, beverages and dietary supplements.

^{††} Product formulations which utilise Actilease[®] beadlet technology. Actilease[®] improves absorption and eases handling.

The naturally-occurring predominant form of folate



METAFOLIN[®]	Kosher, Halal	1	50 15571.270	For use in dietary supplements, foods and beverages, for selected segments only. Please consult us.
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METAFOLIN[®] is a registered trademark of Merck KGaA, Darmstadt, Germany

Specialty emulsion for satiety



Fabuless[®] 42 Emulsion Lipid emulsion, 42% functional lipid emulsion	Kosher,	20 520 950	50 10896.340 50 10896.139 50 10896.124	For foods, beverages and dietary supplements.
Fabuless[®] DE Fine powder, 33% functional lipid content	Kosher, Halal	20	51 14000.341	For foods, beverages and dietary supplements.

High-purity genistein



geniVida[®] Crystalline powder, minimum 98.5% genistein	Kosher, Halal	1	50 11604.268	For dietary supplements.
		2	50 11604.304 (Origin: Switzerland)	
		1	50 14204.268	
		5	50 14204.304 (Origin: Austria)	
geniVida[®] TG Tablet grade	Kosher	1 5	50 11590.268 50 11590.304	For direct compression tablets and hard-shell capsules.

Product and description Cert. Pack size (KG) Product code Main application



Heart healthy tomato-based concentrate

Fruitflow® I Liquid (syrup), water soluble	Kosher	20 215	50 12724.202 50 12724.143	For foods and beverages.
Fruitflow® II SD Dry powder, water soluble	Halal	1 5 20	50 15118.268 50 15118.304 50 15118.340	For foods, beverages and dietary supplements.

Fruitflow® is a trademark used under licence by DSM.

Olive polyphenol preparation



elaVida® 40% Liquid, 40% hydroxytyrosol	Kosher, Halal	5	50 15334.304	For foods, beverages and dietary supplements.
elaVida® 15% Powder, 15% hydroxytyrosol	Kosher, Halal	5	50 15320.304	For foods, beverages and dietary supplements.

Dairy-based peptides



PeptoPro® Powder	Kosher, Halal	15	50 07143.201	Di- and tri-peptides for better sports performance. For powdered beverages and gels.
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Oat beta-glucan



OatWell® 14 Dry powder, oat bran with 13–15% beta-glucan	Kosher, Halal	18 600	50 15097.289 50 15097.426	For various food applications.
OatWell® 22 Dry powder, oat bran with 21–23% beta-glucan	Kosher, Halal	18 700	50 15099.289 50 15099.431	For various food applications.
OatWell® 28 Dry powder, oat bran with 27 – 29% beta-glucan	Kosher, Halal	18	50 15101.289	For various food applications.
OatWell® 14 XF Fine powder, oat bran with 13 – 15% beta-glucan	Kosher, Halal	18	50 15098.289	For various food applications.
OatWell® 22 XF Fine powder, oat bran with 21 – 23% beta-glucan	Kosher, Halal	18	50 15100.289	For various food applications.
OatWell® 28 XF Fine powder, oat bran with 27 – 29% beta-glucan	Kosher, Halal	18	50 15102.289	For various food applications.

High-purity trans-resveratrol



resVida® Crystalline powder, minimum 99% trans-resveratrol	Kosher, Halal	1 5 20	50 14395.268 50 14395.304 50 14395.344	For foods, beverages and dietary supplements.
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Digestive enzymes

Tolerase® L Tolerase® P Tolerase® G

Tolerase® L Acid lactase. Micro granulated powder, 100,000 ALU/g	Kosher, Halal	5	50 14549.304	For dietary supplements and foods.
Tolerase® P 20000G Phytase. Micro granulated powder, 20,000 FTU/g	Kosher, Halal	5	50 12783.304	For foods, beverages and dietary supplements.
Tolerase® G Prolylendopeptidase. Micro granulated powder, 580,000 PPI/g	Kosher, Halal	5	50 14883.304	For foods, beverages and dietary supplements.

Natural ingredients*

Category	Product	Description	Main application
Nutritional lipids	<i>life'sDHA</i> [™]	Vegetarian Omega-3 long chain polyunsaturated fatty acids**	For foods, beverages, and supplements.
	MEG-3 [™]	Omega-3 polyunsaturated fatty acids from fish oil	For foods, beverages, and supplements.
Carotenoids	CaroCare [®]	β-Carotene	For foods, beverages, and supplements.
	FloraGLO [®]	Lutein	For foods, beverages, and supplements.
	OPTISHARP [®] Natural (Zeaxanthin)	Zeaxanthin	For foods, beverages, and supplements.
Vitamins	Vitamin E	d-α-Tocopherols, d-α-Tocopheryl Acetate, mixed tocopherols	For foods, beverages, and supplements.
	Vitamin B2	Riboflavin	For foods, beverages, and supplements.
	Vitamin B12	Cyanocobalamin	For foods, beverages, and supplements.
Nutraceuticals	ALL-Q [®]	Coenzyme Q10	For foods, beverages, and supplements.
	Fabules [®]	Specialty emulsion for satiety	For foods and beverages.
	Fruitflow [®]	Tomato-based concentrate for enhanced blood flow	For foods, beverages, and supplements.
	PeptoPro [®]	Dairy-based peptide for improved sports performance	For foods and beverages.
	elaVida [™]	Olive polyphenol preparation	For foods, beverages, and supplements.
	OatWell [®]	Oat beta-glucan	For foods, beverages, and supplements.
	Tolerase [®] L	Acid lactase	For foods, beverages, and supplements.
	Tolerase [®] P	Phytase	For foods, beverages, and supplements.
Tolerase [®] G	Food enzyme preparation containing polyendopeptidase	For foods, beverages, and supplements.	

