

# Together elevating health

HNC 2026 product brochure



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# Fat-soluble vitamins

- > Vitamin A
- > Vitamin D
- > Vitamin E
- > Vitamin K

## Quali®-A / Vitamin A (Retinol) – liquid\*

Product and Description	Certifications		Pack size (kg)	Product code	Form		Specific application					
	Kosher	Halal			Liquid	Powder	Dietary Supplements	Foods & Beverages	Early Life Nutrition	Medical Nutrition	Nutrition Improvement	Vegetarian
<b>Vitamin A Acetate 1.5 MIU/g</b> Stabilized with tocopherol. Oily solution, based on peanut oil. Contains min 1,500,000 IU Vit. A/g, min. 516 mg/g of Vit. A Acetate equivalent to 450 mg/g of retinol.	●	●	5	04 1884 6.294	●		●	●			●	●
<b>Vitamin A Palmitate 1.0 MIU/g</b> Stabilized with tocopherol. Oily solution, based on peanut oil. Contains min 1,000,000 IU Vit. A/g, min. 550 mg/g of Vit. A Palmitate equivalent to 300 mg/g of retinol.	●	●	5	04 3140 0.294	●		●	●			●	●
<b>Vitamin A Palmitate/M 1.0 MIU/g</b> Stabilized with tocopherol. Oily solution, based on medium chain triglycerides. Contains min 1,000,000 IU Vit. A/g, min. 550 mg/g of Vit. A Palmitate equivalent to 300 mg/g of retinol.	●	●	5	50 0853 0.294	●		●	●			●	●
<b>Vitamin A Palmitate 1.0 MIU/g</b> Stabilized with BHA/BHT. Oily solution, based on peanut oil. Contains min 1,000,000 IU Vit. A/g, min. 550 mg/g of Vit. A Palmitate equivalent to 300 mg/g of retinol.	●	●	5	04 2060 3.294	●		●	●			●	●
<b>Vitamin A Palmitate 1.7 MIU/g</b> Stabilized with BHA/BHT. Oily liquid. Contains min 1,700,000 IU Vit. A palmitate/g, min. 934 mg/g of Vit. A Palmitate equivalent to 510 mg/g of retinol.	●	●	5 20	04 2401 3.294 04 2401 3.336	●		●	●			●	●
<b>Vitamin A Palmitate 1.7 MIU/g</b> Stabilized with tocopherol. Oily liquid. Contains min 1,700,000 IU Vit. A/g, min. 934 mg/g of Vit. A Palmitate equivalent to 510 mg/g of retinol.	●	●	5 20	04 1857 9.294 04 1857 9.336	●		●	●	●	●	●	●
<b>Vitamin A Palmitate 1.7 MIU/g</b> Without stabilizers. Oily liquid. Contains min 1,700,000 IU Vit. A/g, min. 934 mg/g of Vit. A Palmitate equivalent to 510 mg/g of retinol.	●	●	5 190 20	04 2400 5.294 04 2400 5.336 04 2400 5.420	●		●	●	●		●	●
<b>Vitamin A Palmitate 1.0 MIU/g and Vitamin D3 100,000 IU/g</b> Stabilized with tocopherol. Oily solution (corn oil). Contains min 1,000,000 IU Vit. A and 100,000 IU Vit. D3/g, min. 550 mg/g of Vit. A Palmitate equivalent to 300 mg/g of retinol and 2500 mg Vit. D3.	●	●	5	50 1155 8.294	●		●	●			●	●
<b>Vitamin A Water-miscible Type 100</b> Stabilized with BHA/BHT. Contains min 1,000,000 IU Vit. A/g, min. 550 mg/g of Vit. A Palmitate equivalent to 300 mg/g of retinol.		●	6 L	04 2131 6.126	●		●					●
<b>Vitamin A + D3 Water-miscible Type 100/20</b> Stabilized with BHA/BHT. 0.5 mg cholecalciferol/g and 30 mg retinol/g.		●	6 L	50 1156 6.126	●		●					●

\*US FDA 2019 label: 1IU vitamin A = 0.3 mcg retinol activity equivalents (RAE).

## Quali®-A / Vitamin A (Retinol) – powder\*

Product and Description	Certifications		Pack size (kg)	Product code	Form		Specific application					
	Kosher	Halal			Liquid	Powder	Dietary Supplements	Foods & Beverages	Early Life Nutrition	Medical Nutrition	Nutrition Improvement	Vegetarian
<b>Dry Vitamin A Acetate 500 AF</b> Beadlet**, tablet grade. Based on starch. Without antioxidants. Contains min 500,000 IU Vit. A/g, min. 172 mg/g of Vit. A Acetate equivalent to 150 mg/g of retinol.	●	●	5 20	50 1614 4.609 50 1614 4.641		●	●					●
<b>Dry Vitamin A Acetate 500 B</b> Stabilized with BHT. Beadlet**, tablet grade. Based on bovine gelatin. Contains min 500,000 IU Vit. A/g, min. 172 mg/g of Vit. A Acetate equivalent to 150 mg/g of retinol.			5 20	50 1227 9.609 50 1227 9.641		●	●	●				●
<b>Dry Vitamin A Acetate 325 CWS/A</b> Stabilized with tocopherol. Beadlet, Beadlet**, cold water dispersible. Based on gum acacia. Contains min 325,000 IU Vit. A/g, min. 112 mg/g of Vit. A Acetate equivalent to 97.5 mg/g of retinol.	●	●	5 20	50 1033 0.304 50 1033 0.341 (Origin: Switzerland)		●	●	●	●	●		●
<b>Dry Vitamin A Palmitate NI</b> Stabilized with alpha tocopherol and sodium ascorbate. Contains min 250,000 IU Vit. A/g, min. 137.5 mg/g of Vit. A Palmitate equivalent to 75 mg/g of retinol.	●	●	20	50 1818 9.341		●		●				●
<b>Dry Vit A Palmitate 250 N</b> Stabilized with mixed tocopherols. Contains min 250,000 IU Vit. A/g, min. 137.5 mg/g of Vit. A Palmitate equivalent to 75 mg/g of retinol.	●	●	20	50 1822 2.341		●		●	●			●
<b>Dry Vitamin A Palmitate, Type 250 CWS</b> Stabilized with BHA, BHT Beadlet**, cold water dispersible. Contains min. 250,000 IU Vit. A/g, min. 86 mg/g of Vit. A Palmitate equivalent to 75 mg/g of retinol.			25	04 2993 7.368		●						●
<b>Dry Vitamin A Palmitate, Type 250 CWS/F</b> Stabilized with tocopherol. Beadlet**, cold water dispersible. Based on fish gelatin. Contains min 250,000 IU Vit. A/g, min. 137.5 mg/g of Vit. A Palmitate equivalent to 75 mg/g of retinol.	●	●	25	04 2187 1.368		●	●	●				●
<b>Dry Vitamin A Palmitate 250 S/N</b> Stabilized with BHT. Powder, spray dried. Starch based. Contains min 250,000 IU Vit. A/g, min. 137 mg/g of Vit. A Palmitate equivalent to 75 mg/g of retinol.	●	●	20	50 1255 4.341 (Origin: France)		●	●	●		●		●
<b>Dry Vitamin A Palmitate 250 S/N-B</b> Stabilized with BHT and sodium ascorbate. Beadlet**, cold water dispersible. Starch based. Contains min 250 000 IU Vit. A/g, min. 137 mg/g of Vit. A Palmitate equivalent to 75 mg/g of retinol.	●	●	5 25	50 0381 4.304 50 0381 4.606		●	●	●				●

\*US FDA 2019 label: 1IU vitamin A = 0.3 mcg retinol activity equivalents (RAE); \*\*Product formulations which utilise Actilease® beadlet technology. Actilease® combines easy handling, bioavailability, and stability of the active.

## Additional information | Vitamin A (Retinol)

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### **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 responsible for hair health and the maintenance and growth of glands.

### **Food sources:**

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

### **Health benefits & solutions:**

Improve your gut health, Optimize your immunity, Upgrade your vision, Essentials for early life, Essentials for healthy aging, Essentials for kids & teens, Essentials for life, Essentials for women, Essentials for vegetarians & vegans, Nourish your beauty.

### **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.*

## Quali®-D / Vitamin D3 (Cholecalciferol) – liquid\*

Product and Description	Certifications		Pack size (kg)	Product code	Form		Specific application					
	Kosher	Halal			Liquid	Powder	Dietary Supplements	Foods & Beverages	Early Life Nutrition	Medical Nutrition	Nutrition Improvement	Vegetarian
<b>Vitamin D3 1.0 MIU/g</b> Stabilized with tocopherol. Oily solution (medium chain triglycerides). Contains 0.90-1.10 MIU Vit. D3/g, 22.5-27.5 mg/g.	●	●	5	50 1157 4.294	●		●	●	●		●	(●)

\*US FDA 2019 label: 1 IU vitamin D = 0.025 mcg vitamin D.

## Quali®-D / Vitamin D3 (Cholecalciferol) – powder\*

<b>Vitamin D3 Crystalline</b> 40,000,000 IU Vit. D3/g, 1,000,000 µg cholecalciferol/g.	●	●	250 g	50 0927 8.258 (Origin: France)		●	●	●			●	(●)
			250 g	50 1629 9.258 (Origin: Switzerland)		●	●	●				
<b>Dry Vitamin D3, Type 100 CWS</b> Stabilized with tocopherol. Beadlet**, cold water dispersible. 100,000 IU Vit. D3/g. Contains min 100,000 IU Vit. D/g, min. 2.5 mg/g.		●	5	50 1201 5.304		●	●	●				
			25	50 1201 5.368								
<b>Dry Vitamin D3 100 CWS/AM</b> Stabilized with tocopherol. Beadlet**, Based on gum acacia. Contains min 100,000 IU Vit. D3/g, min. 2.5 mg/g.	●	●	25	50 1147 7.368		●	●	●	●			(●)
<b>Dry Vitamin D3 100 N</b> Stabilized with tocopherol. Spray dried. Starch based. Contains min 100,000 IU Vit. D3/g, min. 2.5 mg/g. Does not contain a flow agent, e.g. silicon dioxide.	●	●	20	50 1637 1.341		●	●	●	●	●		
<b>Dry Vitamin D3 100 SD/S</b> Stabilized with tocopherol. Spray dried, cold water dispersible. Starch based/allergen free. Contains min 100,000 IU Vit. D3/g, min. 2.5 mg/g.	●	●	5	50 1095 0.304		●	●	●	●	●	●	(●)
			20	50 1095 0.341								
<b>Dry Vitamin D3 100 SD/S</b> Stabilized with tocopherol. Spray dried, cold water dispersible. Starch based/allergen free. Contains min 100,000 IU Vit. D3/g, min. 2.5 mg/g.	●	●	20	50 1640 6.341		●	●	●	●	●	●	(●)

\*US FDA 2019 label: 1 IU vitamin D = 0.025 mcg vitamin D. (.) Regional differences. \*\*Product formulations which utilise Actilease® beadlet technology. Actilease® combines easy handling, bioavailability, and stability of the active.

## Additional information | Vitamin D3 (Cholecalciferol)

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### **Role:**

Vitamin D3 helps the body maintain and utilize the calcium and phosphorus needed to build strong bones and teeth. A deficiency of Vitamin D 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.

### **Food sources:**

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

### **Health benefits & solutions:**

Enhance your mobility, Guard your heart, Optimize your immunity, Essentials for early life, Essentials for healthy aging, Essentials for kids & teens, Essentials for life, Essentials for women, Essentials for vegetarians, Nourish your beauty, Power your performance.

### **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.”*

## Quali®-E / Vitamin E (dl-α-Tocopherol, dl-α-Tocopheryl Acetate) – liquid\*

Product and Description	Certifications		Pack size (kg)	Product code	Form		Specific application					
	Kosher	Halal			Liquid	Powder	Dietary Supplements	Foods & Beverages	Early Life Nutrition	Medical Nutrition	Nutrition Improvement	Vegetarian
<b>dl-α-Tocopherol</b> Content of all-rac-α-tocopherol: 97.0–102.0%.	●	●	5	04 1027 6.294	●		●	●	●	●		●
			20	04 1027 6.336								
			50	04 1027 6.396								
<b>dl-α-Tocopheryl Acetate</b> Content of all-rac-α-tocopheryl acetate: 96.0–102% (USP) / 96.5–102% (Ph. Eur.).	●	●	5	04 2008 5.301	●		●	●	●	●		●
			20	04 2008 5.331								
			190	04 2008 5.422								
			900	04 2008 5.476								

\*1 mg dl α-tocopherol acetate = 1 IU = 0.67 mg α-tocopherol equivalent (FAO/WHO) = 0.45 mg vitamin E as d α-tocopherol (US FDA); 1 mg dl α-tocopherol = 1.1 IU = 0.74 mg α-tocopherol equivalent (FAO/WHO) = 0.5 mg vitamin E as d α-tocopherol (US FDA); 1 mg d α-tocopherol acetate = 1.36 IU = 0.91 mg α-tocopherol equivalent (FAO/WHO) = 0.91 mg vitamin E as d α-tocopherol (US FDA); 1 mg d α-tocopherol = 1.49 IU = 1 mg α-tocopherol equivalent (FAO/WHO) = 1 mg vitamin E as d α-tocopherol (US FDA)

## Quali®-E / Vitamin E (dl-α-Tocopherol, dl-α-Tocopheryl Acetate) – powder\*

Product and Description	Certifications		Pack size (kg)	Product code	Form		Specific application					
	Kosher	Halal			Liquid	Powder	Dietary Supplements	Foods & Beverages	Early Life Nutrition	Medical Nutrition	Nutrition Improvement	Vegetarian
<b>Dry Vitamin E 15% CC</b> Spray dried, cold water dispersible. Starch based. Crystal clear. Contains min. 15% all-rac-α-tocopheryl acetate.	●	●	15	50 0128 5.281		●		●				●
<b>Dry Vitamin E 50% CWS/S</b> Spray dried, cold water dispersible. Starch based. Contains min. 50% all-rac-α-tocopheryl acetate.	●	●	20	50 0112 9.341		●	●	●	●	●	●	●
			20	50 1274 0.341								
<b>Dry Vitamin E 50% N</b> Spray dried. Starch based. Contains min 50% all-rac-α-tocopheryl acetate. Does not contain a flow agent, e.g. silicon dioxide.	●	●	20	50 1635 2.341		●	●	●	●	●		●

\*1 mg dl α-tocopherol acetate = 1 IU = 0.67 mg α-tocopherol equivalent (FAO/WHO) = 0.45 mg vitamin E as d α-tocopherol (US FDA); 1 mg dl α-tocopherol = 1.1 IU = 0.74 mg α-tocopherol equivalent (FAO/WHO) = 0.5 mg vitamin E as d α-tocopherol (US FDA); 1 mg d α-tocopherol acetate = 1.36 IU = 0.91 mg α-tocopherol equivalent (FAO/WHO) = 0.91 mg vitamin E as d α-tocopherol (US FDA); 1 mg d α-tocopherol = 1.49 IU = 1 mg α-tocopherol equivalent (FAO/WHO) = 1 mg vitamin E as d α-tocopherol (US FDA)

## Quali®-E / Vitamin E (d-α-Tocopheryl Acetate and d-α-Tocopherol) – Naturally sourced\*

Product and Description	Certifications		Pack size (kg)	Product code	Form		Specific application					
	Kosher	Halal			Liquid	Powder	Dietary Supplements	Foods & Beverages	Early Life Nutrition	Medical Nutrition	Nutrition Improvement	Vegetarian
<b>d- Tocopheryl Acetate</b> Content of RRR-α-tocopheryl acetate acc. to Ph.Eur.: 96.0–102.0%.	●	●	20 190	04 8657 4.178 04 8657 4.422	●		●	●				●
<b>Natural Vitamin E SF</b> Oil. α-tocopherol from non-GM sunflower. Contains min. 900 IU/g natural RRR-α-tocopherol, min. 604 mg/g RRR-α-tocopherol.	●	●	18 190	50 1557 4.044 50 1557 4.422	●		●	●				●
<b>Dry Natural Vitamin E SF</b> Free-flowing powder. Starch based. Contains min. 450 IU/g natural RRR-α-tocopherol, contains min. 302 mg/g RRR-α-tocopherol.	●	●	20	50 1608 8.341		●	●	●	●			●
<b>Dry Vitamin E 700 NS</b> Spray dried, cold water dispersible. Starch based. Contains min. 700 IU Vit. E/g, contains min. 515 mg/g RRR-α-tocopheryl acetate.	●	●	20	50 1189 2.341		●	●	●				●