* While labeling regulations vary by country, DSM can support our customers' products being positioned as 'natural' with the above ingredients.

** *life'sDHA*[™] is naturally sourced.



Antioxidants for longer shelf life

fortitech
premixes
STRATEGIC NUTRITION

**GET A
CUSTOMIZED
SOLUTION**

to help extend shelf
life without
altering taste,
texture or
color.

Product and description	Cert.	Pack size (KG)	Product code	Main application
Natural Vitamin E SF Oil. α-Tocopherol from non-GM sun flower. Min. 900 IU Vitamin E/g. Min. 604 mg α-Tocopherol Equivalent/g	Kosher, Halal	18 190	50 15574.575 50 15574.422	For soft gelatin capsules. For fortification of oils and fat-based foods.
dl-α-Tocopherol 1100 IU Vitamin E/g. 738 mg α-Tocopherol Equivalent/g	Kosher, Halal	5 20	04 10276.294	As an antioxidant stabilizing oils and various foods. For soft gelatin capsules.
Mixed Tocopherols 95 Oily liquid. Min. 95% tocopherols	Kosher, Halal	20 190	50 02893.343 50 02893.422	As an antioxidant stabilizing oils and various foods. For soft gelatin capsules.
Mixed Tocopherols 70 IP Oily liquid. Non-GM source. Min. 70% tocopherols	Kosher, Halal	18 190	50 15573.575 50 15573.422	As an antioxidant stabilizing oils and various foods. For soft gelatin capsules.
Dry Mixed Tocopherols 30% Powder. Starch based. Min. 30% tocopherols	Kosher, Halal	20	50 00149.341	As an antioxidant stabilizing various foods.
Dry Mixed Tocopherols 30% IP Powder. Starch based. Non-GM source. Min. 30% tocopherols	Kosher, Halal	20	50 15721.341	As an antioxidant stabilizing various foods.
Ascorbic Acid	Kosher, Halal	25 25 500	04 08050.366 04 08050.368 04 08050.429	For dietary supplements. For foods and beverages including infant nutrition. As nutrient, dough conditioner, antioxidant or meat curing agent.
Sodium Ascorbate Crystalline	Kosher, Halal	25	04 08174.606	For dietary supplements. For foods and beverages, including infant nutrition. As nutrient, dough conditioner, antioxidant or meat curing agent.
Ascorbyl Palmitate	Kosher, Halal	5 25	04 18595.304 04 18595.368	As an antioxidant to stabilize oils and fat-based foods.
RONOXAN® A Ascorbyl Palmitate, dl-α-Tocopherol, Lecithin	Kosher, Halal	1	04 42534.270	As a technical antioxidant for vegetable oils, animal fats, and fat containing products such as sauces, salad dressings, mayonnaise and biscuits.
RONOXAN® Please contact your DSM representative to find out which synergistic RONOXAN® antioxidant blends can be used to protect your application.				

Additional information

Carotenoids

β-Carotene

ROLE: β-Carotene serves as an important source of vitamin A and is converted into vitamin A as the body needs it. The additional health promoting effects of β-Carotene may be due to its ability to act as an antioxidant when consumed at dietary intake levels.

FOOD SOURCES: Dark green leafy vegetables and dark yellow/orange fruits and vegetables.

Apocarotenal

ROLE: Apocarotenal may be used in some regions for its coloring properties, or for its vitamin A activity.

FOOD SOURCES: Citrus fruits and green vegetables such as oranges or spinach.

Lutein (FloraGLO®)

ROLE: In addition to zeaxanthin, lutein is the other major carotenoid found in the eye, specifically located in the macula. Lutein is a potent antioxidant and acts as a filter and shield against the damaging near-to-UV blue light from the sun. Higher dietary intake of foods rich in lutein and zeaxanthin has been associated with a reduced risk of macular degeneration and cataracts. Lutein cannot be synthesized by humans and must be taken from the diet. The recent findings of scientific studies point to a lutein role also for visual performance in healthy people.

FOOD SOURCES: Dark green leafy vegetables and other yellow/orange fruits and vegetables, such as cabbage (outside leaves), watercress, spinach, parsley, greens, peas, broccoli, lettuce and pepper.

Lycopene (redivio®)

ROLE: Lycopene is the carotenoid responsible for the red color in tomatoes and is the most abundant carotenoid in human serum. As a strong antioxidant, lycopene helps to protect our bodies from free radicals which can not only cause damage to body cells but also play a role in serious illnesses. Several epidemiological studies have associated lycopene with a reduced risk of prostate cancer and cardiovascular disease.