\*1 mg dl α-tocopherol acetate = 1 IU = 0.67 mg α-tocopherol equivalent (FAO/WHO) = 0.45 mg vitamin E as d α-tocopherol (US FDA); 1 mg dl -tocopherol = 1.1 IU = 0.74 mg α-tocopherol equivalent (FAO/WHO) = 0.5 mg vitamin E as d α-tocopherol (US FDA); 1 mg d α-tocopherol acetate = 1.36 IU = 0.91 mg α-tocopherol equivalent (FAO/WHO) = 0.91 mg vitamin E as d α-tocopherol (US FDA); 1 mg d -tocopherol = 1.49 IU = 1 mg α-tocopherol equivalent (FAO/WHO) = 1 mg vitamin E as d α-tocopherol (US FDA)

## Quali®-E / Mixed Tocopherols – Naturally sourced

<b>Mixed Tocopherols 95</b> Oily liquid. Tocopherol rich extract (E306), contains a mixture of minimum 95% of RRR-tocopherols (RRR-alpha-, RRR-beta-, RRR-gamma- and RRR-deltatocopherol).	●	●	20 190 950	50 0289 3.178 50 0289 3.422 50 0289 3.160	●		●	●				●
<b>Mixed Tocopherols 70 IP</b> Oily liquid. Non-GM source. Tocopherol rich extract (E306), contains a mixture of minimum 70% of RRR-tocopherols (alpha-, beta-, gamma- and delta- tocopherol).	●	●	18 190	50 1557 3.044 50 1557 3.422	●		●	●				●
<b>Dry Mixed Tocopherols 30% IP</b> Powder. Starch based. Non-GM source. Contains a mixture of minimum 30% of RRR-tocopherols (RRR-alpha-,RRR-beta-,RRR-gamma- and RRR-delta-tocopherol).	●	●	20	50 1572 1.341		●		●				●

## Additional information

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### **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 many body tissues – it is especially abundant in adipose tissue, liver, and muscle – 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.

### **Food sources:**

Nuts, seeds, oil, green leafy vegetables and some fruit.

### **Health benefits & solutions:**

Empower your mind, Enhance your mobility, Guard your heart, Optimize your immunity, Essentials for early life, Essentials for healthy aging, Essentials for kids & teens, Essentials for life, Essentials for men, Essentials for women, Nourish your beauty, Power your performance.

### **EU health claims:**

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

## Quali®-K / Vitamin K1 (Phylloquinone)

Product and Description	Certifications		Pack size (kg)	Product code	Form		Specific application					
	Kosher	Halal			Liquid	Powder	Dietary Supplements	Foods & Beverages	Early Life Nutrition	Medical Nutrition	Nutrition Improvement	Vegetarian
<b>Vitamin K1</b>	●	●	100 g 1	04 3501 5.246 04 3501 5.264	●		●		●	●		●
<b>Dry Vitamin K1 1% N</b> Spray dried. Starch based. Contains min 1% Vit K1 Does not contain a flow agent, e.g. silicon dioxide.	●	●	20	50 1636 7.341		●			●	●		●
<b>Dry Vitamin K1 5% SD</b> Spray dried. Based on acacia. 50 mg Vitamin K1/g.	●	●	1 20	04 3492 2.268 04 3492 2.341		●	●	●	●	●	●	●

## Additional information

### Role:

Vitamin K1 is essential for the clotting of blood; it is involved in the regulation of calcium within bones and helps maintain bone density. 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 prolonged period. These people are frequently given vitamin K1 under a doctor's care. Vitamin K1 can maintain bone health.

### Food sources:

Green leafy vegetables, soy beans, broccoli, green cabbage.

### Health benefits & solutions:

Enhance your mobility, Essentials for kids & teens, Essentials for life, Essentials for women.

### EU health claims:

- *Vitamin K contributes to normal blood clotting.*
- *Vitamin K contributes to the maintenance of normal bones.*

# Water-soluble vitamins

- > Vitamin B1
- > Vitamin B2
- > Vitamin B3
- > Vitamin B5
- > Vitamin B6
- > Vitamin B7
- > Vitamin B9
- > Vitamin B12
- > Vitamin C

## Quali®-B / Vitamin B1 (Thiamine)

Product and Description	Certifications		Pack size (kg)	Product code	Form		Specific application					
	Kosher	Halal			Liquid	Powder	Dietary Supplements	Foods & Beverages	Early Life Nutrition	Medical Nutrition	Nutrition Improvement	Vegetarian
Thiamine Hydrochloride	●	●	20	04 1303 8.341		●	●	●	●	●		●
Thiamine Mononitrate	●	●	20	04 1894 3.341		●	●	●	●		●	●
ROCOAT® Thiamine Mononitrate 33 1/3% Coated.	●	●	5 50*	04 2947 3.304 04 2947 3.402		●	●	●				●

\*Only for North America.

## Additional information

### 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.

### Food sources:

Milk, meat, fish, whole grains, legumes, yeast, nuts and seeds.

### Health benefits & solutions:

Empower your mind, Enhance your mobility, Guard your heart, Essentials for early life, Essentials for healthy aging, Essentials for kids & teens, Essentials for life, Power your performance.

### 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.*

## Quali®-B / Vitamin B2 (Riboflavin)

Product and Description	Certifications		Pack size (kg)	Product code	Form		Specific application					
	Kosher	Halal			Liquid	Powder	Dietary Supplements	Foods & Beverages	Early Life Nutrition	Medical Nutrition	Nutrition Improvement	Vegetarian
Riboflavin Universal	●	●	10	04 7040 6.231		●	●	●	●	●	●	●
Riboflavin Universal Fine Powder	●	●	2 x 2.5 5	50 0861 1.186 50 0861 1.304		●	●	●	●	●	●	●
Riboflavin Tablet Grade	●	●	10	04 7029 5.231		●	●					●
ROCOAT® Riboflavin 33 1/3% Coated.	●	●	5 50*	04 2946 5.304 04 2946 5.402		●	●	●				●
Riboflavin 5-Phosphate Sodium	●	●	1 5	50 1749 6.608 50 1749 6.605		●	●	●			●	●

\*Only for North America.

## Additional information

### 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. It is also involved in the production of red blood cells, which are responsible for transporting oxygen throughout the body and it plays a role in the function of the nervous system.

### Food sources:

Milk, green leafy vegetables, meat, fish, whole grains, cheese and eggs.

### Health Benefits & Solutions:

Empower your mind, Guard your heart, Improve your gut health, Optimize your immunity, Upgrade your vision, Essentials for early life, Essentials for kids & teens, Essentials for life, Essentials for women, Nourish your beauty, Power your performance.

### 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.

## Quali®-B / Vitamin B3 (Niacin /Niacinamide)\*

Product and Description	Certifications		Pack size (kg)	Product code	Form		Specific application					
	Kosher	Halal			Liquid	Powder	Dietary Supplements	Foods & Beverages	Early Life Nutrition	Medical Nutrition	Nutrition Improvement	Vegetarian
Niacinamide FCC	●	●	20	50 1639 8.340		●	●	●	●	●	●	●
For China only			20**	50 1639 8.202								
For infant Nutrition			20	50 1639 8.622								
For infant Nutrition China			20**	50 1639 8.334								
ROCOAT® Niacinamide 33 1/3% Coated.	●	●	5 50***	04 2944 9.304 04 2944 9.402		●	●	●				●

\*US FDA 2019 label: 1 mg niacin = 1 mg niacin equivalents (NE); \*\*Only for China; \*\*\*Only for North America.

### Additional information

#### Role:

Essential for the metabolism of carbohydrates, fats, and proteins. Niacin also plays a role in other metabolic processes in the body, including cellular metabolism, nervous system function, cardiovascular health, skin health, and digestive health. It is involved in the conversion of food to energy

#### Food sources:

Meat, fish, whole grains, whole wheat and legumes.

#### Health Benefits & Solutions:

Empower your mind, Improve your gut health, Essentials for life, Nourish your beauty, Power your performance.