FOOD SOURCES: Tomato and a variety of red fruits and vegetables, such as watermelon, pink grapefruit and guava.

Zeaxanthin (OPTISHARP®)

ROLE: Zeaxanthin is in addition to lutein the only other major carotenoid specifically located in the macula of the eye. Zeaxanthin is the most potent antioxidant carotenoid found in the retina and acts as a filter and shield against the damaging near-to-UV blue light from the sun. Higher dietary intake of foods rich in lutein and zeaxanthin has been associated with a reduced risk of macular degeneration and cataracts. Zeaxanthin cannot be synthesized by humans and must be taken from the diet. The recent findings of scientific studies point to a zeaxanthin role also for visual performance in healthy people.

FOOD SOURCES: Dark green leafy vegetables and other yellow/orange fruits and peppers, persimmons, corn, spinach, turnip greens, collard greens, lettuce, kale, mandarin and tangerine.

Nutraceuticals and specialty products

Genistein (geniVida®)

ROLE: Genistein is an isoflavone found in soybeans, soy flour, soy milk, soy protein concentrate (water washed), soy protein isolates, that has the ability to bind selectively to the estrogen alpha and beta receptors and modulate gene expression. geniVida®/BONISTEIN® can aid in restoring the balance between the bone-building osteoblasts and the bone-dissolving osteoclasts and help to maintain healthy bone density in postmenopausal women. Genistein has also been clinically proven to reduce menopausal symptoms, including hot flashes.

FOOD SOURCES: Soybeans, soy flour, soy milk, soy protein concentrate (water washed), soy protein isolates, miso, tempeh, tofu and foods made with these ingredients.

Trans-resveratrol (resVida®)

ROLE: Resveratrol is a polyphenol produced by plants to protect them from environmental stress. It has antioxidant activity and is most known as the component in red wine that may confer heart health benefits in the French population despite a high fat intake, i.e. the French Paradox. Recent studies demonstrate resveratrol mimics the effect of caloric restriction, the only known intervention to extend lifespan in mammals. Accordingly, resveratrol has been shown not only to extend the lifespan of aged mice on a high fat diet, but also to preserve the health of aging mice through maintenance of cardiac function, muscle function and blood sugar control.

FOOD SOURCES: Wine, grapes, peanuts and berries.

Coenzyme Q10 (ALL-Q®)

ROLE: Coenzyme Q10 (CoQ10) is an antioxidant involved in energy metabolism in all cells in the body. Studies in individuals with cardiovascular disease, in particular those with heart failure and hypertension, report the most consistent improvement in symptoms when CoQ10 is taken as a supplement.

FOOD SOURCES: Beef, chicken, pork, herring, and trout; small amounts in some vegetables such as broccoli and cauliflower.

Emulsion of palm and oat oil (Fabules®)

ROLE: Fabules® is a patent-protected combination of palm and oat oil (both naturally occurring lipids) that is formulated in an emulsion. Its microstructure prevents early digestion and triggers an "appetite satisfied" signal to the brain, therefore helping people to manage their calorie intake. Fabules® can be incorporated in foods or marketed as a weight management supplement.

Dairy-based peptides (PeptoPro®)

ROLE: PeptoPro® is a highly hydrolyzed enzymatic digest of casein manufactured utilizing a proprietary mix of enzymes to provide a high quality source of peptides with excellent taste. High levels of di and tri peptides in combination with a low level of free amino acids provide PeptoPro® with excellent nutritional value, instant solubility and low levels of bitterness. Human studies have proven that PeptoPro® plays an important role in sports applications such as endurance, performance and muscle recovery. PeptoPro® qualifies as a superior protein source to cover daily needs of protein.

EU HEALTH CLAIMS:

Protein contributes to a growth in muscle mass.

Protein contributes to the maintenance of muscle mass.

FOOD SOURCES: Dairy, specialized hydrolysates.

Additional information

Water-soluble tomato concentrate (Fruitflow®)

ROLE: Fruitflow® is a water-soluble tomato-based extract. This breakthrough ingredient helps maintain normal platelet aggregation, which contributes to healthy blood flow. In human trials, consumption of Fruitflow® has been proven to reduce platelet aggregation in 97% of subjects. The acute effect takes place within 1.5 hours of consumption and lasts for 12 to 18 hours. When taken regularly on a once per day basis, the effect is continuous.

EU HEALTH CLAIM:

Article 13.5: *Fruitflow® helps maintain normal platelet aggregation, which contributes to healthy blood flow.*

FOOD SOURCES: Tomatoes.

Oat beta-glucan (OatWell®)

ROLE: Bioactive oat beta-glucan has been proven to reduce blood cholesterol levels, to reduce glycemic response and to promote gut health. The beta-glucans found in oats are soluble fibers that occur naturally in the grain. Oat beta-glucan (1–3 & 1–4 linked) constitutes the main component of the soluble dietary fiber content of oats. The process used to produce OatWell® oat bran specifically maintains the functional attributes of the beta-glucan, namely the development of viscosity in the gut.