#### 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.*

## Quali®-B / Vitamin B5 (Panthenol, Pantothenate)

Product and Description	Certifications		Pack size (kg)	Product code	Form		Specific application					
	Kosher	Halal			Liquid	Powder	Dietary Supplements	Foods & Beverages	Early Life Nutrition	Medical Nutrition	Nutrition Improvement	Vegetarian
Calcium D-Pantothenate Spray-dried.	●	●	25	04 1267 8.366		●	●	●	●	●	●	●
D-Panthenol	●	●	20	04 1385 2.331	●		●	●				●

### Additional information

**Role:**

Pantothenic acid is essential for the formation of certain neurotransmitter function and hormones. It is also required for metabolism of proteins, fats and carbohydrates.

**Food sources:**

Yeast, liver, kidney, eggs, peanut products, mushrooms and sunflower seeds.

**Health benefits & solutions:**

Empower your mind, Essentials for life, Essentials for women, Power your performance.

**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.

## Quali®-B / Vitamin B6 (Pyridoxine)

Product and Description	Certifications		Pack size (kg)	Product code	Form		Specific application					
	Kosher	Halal			Liquid	Powder	Dietary Supplements	Foods & Beverages	Early Life Nutrition	Medical Nutrition	Nutrition Improvement	Vegetarian
Pyridoxine Hydrochloride	●	●	20	04 1160 4.340 (Origin: Germany)		●	●	●	●			●
ROCOAT® Pyridoxine Hydrochloride 33 1/3% Coated.	●	●	5 50*	04 2945 7.304 04 2945 7.402		●	●	●				●

\*Only for North America.

## Additional information

### Role:

Pyridoxine is necessary for energy metabolism, the metabolism of amino acids and the building blocks of proteins. 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. It is involved in the synthesis of hemoglobin, the protein responsible for carrying oxygen in red blood cells.

### Food sources:

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

### Health benefits & solutions:

Empower your mind, Enhance your mobility, Guard your heart, Optimize your immunity, Upgrade your vision, Essentials for healthy aging, Essentials for life, Essentials for vegetarians & vegans, Nourish your beauty, Power your performance.

### 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.*

## Quali®-Biotin / Vitamin B7 (Biotin, Vitamin B8, Vitamin H)

Product and Description	Certifications		Pack size (kg)	Product code	Form		Specific application					
	Kosher	Halal			Liquid	Powder	Dietary Supplements	Foods & Beverages	Early Life Nutrition	Medical Nutrition	Nutrition Improvement	Vegetarian
D-Biotin	●	●	50 g 1 (pouch) 25	50 1165 5.240 50 1165 5.268 50 1165 5.372		●	●	●	●	●	●	●
Bitrit-1® Type A	●	●	10 50	50 1651 8.190 50 1651 8.395		●	●	●				●

### Additional information

#### Role:

Biotin is necessary for synthesizing fatty acids and involved in the metabolism of carbohydrates, fats and proteins. It also helps in the maintenance of the nervous system, skin, regulation gene expression and blood sugar.

#### Food sources:

Yeast, liver, eggs, beef and pork

#### Health benefits & solutions:

Empower your mind, Improve your gut health, Essentials for early life, Essentials for kids & teens, Essentials for life, Nourish your beauty, Power your performance.

#### 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.*

## Quali®-B / Vitamin B9 (Folate, Folic Acid)\*

Product and Description	Certifications		Pack size (kg)	Product code	Form		Specific application					
	Kosher	Halal			Liquid	Powder	Dietary Supplements	Foods & Beverages	Early Life Nutrition	Medical Nutrition	Nutrition Improvement	Vegetarian
Folic Acid	●	●	1 25	04 1782 3.268 04 1782 3.372		●	●	●	●	●	●	●
Folic Acid Food Grade	●	●	1 25	50 0435 7.268 50 0435 7.372		●		●	●		●	●
Metafolin (Calcium L-methylfolate )***	●	●	100 g 1	50 1557 1.074 50 1557 1.270		●	●	●	●			●

\* US FDA 2019 label: 1 mcg folic acid = 0.6 mcg dietary folate equivalents (DFE); \*\*Metafolin® is a registered trademark of Merck KGaA, Darmstadt, Germany.

## Additional information

### 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 anaemia, 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.

### Food sources:

Folate, the natural form of Vitamin B9 is found in liver, legumes, peanuts, green leafy vegetables, orange juice and strawberries.

### Health benefits & solutions:

Empower your mind, Enhance your mobility, Guard your heart, Optimize your immunity, Essentials for early life, Essentials for kids & teens, Essentials for healthy aging, Essentials for life, Essentials for women, Nourish your beauty, Power your performance.

### 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 fetus.

## Quali®-B / Vitamin B12 (Cyanocobalamin)

Product and Description	Certifications		Pack size (kg)	Product code	Form		Specific application					
	Kosher	Halal			Liquid	Powder	Dietary Supplements	Foods & Beverages	Early Life Nutrition	Medical Nutrition	Nutrition Improvement	Vegetarian
<b>Vitamin B12 Crystalline</b>	●	●	10 g 100 g 1	04 2915 5.234 04 2915 5.252 04 2915 5.264		●	●	●		●		●
<b>Vitamin B12 1% SD</b> Spray dried powder form.	●	●	5 20	50 1251 1.304 50 1251 1.341		●	●	●				●
<b>Vitamin B12 1% SD</b> Spray dried powder form.	●	●	20	50 16467.341		●	●	●	●			●
<b>Vitamin B12 0.1% WS</b>	●	●	20	50 1640 2.341		●	●	●	●			●
<b>Vitamin B12 0.1% WS</b> Spray dried powder form.	●	●	5	04 2909 0.304		●	●	●	●		●	●
<b>Vitamin B12 Crystalline Food Grade</b> Fermentation food grade.	●	●	100 g 1	50 1642 0.252 50 1642 0.264		●	●			●		●

### Additional information

#### 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.

#### Food sources:

Kidney, liver, shellfish, sardines, salmon, herring, egg yolks and nutritional yeast spread.

#### Health benefits & solutions:

Empower your mind, Enhance your mobility, Guard your heart, Optimize your immunity, Upgrade your vision, Essentials for kids & teens, Essentials for healthy aging, Essentials for life, Essentials for men, Essentials for women, Essentials for vegetarians & vegans, Nourish your beauty, Power your performance.

#### 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.*

## Quali®-C / Vitamin C (L-Ascorbic Acid, Ascorbate)

Product and Description	Certifications		Pack size (kg)	Product code	Form		Specific application						
	Kosher	Halal			Liquid	Powder	Dietary Supplements	Foods & Beverages	Early Life Nutrition	Medical Nutrition	Nutrition Improvement	Vegetarian	
<b>Ascorbic Acid</b>	●	●	25	04 0805 0.366									●
			25	04 0805 0.368									
			500	04 0805 0.429									
<b>Ascorbic Acid Fine Powder</b>	●	●	25	04 2246 0.366								●	●
			25	04 2246 0.368									
<b>Ascorbic Acid Ultra Fine Powder</b>	●	●	20	50 0976 6.341									●
<b>Ascorbic Acid Fine Granular</b>	●	●	25	04 0809 3.366									●
<b>Ascorbic Acid 90% Granulation</b>	●	●	25	50 0757 7.368									●
<b>Ascorbic Acid 95% Granulation</b>	●	●	25	50 0774 7.368									●
<b>Ascorbic Acid 97% Granulation</b>	●	●	25	50 1032 2.368									●
<b>Coated Ascorbic Acid, Type EC</b> 97.5% ascorbic acid content. Ethyl cellulose coating.	●	●	25	04 2511 7.368				●					●
<b>Coated Ascorbic Acid, Type FC</b> 94% ascorbic acid content. Fat coating.	●	●	25	04 4080 9.368						●			●
<b>Calcium Ascorbate</b>	●	●	25	04 1944 3.368				●					●
<b>Sodium Ascorbate Crystalline</b>	●	●	25	04 0817 4.606				●	●		●		●
<b>Sodium Ascorbate Granular</b>	●	●	25	50 1826 6.368									●
			1125	50 1826 6.507									
<b>Sodium Ascorbate 99% TG</b>	●	●	20	50 0142 0.341									●
<b>Ascorbyl Palmitate</b>	●	●	5	04 1859 5.304									●
			25	04 1859 5.368									
<b>RONOXAN® A</b> Ascorbyl Palmitate, dl- $\alpha$ -Tocopherol, Lecithin.	●	●	1	04 4253 4.270	●			●					●

## Additional information | Vitamin C (L-Ascorbic Acid, Ascorbate)

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### **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.

### **Food sources:**

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

### **Health benefits & solutions:**

Empower your mind, Enhance your mobility, Guard your heart, Optimize your immunity, Essentials for early life, Essentials for healthy aging Essentials for kids & teens, Essentials for life, Essentials for women, Essentials for vegetarians, Nourish your beauty, Power your performance.

### **EU health claims:**

- *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.*

# Active Pharmaceutical Ingredients

- > Vitamin A
- > Vitamin B1
- > Vitamin B6
- >  $\beta$ -Carotene
- > Vitamin D
- > Vitamin B2
- > Vitamin B7
- > Benzodiazepines
- > Vitamin E
- > Vitamin B3
- > Vitamin B9
- > Antifungals
- > Vitamin K
- > Vitamin B5
- > Vitamin B12
- > Benzamides
- > Vitamin C
- > Cannabinoid Intermediate

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## Vitamin A (Retinol) – liquid†\*

Product and Description	Certifications				Pack size (kg)	Product code	Form		Main application	
	Kosher	Halal	DMF†	CEP			Liquid	Powder	Pharma reg. OTC/Rx†	Vegetarian
<b>Retinyl Palmitate 1.7 MIU/g Ph</b> API with specific service package for pharma registered applications. Without stabilizers.	●	●	●	●	5 20	50 1626 2.294 50 1626 2.336	●		●	●
<b>Retinyl Palm1.7MIU/G BHA/BHT Ph</b> API with specific service package for pharma registered applications.	●	●	●		5 20	50 1829 3.294 50 1829 3.336	●		●	●

\*US FDA 2019 label: 1 IU vitamin A = 0.3 mcg retinol activity equivalents (RAE).

## Vitamin A (Retinol) – powder†\*

<b>Retinyl Palmitate 250 CWS / F Ph</b> API with specific service package for pharma registered applications. Beadlet**, containing 237,500 – 287,500 IU/g of vitamin A (min. 137.5 mg/g of vitamin A palmitate equivalent to 75 mg/g of retinol) finely dispersed in a cornstarch-coated matrix of gelatin and sucrose, all-rac- $\alpha$ -tocopherol is added as an antioxidant and silicon dioxide as a processing aid.	●	●	●	●	25	50 1754 5.368		●	●	
<b>Dry Vitamin A Acetate 500 B</b> API with specific service package for pharma registered applications. Beadlet**, stabilized with BHT. Based on bovine gelatin. Contains min 500,000 IU Vit. A/g, min. 172 mg/g of Vit. A Acetate equivalent to 150 mg/g of retinol.					5 20	50 1227 9.609 50 1227 9.656		●	●	

\*US FDA 2019 label: 1 IU vitamin A = 0.3 mcg retinol activity equivalents (RAE). \*\*Product formulations which utilise Actilease® beadlet technology. Actilease® combines easy handling, bioavailability, and stability of the active

## Vitamin D3 (Cholecalciferol) – liquid†\*

<b>Vitamin D3 1.0 MIU/g Ph</b> API with specific service package for pharma registered applications.	●	●	●	●	5	50 1752 4.294	●		●	(●)
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\*US FDA 2019 label: 1 IU vitamin D = 0.025 mcg vitamin D. (●) Regional differences.

## Vitamin D3 (Cholecalciferol) – powder†\*

<b>Vitamin D3 Crystalline Ph</b> API with specific service package for pharma registered applications. 40,000,000 IU Vit. D3/g. 1,000,000 µg cholecalciferol/g.	●	●	●	●	250 g	50 1626 3.258 (Origin: France)		●	●	(●)
<b>Dry Vitamin D3 100 CWS Ph</b> API with specific service package for pharma registered applications.		●	●	●	5 25	50 1647 3.304 50 1647 3.368		●	●	(●)
<b>Dry Vitamin D3 100 SD/S Ph</b> API with specific service package for pharma registered applications. Stabilized with tocopherol. Spray dried, cold water dispersible. Starch based/allergen free. Contains min 100,000 IU Vit. D3/g, min. 2.5 mg/g.	●	●	●	●	5 20	50 1621 2.304 50 1621 2.341		●	●	(●)

\*US FDA 2019 label: 1 IU vitamin D = 0.025 mcg vitamin D. (●) Regional differences.

† DMF / Pharma registered OTC (Over the Counter) / Rx (Prescription) statuses must be checked with local dsm-firmenich regulatory affairs team in your closest office. The applicability of the portfolio for pharmaceutical application is subject to local approval.

## Vitamin E (dl- $\alpha$ -Tocopherol, dl- $\alpha$ -Tocopheryl Acetate) – liquid<sup>†\*</sup>

Product and Description	Certifications				Pack size (kg)	Product code	Form		Main application	
	Kosher	Halal	DMF <sup>†</sup>	CEP			Liquid	Powder	Pharma reg. OTC/Rx <sup>†</sup>	Vegetarian
<b>dl-<math>\alpha</math>-Tocopheryl Acetate Ph</b> API with specific service package for pharma registered applications. 1000 IU Vitamin E/g.	●	●	●	●	5 20 190	50 1626 0.301 50 1626 0.331 50 1626 0.422	●		●	●
<b>all-rac-<math>\alpha</math>-Tocopherol Ph</b> API with specific service package for pharma registered applications.	●	●	●	●	5 20	50 1674 1.294 50 1674 1.336	●		●	●

\*1 mg dl  $\alpha$ -tocopherol acetate = 1 IU = 0.67 mg  $\alpha$ -tocopherol equivalent (FAO/WHO) = 0.45 mg vitamin E as d  $\alpha$ -tocopherol (US FDA); 1 mg dl  $\alpha$ -tocopherol = 1.1 IU = 0.74 mg  $\alpha$ -tocopherol equivalent (FAO/WHO) = 0.5 mg vitamin E as d  $\alpha$ -tocopherol (US FDA); 1 mg d  $\alpha$ -tocopherol acetate = 1.36 IU = 0.91 mg  $\alpha$ -tocopherol equivalent (FAO/WHO) = 0.91 mg vitamin E as d  $\alpha$ -tocopherol (US FDA); 1 mg d  $\alpha$ -tocopherol = 1.49 IU = 1 mg  $\alpha$ -tocopherol equivalent (FAO/WHO) = 1 mg vitamin E as d  $\alpha$ -tocopherol (US FDA).

## Vitamin E (dl- $\alpha$ -Tocopherol, dl- $\alpha$ -Tocopheryl Acetate) – powder<sup>†\*</sup>

<b>Dry Vitamin E 50% CWS/S Ph</b> API with specific service package for pharma registered applications. Spray dried, cold water dispersible. Contains min. 50% all-rac- $\alpha$ -tocopheryl acetate.	●	●	●	●	20	50 1657 7.341		●	●	●
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\*1 mg dl  $\alpha$ -tocopherol acetate = 1 IU = 0.67 mg  $\alpha$ -tocopherol equivalent (FAO/WHO) = 0.45 mg vitamin E as d  $\alpha$ -tocopherol (US FDA); 1 mg dl  $\alpha$ -tocopherol = 1.1 IU = 0.74 mg  $\alpha$ -tocopherol equivalent (FAO/WHO) = 0.5 mg vitamin E as d  $\alpha$ -tocopherol (US FDA); 1 mg d  $\alpha$ -tocopherol acetate = 1.36 IU = 0.91 mg  $\alpha$ -tocopherol equivalent (FAO/WHO) = 0.91 mg vitamin E as d  $\alpha$ -tocopherol (US FDA); 1 mg d  $\alpha$ -tocopherol = 1.49 IU = 1 mg  $\alpha$ -tocopherol equivalent (FAO/WHO) = 1 mg vitamin E as d  $\alpha$ -tocopherol (US FDA).

## Vitamin K1 (Phylloquinone)<sup>†</sup>

<b>Vitamin K1 API**</b> API with specific service package for pharma registered applications.	●	●	●		1	50 1322 4.264	●		●	●
<b>Vitamin K1</b> API with specific service package for pharma registered applications.	●	●		●	100 g 1	04 3501 5.246 04 3501 5.264	●		●	●
<b>Dry Vitamin K1 5% SD Ph</b> API with specific service package for pharma registered applications. Spray dried. Based on acacia. 50 mg Vitamin K1/g.	●	●	●		1 5 20	50 1822 5.268 50 1822 5.304 50 1822 5.341		●	●	●

\*\*US DMF only.