EU HEALTH CLAIMS:

Article 14: *Oat beta-glucan lowers blood cholesterol levels. High cholesterol is a risk factor in the development of coronary heart disease.*

Oat beta-glucan reduces the glycemic response.

Oat beta-glucan and insoluble fibers from oats promote gut health via the improvement of bowel function.

US QUALIFIED HEALTH CLAIM:

21 CFR 101.81: *Soluble fiber from foods such as oat bran OatWell® beta-glucan, as part of a diet low in saturated fat and cholesterol, may reduce the risk of heart disease/ coronary heart disease.*

A serving of OatWell® beta-glucan supplies 0.75 g/ RACC of the necessary 3 g/ day of beta-glucan soluble fiber to have this effect.

FOOD SOURCES: Oat.

Proline specific protease (Tolerase® G)

ROLE: Tolerase® G is a micro granulated food enzyme preparation containing prolylendopeptidase. Some humans may lack enzymes which can fully digest proline-rich peptides, such as in gluten. Tolerase® G has been proven to degrade proline-rich gluten epitopes. It addresses the needs of consumers, who want to reduce their dietary gluten exposure.

Lactase (Tolerase® L)

ROLE: Tolerase® L is a micro granulated food enzyme preparation containing acid lactase. Lactase is needed to digest lactose, which is the main carbohydrate source of dairy products. Since many adults don't produce enough lactase, lactose is not properly digested in the small intestine but fermented by the microbial flora in the large intestine. The resulting byproducts cause diarrhea, abdominal cramps, flatulence and nausea. The use of lactase can prevent these unpleasant side-effects of consuming dairy products. Acid lactase works especially well at low pH making it particularly suitable to digest lactose in the stomach.

EU HEALTH CLAIM:

Lactase enzyme improves lactose digestion in individuals who have difficulty digesting lactose.

Phytase (Tolerase® P)

ROLE: Tolerase® P is a micro granulated food enzyme preparation containing phytase. Whole grains, legumes and nuts contain phytate. Phytate inhibits absorption of minerals such as iron, zinc and calcium. Phytase can break apart phytate and make these minerals bioavailable. This is especially important for people not regularly consuming meat. Phytase works especially well at low pH making it particularly suitable to digest phytate in the stomach.

Water-soluble vitamins

Vitamin B1 (Thiamine)

ROLE: Thiamine is required to help the body use its major source of energy, carbohydrates, to the fullest extent. Thiamine is also essential for proper muscle coordination, the maintenance of peripheral nerve tissue and for normal growth.

EU HEALTH CLAIMS:

Thiamine contributes to normal energy-yielding metabolism.

Thiamine contributes to normal functioning of the nervous system.

Thiamine contributes to normal psychological function.

Thiamine contributes to the normal function of the heart.

FOOD SOURCES: Cereals, whole grains, pork, beef, lamb and poultry.

Vitamin B2 (Riboflavin)

ROLE: Riboflavin is important in helping the body transform proteins, fats and carbohydrates into energy. It helps maintain healthy skin and eyes and is also necessary for building and maintaining body tissues.

EU HEALTH CLAIMS:

Riboflavin contributes to normal energy-yielding metabolism.

Riboflavin contributes to normal functioning of the nervous system.

Riboflavin contributes to the maintenance of normal mucous membranes.

Riboflavin contributes to the maintenance of normal red blood cells.

Riboflavin contributes to the maintenance of normal skin.

Riboflavin contributes to the maintenance of normal vision.

Riboflavin contributes to the normal metabolism of iron.

Riboflavin contributes to the protection of cells from oxidative stress.

Riboflavin contributes to the reduction of tiredness and fatigue.

FOOD SOURCES: Milk, green vegetables, meat, fish, whole grains, cheese and eggs.

Vitamin B3 (Niacin, Niacinamide)

ROLE: Niacin and niacinamide are essential for fat synthesis, protein metabolism and the conversion of food to energy.

EU HEALTH CLAIMS:

Niacin contributes to normal energy-yielding metabolism.

Niacin contributes to normal functioning of the nervous system.

Niacin contributes to normal psychological function.

Niacin contributes to the maintenance of normal mucous membranes.

Niacin contributes to the maintenance of normal skin.

Niacin contributes to the reduction of tiredness and fatigue.

FOOD SOURCES: Meat, fish, whole grains and wheat.

Vitamin B5 (Panthenol, Pantothenates)

ROLE: Pantothenic acid is essential for the formation of certain nerve-regulating substances and hormones. It is also required for metabolism of proteins, fats and carbohydrates.

EU HEALTH CLAIMS:

Pantothenic acid contributes to normal energy-yielding metabolism.

Pantothenic acid contributes to normal synthesis and metabolism of steroid hormones, vitamin D and some neurotransmitters.

Pantothenic acid contributes to the reduction of tiredness and fatigue.

Pantothenic acid contributes to normal mental performance.

FOOD SOURCES: Yeast, liver, kidney, eggs, peanut products, rice bran and wheat bran.

Vitamin B6 (Pyridoxine)

ROLE: Pyridoxine is necessary for energy metabolism, the formation of certain proteins and the use of amino acids. It also helps the nervous system to function properly and is essential to a healthy immune system. Vitamin B6, along with folate and vitamin B12, is essential to heart health.