<sup>†</sup> DMF / Pharma registered OTC (Over the Counter) / Rx (Prescription) statuses must be checked with local dsm-firmenich regulatory affairs team in your closest office. The applicability of the portfolio for pharmaceutical application is subject to local approval.

## Vitamin B1 (Thiamine)<sup>†</sup>

Product and Description	Certifications				Pack size (kg)	Product code	Form		Main application	
	Kosher	Halal	DMF <sup>†</sup>	CEP			Liquid	Powder	Pharma reg. OTC/Rx <sup>†</sup>	Vegetarian
<b>Thiamine Hydrochloride Ph</b> API with specific service package for pharma registered applications.	●	●	●	●	20	50 1625 7.341		●	●	●
<b>ROCOAT® Thiamine Mononitrate 33 1/3%</b> Coated.	●				5 50**	04 2947 3.304 04 2947 3.402		●	●	●
<b>Thiamine mononitrate Ph</b> API with specific service package for pharma registered applications.	●	●	●	●	20	50 1841 4.341		●	●	●

\*\*Only in North America.

## Vitamin B2 (Riboflavin)<sup>†</sup>

<b>Riboflavin 5'-Phosphate Ph</b> API with specific service package for pharma registered applications.	●	●	●	●	1 5	50 1751 3.608 50 1751 3.605		●	●	●
<b>Riboflavin Universal Ph</b> API with specific service package for pharma registered applications.	●	●	●	●	10	50 1775 4.231		●	●	●

## Vitamin B3 (Niacin / Niacinamide)<sup>†\*</sup>

<b>Niacinamide Ph*</b> API with specific service package for pharma registered applications.	●	●	●		20	50 1629 1.340		●	●	●
<b>Niacinamide (All regions except USA)</b> API with specific service package for pharma registered applications.	●	●	●	●	20	04 8784 8.340		●	●	●

\*Only for North America. \*\*US FDA 2019 label: 1 mg niacin = 1 mg niacin equivalents (NE).

## Vitamin B5 (Panthenol, Pantothenate)<sup>†</sup>

<b>D-Panthenol Ph</b> API with specific service package for pharma registered applications.	●	●	●	●	20	50 1625 8.331	●		●	●
<b>Calcium D-Pantothenate Ph</b> API with specific service package for pharma registered applications. Spray-dried powder.	●	●	●	●	25	50 1776 0.366		●	●	●

## Vitamin B6 (Pyridoxine)<sup>†</sup>

<b>Pyridoxine Hydrochloride Ph</b> API with specific service package for pharma registered applications.	●	●	●	●	20	50 1646 0.340 (Origin: Germany)		●	●	●
<b>ROCOAT® Pyridoxine Hydrochloride 33 1/3%</b> Coated.	●	●			5 50*	04 2945 7.304 04 2945 7.402		●	●	●

\*Only for North America.

<sup>†</sup> DMF / Pharma registered OTC (Over the Counter) / Rx (Prescription) statuses must be checked with local dsm-firmenich regulatory affairs team in your closest office. The applicability of the portfolio for pharmaceutical application is subject to local approval.

## Vitamin B7 (Biotin, Vitamin B8, Vitamin H)<sup>†</sup>

Product and Description	Certifications				Pack size (kg)	Product code	Form		Main application	
	Kosher	Halal	DMF <sup>†</sup>	CEP			Liquid	Powder	Pharma reg. OTC/Rx <sup>†</sup>	Vegetarian
<b>D-Biotin Ph</b> API with specific service package for pharma registered applications.	●	●	●	●	50 g 1 (pouch) 25	50 1626 4.240 50 1626 4.268 50 1626 4.372		●	●	●
<b>Biotin 1% Trit Ph</b> API with specific service package for pharma registered applications.	●		●**		25	50 1728 9.368		●	●	●

\*\* In preparation

## Vitamin B9 (Folate, Folic Acid)<sup>†\*</sup>

<b>Folic Acid Ph</b> API with specific service package for pharma registered applications.	●	●	●	●	1 25	50 1625 9.268 50 1625 9.372		●	●	●
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\* US FDA 2018 label: 1 mcg folic acid = 0.6 mcg dietary folate equivalents (DFE).

## Vitamin B12 (Cyanocobalamin)<sup>†</sup>

<b>Vitamin B12 Crystalline Ph</b> API with specific service package for pharma registered applications.	●	●	●	●	100 g 1	50 1630 0.252 50 1630 0.264		●	●	●
<b>Vitamin B12 1% Ph</b> API with specific service package for pharma registered applications. Spray dried powder.	●	●	●		5 20	50 1823 8.304 50 1823 8.341		●	●	●
<b>Vitamin B12 0.1% Ph</b> API with specific service package for pharma registered applications. Spray dried powder.	●	●	●		5 15	50 1823 5.304 50 1823 5.281		●	●	●

<sup>†</sup> DMF / Pharma registered OTC (Over the Counter) / Rx (Prescription) statuses must be checked with local dsm-firmenich regulatory affairs team in your closest office. The applicability of the portfolio for pharmaceutical application is subject to local approval.

## Vitamin C (L-Ascorbic Acid, Ascorbate)<sup>†</sup>

Product and Description	Certifications				Pack size (kg)	Product code	Form		Main application	
	Kosher	Halal	DMF <sup>†</sup>	CEP			Liquid	Powder	Pharma reg. OTC/Rx <sup>†</sup>	Vegetarian
<b>Ascorbic Acid Ph</b> API with specific service package for pharma registered applications.	●	●		●	25	50 1625 5.366			●	●
					25	50 1625 5.368		●		●
					500	50 1625 5.754				●
					1000	50 1625 5.735				●
<b>Ascorbic Acid Fine Powder Ph</b> API with specific service package for pharma registered applications.	●	●		●	25	50 1625 5.X3V			●	●
					25	50 1625 5.X3W		●		●
					1000	50 1625 5.US1				●
					25	50 1645 0.366				●
<b>Ascorbic Acid Ultra Fine Powder</b> API with specific service package for pharma registered applications.	●	●		●	25	50 1645 0.368			●	●
					25	50 1645 0.X3V				●
				25	50 1645 0.X3W					●
<b>Ascorbic Acid Ultra Fine Powder</b> API with specific service package for pharma registered applications.	●	●		●	20	50 0976 6.341			●	●
<b>Coated Ascorbic Acid, Type EC</b> Formulation with specific service package for pharma registered applications. 97.5% ascorbic acid content. Ethyl cellulose coating.	●	●			25	04 2511 7.368			●	●
<b>Ascorbic Acid 95% Granulation</b> Formulation with specific service package for pharma registered applications.	●	●			25	50 0774 7.368			●	●
<b>Ascorbic Acid Fine Granular</b> API with specific service package for pharma registered applications.	●	●		●	25	04 0809 3.366			●	●
<b>Calcium Ascorbate Ph</b> API with specific service package for pharma registered applications.	●	●		●	25	50 1775 7.368			●	●
<b>Sodium Ascorbate Ph</b> API with specific service package for pharma registered applications.	●	●		●	25	50 1625 6.606			●	●
					25	50 16256.X3W			●	●
<b>Sodium Ascorbate Fine Granular Ph</b> API with specific service package for pharma registered applications.	●	●		●	1125	04 0815 8.507			●	●
					1125	04 0815 8.XZR			●	●
<b>Ascorbic Acid 90% Granulation Ph</b> Formulation with specific service package for pharma registered applications.	●	●			25	5018424.368			●	●

## β-Carotene (Pro-Vitamin A)<sup>†</sup>

<b>β-Carotene Crystalline Ph</b> API with specific service package for pharma registered applications.	●	●		●	250 g	50 1434 4.258			●	●
<b>BetaTab® 20% S Ph</b> API with specific service package for pharma registered applications. Beadlet <sup>††</sup> , cold water dispersible.	●	●			25	50 1435 2.368			●	●
<b>β-Carotene 30% FS Ph</b> API with specific service package for pharma registered applications. Fluid suspension.	●	●			5	50 1438 7.294	●		●	

<sup>†</sup> DMF / Pharma registered OTC (Over the Counter) / Rx (Prescription) statuses must be checked with local dsm-firmenich regulatory affairs team in your closest office. The applicability of the portfolio for pharmaceutical application is subject to local approval.