EU HEALTH CLAIMS:

Vitamin B6 contributes to normal cysteine synthesis.

Vitamin B6 contributes to normal energy-yielding metabolism.

Vitamin B6 contributes to normal functioning of the nervous system.

Vitamin B6 contributes to normal homocysteine metabolism.

Vitamin B6 contributes to normal protein and glycogen metabolism.

Vitamin B6 contributes to normal psychological function.

Vitamin B6 contributes to normal red blood cell formation.

Vitamin B6 contributes to the normal function of the immune system.

Vitamin B6 contributes to the reduction of tiredness and fatigue.

Vitamin B6 contributes to the regulation of hormonal activity.

FOOD SOURCES: Liver, salmon, walnuts, peanuts, wheat germ, bananas, grapes, carrots, peas, potatoes, beef, lamb and pork.

Vitamin B12 (Cyanocobalamin)

ROLE: Along with folate, Vitamin B12 is necessary for the formation of DNA and the production of healthy red blood cells. It also helps maintain the nervous system and is essential to maintaining mental function. The lack of Vitamin B12 in the body causes pernicious anemia. Vitamin B12, along with B6 and folate, is essential to heart health.

EU HEALTH CLAIMS:

Vitamin B12 contributes to normal energy-yielding metabolism.

Vitamin B12 contributes to normal functioning of the nervous system.

Vitamin B12 contributes to normal homocysteine metabolism.

Vitamin B12 contributes to normal psychological function.

Vitamin B12 contributes to normal red blood cell formation.

Vitamin B12 contributes to the reduction of tiredness and fatigue.

Vitamin B12 has a role in the process of cell division.

Vitamin B12 contributes to the normal function of the immune system.

FOOD SOURCES: Kidney, liver, shellfish, sardines, salmon, herring and egg yolks.

Vitamin B9 (Folates)

ROLE: Folate is required for the formation of red blood cells, certain body proteins and genetic materials for the cell nucleus. It also helps to prevent macrocytic anemia, a disease in which the blood cells grow larger than normal and have a shorter lifespan. Pregnant women and those anticipating pregnancy should increase their consumption of folic acid to 400 mcg to prevent birth defects such as neural tube defects and spina bifida. Emerging science suggests it may play an important role in reducing risk of cardiovascular disease, dementia and certain cancers.

EU HEALTH CLAIMS:

Folate contributes to maternal tissue growth during pregnancy.

Folate contributes to normal amino acid synthesis.

Folate contributes to normal blood formation.

Folate contributes to normal homocysteine metabolism.

Folate contributes to normal psychological function.

Folate contributes to the normal function of the immune system.

Folate contributes to the reduction of tiredness and fatigue.

Folate has a role in the process of cell division.

Supplemental folic acid intake increases maternal folate status.

Low maternal folate status is a risk factor in the development of neural tube defects in the developing foetus.

FOOD SOURCES: Liver, beans, peanuts, almonds, green leafy vegetables, orange juice, strawberries, cantaloupes, whole wheat breads and cereals.

Vitamin B7 (Biotin, Vitamin B8, Vitamin H)

ROLE: Biotin is necessary for synthesizing fatty acids and breaking down protein and carbohydrate molecules. It also helps in the maintenance of the thyroid and adrenal glands, nervous system, reproductive tracts and skin.

EU HEALTH CLAIMS:

Biotin contributes to normal energy-yielding metabolism.

Biotin contributes to normal functioning of the nervous system.

Biotin contributes to normal macronutrient metabolism.

Biotin contributes to normal psychological function.

Biotin contributes to the maintenance of normal hair.

Biotin contributes to the maintenance of normal mucous membranes.

Biotin contributes to the maintenance of normal skin.

FOOD SOURCES: Yeast, liver, kidney and eggs.

Vitamin C (Ascorbates)

ROLE: Vitamin C aids the body in the production of collagen, a substance that provides support to muscles, vascular tissues, bones and cartilage. Vitamin C aids in the absorption of iron and also contributes to the health of teeth and gums. It is one of the most important water soluble antioxidants in the body. Vitamin C is considered to enhance the immune response and play a protective role against cardiovascular disease, cataracts and certain types of cancer.

Additional information

EU HEALTH CLAIMS:

Vitamin C contributes to maintain the normal function of the immune system during and after intense physical exercise.

Vitamin C contributes to normal collagen formation for the normal function of blood vessels.

Vitamin C contributes to normal collagen formation for the normal function of bones.

Vitamin C contributes to normal collagen formation for the normal function of cartilage.

Vitamin C contributes to normal collagen formation for the normal function of gums.

Vitamin C contributes to normal collagen formation for the normal function of skin.

Vitamin C contributes to normal collagen formation for the normal function of teeth.

Vitamin C contributes to normal energy-yielding metabolism.

Vitamin C contributes to normal functioning of the nervous system.

Vitamin C contributes to normal psychological function.

Vitamin C contributes to the normal function of the immune system.

Vitamin C contributes to the protection of cells from oxidative stress.

Vitamin C contributes to the reduction of tiredness and fatigue.

Vitamin C contributes to the regeneration of the reduced form of vitamin E.

Vitamin C increases iron absorption.

FOOD SOURCES: Citrus fruits, potatoes, broccoli, sweet peppers, kale, cabbage, cauliflower, tomatoes, strawberries and acerola.

Fat-soluble vitamins

Vitamin A (Retinol)

ROLE: Vitamin A is necessary for vision, growth and tissue differentiation. It helps protect the cell membrane structure and is important for keeping the skin, eyes, and inner linings of the body healthy and resistant to infection. Vitamin A is also needed for the maintenance and growth of teeth, nails, hair, bones and glands.

EU HEALTH CLAIMS:

Vitamin A contributes to normal iron metabolism.

Vitamin A contributes to the maintenance of normal mucous membranes.

Vitamin A contributes to the maintenance of normal skin.

Vitamin A contributes to the maintenance of normal vision.

Vitamin A contributes to the normal function of the immune system.

Vitamin A has a role in the process of cell specialisation.

FOOD SOURCES: Liver, kidney, eggs, milk, butter, margarine, fish and fish liver oil.

Vitamin D₃ (Cholecalciferol)

ROLE: Vitamin D₃ helps the body maintain and utilize the calcium and phosphorus needed to build strong bones and teeth. A deficiency of vitamin D₃ can result in rickets, a disease in which the bones become bent or twisted. It helps calcium to reduce the risk of osteoporosis. Vitamin D₃ contributes to the normal function of the immune system and healthy inflammatory response and to the maintenance of normal muscle function.

EU HEALTH CLAIMS:

Vitamin D contributes to normal absorption/utilisation of calcium and phosphorus.

Vitamin D contributes to normal blood calcium levels.

Vitamin D contributes to the maintenance of normal bones.

Vitamin D contributes to the maintenance of normal muscle function.

Vitamin D contributes to the maintenance of normal teeth.

Vitamin D contributes to the normal function of the immune system.

Vitamin D has a role in the process of cell division.

Vitamin D is needed for normal growth and development of bone in children.

Calcium and vitamin D help to reduce the loss of bone mineral in post-menopausal women. Low bone mineral density is a risk factor for osteoporotic bone fractures.

Vitamin D helps to reduce the risk of falling associated with postural instability and muscle weakness. Falling is a risk factor for bone fractures among men and women 60 years of age and older.

(Article 14 claim, pending authorisation from the Commission, at the time of printing)

FOOD SOURCES: Liver, fortified milk, margarine, fish liver oil and other fatty substances. A precursor in the skin is converted to vitamin D₃ by sunlight.

Vitamin E (Tocopherols)

ROLE: Vitamin E helps protect cell membranes. It also helps maintain the immune system, prolong the life of red blood cells, maintain a healthy circulatory system and facilitate the body's full utilization of vitamin A. Vitamin E is found in all body tissues and is important for their health and proper functioning. Vitamin E is an antioxidant and is considered to play a role in neutralizing free radicals. These highly reactive molecules are found in the body as a result of normal body processes and from external factors such as environmental pollution. Oxidative damage caused by these reactive molecules is considered to contribute to aging and age-related chronic diseases such as cataracts, heart disease and cancer.

EU HEALTH CLAIM:

Vitamin E contributes to the protection of cells from oxidative stress.

FOOD SOURCES: Nuts, seeds, oil, fruits and vegetables.

Vitamin K₁ (Phylloquinone)

ROLE: Vitamin K₁ is essential for the clotting of blood. In a healthy person, bacteria in the intestine normally provide a substantial amount of this vitamin. A deficiency may occur in newborns and in people consuming antibacterial agents over a long period. These people are frequently given vitamin K₁ under a doctor's care. Vitamin K₁ may help maintain bone health.

EU HEALTH CLAIMS:

Vitamin K contributes to normal blood clotting.

Vitamin K contributes to the maintenance of normal bones.

FOOD SOURCES: Green leafy vegetables, liver and soy beans, egg yolks, wheat, oats, potatoes, asparagus, butter and cheese.

Nutritional lipids

life'sDHA™ (omega-3 oils)

ROLE: DHA, an omega-3 fatty acid, is a major structural fat in the brain and eyes. It accounts for up to 97 percent of the omega-3 fats in the brain and up to 93 percent of the omega-3 fats in the eye. A growing body of research continues to support the important role that DHA plays for both mother and baby. DHA is important for optimal infant brain, eye and nervous system development, and has been shown to support healthy pregnancy.

EU HEALTH CLAIMS:

DHA contributes to maintenance of normal brain function.
DHA contributes to the maintenance of normal blood triglyceride levels.
DHA contributes to the maintenance of normal vision.
DHA intake contributes to the normal visual development of infants up to 12 months of age.
DHA maternal intake contributes to the normal brain development of the foetus and breastfed infants.
DHA maternal intake contributes to the normal development of the eye of the foetus and breastfed infants.

US QUALIFIED HEALTH CLAIMS:

Supportive but not conclusive research shows that consumption of EPA and DHA omega-3 fatty acids may reduce the risk of coronary heart disease. One serving of [Name of the food] provides [] gram of EPA and DHA omega-3 fatty acids [See nutrition information for total fat, saturated fat, and cholesterol content].