## Benzodiazepines†

Product and Description	Certifications				Pack size (kg)	Product code	Form		Main application	
	Kosher	Halal	DMF†	CEP			Liquid	Powder	Pharma reg. OTC/Rx†	Vegetarian
<b>Clonazepam</b> API with specific service package for pharma registered applications.					25	04 3967 3.553		●	●	
<b>Clonazepam JP</b> API with specific service package for pharma registered applications.					25	50 0553 1.553		●	●	
<b>Bromazepam</b> API with specific service package for pharma registered applications.					25	04 4064 7.553		●	●	
<b>Bromazepam JP</b> API with specific service package for pharma registered applications.					25	5 00552 3.553		●	●	
<b>Flunitrazepam</b> API with specific service package for pharma registered applications.					25	04 4181 3.553		●	●	

## Antifungals†

<b>Flucytosine</b> API with specific service package for pharma registered applications.				●	25	50 1071 3.001		●	●	
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## Benzamides†

<b>Moclobemide</b> API with specific service package for pharma registered applications.					25	04 0555 8.001		●	●	
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## Cannabinoids†\*

<b>CBtru®</b> Formulation of CBD API with specific service package for pharma registered applications.					500 g 1	50 1830 0.CBD 50 1830 0.268		●	●	
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\*Currently available for use in the manufacturing of investigational pharmaceutical preparations (clinical research); will be available for use in the manufacturing of drug products by the end of 2025.

† DMF / Pharma registered OTC (Over the Counter) / Rx (Prescription) statuses must be checked with local dsm-firmenich regulatory affairs team in your closest office. The applicability of the portfolio for pharmaceutical application is subject to local approval.

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# Nutritional lipids

- > *life'sDHA™*
- > *life's™ OMEGA*
- > *life's™ ARA*
- > *life's™ DHA+ARA*
- > MEG-3®

## life'sDHA® (Vegetarian Omega-3 Long Chain Polyunsaturated Fatty Acids)

Product and Description	Certifications		Pack size (kg)	Product code	Form		Main application		Specific application				
	Kosher	Halal			Liquid	Powder	Dietary Supplements	Foods and Beverages	Early Life Nutrition	Medical Nutrition	Nutrition Improvement	Naturally Sourced	Vegetarian
<b>DHASCO-B®</b> Nutritional oil from microalgae containing min. 38% DHA (380mg/g)	●	●	9 18 200	50 1598 6.043 50 1598 6.044 50 1598 6.046	●				●	●	●	●	●
<b>life'sDHA® S35-O200</b> (rosemary free) Nutritional oil derived from algae containing min. 35% DHA (350mg/g); frozen storage	●	●	1 5 23 180	50 1502 1.264 50 1502 1.294 50 1502 1.037 50 1502 1.418	●			●		●	●	●	●
<b>life'sDHA® S35-O300</b> Nutritional oil derived from algae containing min. 35% DHA (350mg/g); frozen storage	●	●	1 5 23 180	50 1375 5.264 50 1375 5.294 50 1375 5.037 50 1375 5.418	●			●		●	●	●	●
<b>life'sDHA® S35-O300DS</b> Nutritional oil derived from algae containing min. 35% DHA (350mg/g); ambient storage	●	●	23 180	50 1643 4.037 50 1643 4.418	●		●			●	●	●	●
<b>life'sDHA® S40-O400</b> Nutritional oil derived from algae containing min. 40% DHA (400mg/g); frozen storage	●	●	1 5 23 180	50 1509 0.264 50 1509 0.294 50 1509 0.037 50 1509 0.418	●			●		●	●	●	●
<b>life'sDHA® S40-O400DS</b> Nutritional oil derived from algae containing min. 40% DHA (400mg/g); ambient storage	●	●	23 180	50 1643 5.037 50 1643 5.418	●		●			●	●	●	●
<b>life'sDHA® B54-O100</b> Nutritional oil derived from algae containing min. 54% DHA (545mg/g)	●	●	23 200	50 1824 2.037 50 1824 2.399	●		●	●		●	●	●	●
<b>life'sDHA® S10-P200</b> Cold water dispersible. Free-flowing powder derived from microalgae containing 10% DHA (100mg/g)	●	●	12.5	50 1372 0.148		●	●	●		●	●	●	●
<b>life'sDHA® S17-P100</b> Not cold water dispersible. Free-flowing powder derived from microalgae containing 17% DHA (170mg/g)	●	●	12.5	50 1371 2.148		●	●			●	●	●	●
<b>life'sDHA® 100 mg Vegetarian Capsules*</b> DHA-S oil in a 300mg (10 oval) carrageenan vegetarian capsule providing 100mg DHA		●	8,000 capsules	50 1373 9.035	●		●					●	●
<b>life'sDHA® 200 mg Vegetarian Capsules*</b> DHA-S oil in a 600mg (14 oval) carrageenan vegetarian capsule providing 200mg DHA		●	8,000 capsules	50 1374 7.035	●		●					●	●

\* Managed by MRS (Market Ready Solutions)

## Additional information | *life'sDHA*<sup>®</sup> (omega-3 oils)

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### **Role:**

DHA, an omega-3 fatty acid, is a major structural fat in the brain and eyes. It accounts for up to 97% of the omega-3 fats in the brain and up to 93% 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. Has been shown to support healthy pregnancy and cardiovascular health. DHA also supports brain function in adults.

### **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.

### **Health benefits & solutions:**

Empower your mind, Guard your heart, Upgrade your vision, Essentials for early life, Essentials for healthy aging, Essentials for kids & teens, Essentials for men, Essentials for vegetarians & vegans, Power your performance.

### **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 fetus and breastfed infants.*
- *DHA maternal intake contributes to the normal development of the eye of the fetus and breastfed infants.*

## life's®OMEGA (Vegetarian Omega-3 Long Chain Polyunsaturated Fatty Acids)

Product and Description	Certifications		Pack size (kg)	Product code	Form		Main application		Specific application				
	Kosher	Halal			Liquid	Powder	Dietary Supplements	Foods and Beverages	Early Life Nutrition	Medical Nutrition	Nutrition Improvement	Naturally Sourced	Vegetarian
<b>life's®OMEGA 45</b> Nutritional oil from microalgae providing min. 400mg/g DHA + EPA	●	●	1	50 1369 0.264	●		●	●		●	●	●	●
			5	50 1369 0.294									
			23	50 1369 0.037									
			180	50 1369 0.418									
<b>life's®OMEGA 60</b> Nutritional oil from microalgae providing min. 550mg/g Total Omega-3; frozen storage	●	●	1	50 1529 5.264	●			●		●	●	●	●
			5	50 1529 5.294									
			23	50 1529 5.037									
			180	50 1529 5.418									
<b>life's®OMEGA 60-DS</b> Nutritional oil from microalgae providing min. 550mg/g Total Omega-3; ambient storage	●	●	23	50 1643 3.037	●		●					●	●
			180	50 1643 3.418									
<b>life's®OMEGA O1035DS</b> Nutritional oil from microalgae providing min. 515 mg/g Total Omega-3; ambient storage, vegan certified		●	190	50 1779 8.420	●		●					●	●
<b>life's®OMEGA O1030DS*</b> Nutritional oil from microalgae providing min. 510 mg/g Total Omega-3; ambient storage, vegan certified		●	190	50 1650 5.420	●		●					●	●
<b>life's®OMEGA O3020DS</b> Nutritional oil from microalgae providing min. 550mg/g Total Omega-3	●	●	23	50 1762 4.037	●		●					●	●
			200	50 1762 4.399									
<b>life's®OMEGA O3020FB**</b> Nutritional oil from microalgae providing min. 550mg/g Total Omega-3	●	●	23	50 1762 5.037	●		●	●		●	●	●	●
			200	50 1762 5.399									
<b>life's®OMEGA O33-PI00 Powder</b> Microencapsulated powder based on bovine gelatin (not vegetarian), min. 300mg DHA + EPA and min. 330mg total Omega-3 per g			10	50 1719 3.322		●	●	●		●	●	●	
<b>life's®OMEGA 300 mg Vegetarian Capsules***</b> Nutritional oil in a 790mg (14 oval) carrageenan vegetarian capsule providing min. 300mg DHA + EPA per capsule		●	6000 capsules	50 1501 0.034	●		●					●	●

\* Only for North America. \*\* USA GRAS pending H2-2025. \*\*\* Managed by MRS

## Additional information | *life's™* OMEGA (omega-3 oils)

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### **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.