Note: Dietary supplements may declare the amount of EPA and DHA per serving in "Supplement Facts", instead of making the declaration in the claim.

FOOD SOURCES: The primary dietary source of DHA is fatty fish. Dietary sources for infants include breast milk and DHA/ARA-fortified infant formula. Unfortunately, women of childbearing age who consume a typical Western diet are at risk for low stores of DHA.

life'sOMEGA™ (omega-3 oils)

ROLE: These oils produced from microalgae contain eicosapentaenoic acid (EPA) and docosahexaenoic acid (DHA). Recent research has shown these compounds to have triglyceride lowering activity, which may be helpful in reducing the risk of cardiovascular diseases.

EU HEALTH CLAIMS:

DHA and EPA contribute to the maintenance of normal blood pressure.
DHA and EPA contribute to the maintenance of normal blood triglyceride levels.
EPA and DHA contribute to the normal function of the heart.

US QUALIFIED HEALTH CLAIMS:

Supportive but not conclusive research shows that consumption of EPA and DHA omega-3 fatty acids may reduce the risk of coronary heart disease. One serving of [Name of the food] provides [] gram of EPA and DHA omega-3 fatty acids [See nutrition information for total fat, saturated fat, and cholesterol content].

Note: Dietary supplements may declare the amount of EPA and DHA per serving in "Supplement Facts", instead of making the declaration in the claim.

FOOD SOURCES: Fish (anchovy, sardines, mackerel, herring, tuna) and dietary supplements. Canadian data suggest 0.56 gm/100 kcal or at least 0.5% of energy.

life'sGLA™ (omega-6 oils)

ROLE: Rich source of gamma linolenic acid (GLA). As suggested in recent research, GLA may be helpful in suppressing or reducing inflammation in atopic eczema and psoriasis. Involved in the restoration of the natural moisture barrier of the skin.

FOOD SOURCES: Plants (Evening Primrose and Borage) and dietary supplements. Canadian data suggest 3.3 g/100 kcal or at least 3% of energy.

life'sARA™ (omega-6 oils)

ROLE: ARA (arachidonic acid), a long-chain omega-6 fatty acid, is the principal omega-6 in the brain and is abundant in other cells throughout the body. It is also a precursor to a group of hormone-like substances called eicosanoids that play a role in immunity, blood clotting, and other vital functions in the body. Like DHA, ARA occurs naturally in breast milk and is important to infant development.

FOOD SOURCES: Dietary sources for infants include breast milk and DHA/ARA-fortified infant formula. Most women receive adequate amounts of ARA by eating foods that are plentiful in the Western diet, such as meat, eggs and milk.

MEG-3™

ROLE: Contain eicosapentaenoic acid (EPA) and docosahexaenoic acid (DHA). Recent research has shown these compounds to have triglyceride lowering activity, which may be helpful in reducing the risk of cardiovascular diseases. Depending on the EPA/DHA ratio, various health claims may apply.

EU HEALTH CLAIMS:

DHA and EPA contribute to the maintenance of normal blood pressure.
DHA and EPA contribute to the maintenance of normal blood triglyceride levels.
DHA contributes to maintenance of normal brain function.
DHA contributes to the maintenance of normal blood triglyceride levels.
DHA contributes to the maintenance of normal vision.
EPA and DHA contribute to the normal function of the heart.
DHA intake contributes to the normal visual development of infants up to 12 months of age.

DHA maternal intake contributes to the normal brain development of the foetus and breastfed infants.

DHA maternal intake contributes to the normal development of the eye of the foetus and breastfed infants.

US QUALIFIED HEALTH CLAIMS:

Supportive but not conclusive research shows that consumption of EPA and DHA omega-3 fatty acids may reduce the risk of coronary heart disease. One serving of [Name of the food] provides [] gram of EPA and DHA omega-3 fatty acids [See nutrition information for total fat, saturated fat, and cholesterol content].

Note: Dietary supplements may declare the amount of EPA and DHA per serving in "Supplement Facts", instead of making the declaration in the claim.

FOOD SOURCES: Fish (anchovy, sardines, mackerel, herring, tuna) and dietary supplements. Canadian data suggest 0.56 gm/100 kcal or at least 0.5% of energy.

Labeling and compendia / certification

Labeling

In general, vitamins, carotenoids and other nutraceuticals are relatively sensitive products, and the storage stability is influenced by many factors. For this reason, indications of the relevant storage conditions are given on the labels of most of the products.

CEP: The role of the Certificate of Suitability (CEP) is to demonstrate that the purity of a given substance produced by a specific manufacturer is suitably controlled and in compliance with the relevant monograph(s) of the European Pharmacopeia. It is granted by the European Directorate for the Quality of Medicines (EDQM).

CEPs have been granted for the following products:

β-Carotene (Pro-Vitamin A)
dl-α-Tocopheryl acetate (Vitamin E)
d-α-Tocopheryl acetate (Natural Source Vitamin E)
Ascorbic acid (Vitamin C)
Ascorbyl palmitate (Vitamin C palmitate)
Biotin (Vitamin H, Vitamin B7)
Calcium ascorbate (Vitamin C)
Calcium D-Pantothenate (Calpan/Vitamin B5)
Cholecalciferol (Vitamin D3)
Cyanocobalamin (Vitamin B12)
Dexpanthenol (Panthenol, Vitamin B5)
Folic acid (Vitamin B9)
Niacinamide (Vitamin B3)
Phytomenadione (Vitamin K1)
Pyridoxine hydrochloride (Vitamin B6)
Riboflavin Fermentation process (Vitamin B2)
Riboflavin sodium phosphate (Vitamin B2)
Sodium ascorbate (Vitamin C)
Thiamine hydrochloride (Vitamin B1)
Thiamine mononitrate (Vitamin B1)
Vitamin A palmitate (Vitamin A)
Vitamin A acetate (Vitamin A)

FDA: Drug Master Files (DMF) have been filed for the following products:

Dextromethorphan hydrobromide
Vitamin D3 Cryst
BONISTEIN® (Genistein)

Compendia/Certification

Our material complies, when stated in the Product Data Sheet, with the appropriate monographs of the below mentioned compendia. It is the responsibility of the manufacturing company to ensure that the final product is manufactured according to current local regulations and standards.

Kosher and Halal certification

The following certifications are considered:

OU Kosher Kashruth Division of the Orthodox Union (Union of Orthodox Jewish Congregation of America). Products certified as:

- *Kosher Pareve/Parve or*
- *Kosher Pareve/Parve Kosher for Passover or*
- *Kosher Pareve/Parve and Kosher Fish or*
- *Kosher Dairy.*

BK Products certified by Basdatz Kashruth Basle, as:

- *Kosher for Passover, Pareve/Parve or*
- *Kosher for Passover – Kitniot or*
- *Kosher Pareve/Parve, Not for Passover use*

Kosher Star-K Certification (USA)

Halal-Ifanca – The Islamic Food and Nutrition Council of America

Halal-HFCE – Halal Food Council Europe

Halal- MUI – Majelis Ulama Indonesia

Information concerning Kosher and Halal certification is available on request.

Specific Product Information

Product Data Sheets and Safety Data Sheets are available for all products listed in this catalogue. They contain information on specification, composition, stability and storage conditions.

Some of the listed products are used either as vitamins (nutrients) or as food additives for technological purposes; some of them serve both purposes, and are authorized in most countries. However, there are local regulations according to which their use may be restricted. It is therefore advisable to consult the corresponding regulation.

For further information on our products (local availability and prices), please contact the DSM Nutritional Products' office nearest to you or one of the addresses listed on the back cover.

RSPO certification

DSM made a commitment in 2013 to source all palm oil and palm oil derivatives in a sustainable manner by either using GreenPalm certificates under "Book & Claim" scheme or Mass Balance certification.

DSM and responsibility



DSM in partnership with the World Food Programme

In March 2007 DSM announced an official partnership with the United Nation's World Food Programme (WFP). WFP is the largest provider of food aid to the world's hungry. They feed and nourish an average of 90 million people in over 80 countries each year.

The WFP – DSM partnership program, 'Improving Nutrition. Improving Lives' is a commitment to fight hunger and malnutrition around the world. DSM provides technical and scientific expertise and high nutrient products as well as financial assistance to improve the WFP food basket through the addition of essential micronutrients. Together, DSM and WFP make a difference to millions of people. Improving nutrition means fighting 'hidden hunger', improving lives, breaking the vicious circle of poverty and hunger. This is a major contribution to unleashing potential in countries and their economies.

For more information, please visit www.wfp.org



Sight and Life™

Building bridges for better nutrition

Sight and Life™ is a humanitarian nutrition think tank of DSM. We believe that the right mix of funding, knowledge, technology and policy will lead to better health for the world's most vulnerable populations, and we use advocacy and leadership to address societal changes affecting dietary quality. We disseminate information that reflects evolving scientific evidence, aiming to promote partnerships that can solve pressing problems. We believe that the scourge of malnutrition should be addressed in an integrated and holistic manner.

For more information, please visit www.sightandlife.org

Nutrition Improvement Program

Nutrition Improvement Program

Unlocking human potential

Adequate nutrition is a fundamental human right. DSM's Nutrition Improvement Program is a dedicated team and program that drives for the improvement in the nutritional status of populations in developing countries. The mission of DSM's Nutrition Improvement Program business is to positively impact public health by developing and implementing effective nutrition solutions and leveraging our expertise and partnerships to reach and serve the 4 billion people at the base of the pyramid.

For more information please visit www.nutritionimprovement.com



Dow Jones Sustainability World Index

DSM has been named among the worldwide sustainability leaders in the Materials industry group in the Dow Jones Sustainability World Index. DSM has consistently been recognized for integrating sustainability into its business, having been ranked among the very top leaders in the sector five times and held the worldwide sustainability leader position in the Materials industry group six times since 2004.

Contact us

To find out more about our ingredients, please visit www.dsm.com/human-nutrition or contact your nearest DSM Nutritional Products office.

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Quality for Life™ means **sustainability**. It symbolizes our commitment to our environment, consumers, our business partners, our people and the regulatory framework that governs our operations.

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