### **Food sources:**

The primary dietary source of DHA and EPA is fatty fish.

### **Health benefits & solutions:**

Empower your mind, Enhance your mobility, Guard your heart, Optimize your immunity, Upgrade your vision, Essentials for healthy aging, Essentials for vegetarians & vegans, Nourish your beauty, Power your performance.

### **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. Claim is available in a total of six variations.

## **life's™ ARA** (Vegetarian Omega-6 Long Chain Polyunsaturated Fatty Acids)

Product and Description	Certifications		Pack size (kg)	Product code	Form		Main application		Specific application				
	Kosher	Halal			Liquid	Powder	Dietary Supplements	Foods and Beverages	Early Life Nutrition	Medical Nutrition	Nutrition Improvement	Naturally Sourced	Vegetarian
<b>ARASCO®</b> Nutritional oil from fungi containing min. 38% ARA (380 mg/g)	●	●	9 18 200	50 1500 2.043 50 1500 2.044 50 1500 2.046	●				●	●	●	●	●
<b>life's™ ARA '12' n-6 ARA Powder</b> Spray dried powder consisting of ARA derived from fungi in a matrix of fish gelatin, sucrose and corn starch, min. 12% (120mg) ARA per g		●	5	50 0324 5.304		●		●	●	●	●	●	●

## **life's™ DHA+ARA** (Vegetarian Omega-3 and Omega-6 Long Chain Polyunsaturated Fatty Acids)

<b>Formulaid™-B (2:1 ARA:DHA)</b> From fungi and microalgae, containing 2 parts ARASCO® and 1 part DHASCO®-B	●	●	9 18 200	50 1559 0.043 50 1559 0.044 50 1559 0.046	●				●	●	●	●	●
<b>Formulaid™-B (1:1 ARA:DHA)</b> From fungi and microalgae, containing 1 part ARASCO® and 1 part DHASCO®-B	●	●	9 18 200	50 1591 9.043 50 1591 9.044 50 1591 9.046	●				●	●	●	●	●

## **Additional information | life's™ ARA (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.

### **Health benefits & solutions:**

Essentials for early life.

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

Product and Description	Certifications		Pack size (kg)	Product code	Form		Main application		Specific application				
	Kosher	Halal			Liquid	Powder	Dietary Supplements	Foods and Beverages	Early Life Nutrition	Medical Nutrition	Nutrition Improvement	Naturally Sourced	Vegetarian
<b>MEG-3® 30% B Powder</b> Microencapsulated powder based on bovine gelatin, min. 150mg – max. 220mg EPA + DHA and min. 180mg total Omega-3 per g			10	50 1622 8.332		●	●	●				●	
<b>MEG-3® DHA rf Powder</b> Microencapsulated powder based on fish gelatin, 132mg DHA and min. 184mg total Omega-3 per g		●	10	50 1631 5.322		●	●		●			●	
<b>MEG-3® DHA B Powder</b> Microencapsulated powder based on bovine gelatin, 132mg DHA and min. 184mg total Omega-3 per g			10	50 1622 7.322		●	●	●				●	
<b>MEG-3® 26% H Powder</b> Microencapsulated powder based on fish gelatin, min 144mg – max 220mg EPA+DHA and min 180mg total Omega-3 per g		●	10	50 1624 4.322		●	●					●	
<b>MEG-3® '10' n-3 INF Powder</b> Beadlet powder consisting of DHA from fish in a corn starch coated matrix of fish gelatin and sucrose, min. 7% (70mg) DHA per g		●	5	04 8039 8.304		●	●		●			●	
<b>MEG-3® '10' n-3 INF Powder S/SD</b> Spray dried powder consisting of DHA from fish in a matrix of modified food starch and sucrose, min. 7% (70mg) DHA per g		●	5	50 0639 2.304		●	●		●			●	
<b>MEG-3® '15' n-3 High DHA Powder S/SD</b> Spray dried powder consisting of DHA from fish in a matrix of modified food starch and sucrose, min. 11% (110mg) DHA per g		●	5	50 1163 9.304		●	●		●			●	

## Additional information | MEG-3® (omega-3 oils)

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### **Role:**

MEG-3® contains eicosapentaenoic acid (EPA) and docosahexaenoic acid (DHA). 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.

### **Food sources:**

The primary dietary source of DHA and EPA is fatty fish.

### **Health benefits & solutions:**

Empower your mind, Enhance your mobility, Guard your heart, Optimize your immunity, Upgrade your vision, Essentials for healthy aging, Essentials for vegetarians, Nourish your beauty, Power your performance.

### **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 fetus and breastfed infants.*
- *DHA maternal intake contributes to the normal development of the eye of the fetus 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. Claim is available in a total of six variations.

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# Nutraceuticals

- > ALL-Q® / Coenzyme Q10
- > Fabules®
- > Metafolin®
- > PeptoPro®
- > resVida®
- > geniVida®

## All-Q® / Coenzyme Q10

Product and Description	Certifications		Pack size (kg)	Product code	Form		Specific application							
	Kosher	Halal			Liquid	Powder	Dietary Supplements	Foods and Beverages	Early Life Nutrition	Medical Nutrition	Nutrition Improvement	Naturally Sourced	Vegetarian	
All-Q® (Coenzyme Q10) 10% CWS/S Beadlet,†† cold water dispersible. Starch-based	●	●	5 25	50 0416 0.304 50 0416 0.368		●	●	●						●

†† Product formulations which utilise Actilease® beadlet technology. Actilease® improves absorption and eases handling.

### Additional information

**Role:**

Coenzyme Q10 (CoQ10) has antioxidant activity and is 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; lesser amounts in some vegetables such as broccoli and cauliflower.

**Health benefits & solutions:**

Heart health, Healthy longevity, Men’s health, Active performance.

## Fabules® / Specialty emulsion for satiety – Naturally sourced

Product and Description	Certifications		Pack size (kg)	Product code	Form		Specific application							
	Kosher	Halal			Liquid	Powder	Dietary Supplements	Foods and Beverages	Early Life Nutrition	Medical Nutrition	Nutrition Improvement	Naturally Sourced	Vegetarian	
Fabules® DE Fine powder, 33% functional lipid content	●	●	20	51 1400 0.341		●	●	●						●

### Additional information

**Role:**

Fabules® is a patent-protected combination of palm and oat oil (both naturally occurring lipids) that is formulated in an emulsion. It’s microstructure aids in early gut health 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.

**Health benefits & solutions:**

Weight management.

## Metafolin® / The naturally-occurring predominant form of folate

Product and Description	Certifications		Pack size (kg)	Product code	Form		Specific application						
	Kosher	Halal			Liquid	Powder	Dietary Supplements	Foods and Beverages	Early Life Nutrition	Medical Nutrition	Nutrition Improvement	Naturally Sourced	Vegetarian
Metafolin®	●	●	100 g 1	50 1557 1.074 50 1557 1.270		●	●	●					●

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

### Additional information

#### Role:

There are primarily two forms of folate, folic acid and methylfolate. Metafolin® is identical to methylfolate. Folic acid is the synthetic form found in many dietary supplements and fortified foods. After absorption, it must go through a series of enzymatic processes to convert to the active form, methylfolate (Metafolin®). Depending on the population, up to half of people have limited ability to convert folic acid to methylfolate (Metafolin®).

Methylfolate is one of the forms found naturally in foods. Since it is already in the active form, it does not need to be converted. Methylfolate is the form found in red blood cells. It is also more bioavailable and absorbed faster than folic acid. Additionally, unlike folic acid, Metafolin does not mask vitamin B12 deficiency and does not cause accumulation of unmetabolized folic acid in the body.

#### Food sources:

Dark green leafy vegetables (spinach, kale, broccoli, asparagus, brussel sprouts), legumes, whole grains, fruits/berries and their juices, eggs.

#### Health benefits & solutions:

Brain health, Heart health, Immunity, Infant health.

#### 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.*

## PeptoPro® / Dairy-based peptides – Naturally sourced

Product and Description	Certifications		Pack size (kg)	Product code	Form		Specific application						
	Kosher	Halal			Liquid	Powder	Dietary Supplements	Foods and Beverages	Early Life Nutrition	Medical Nutrition	Nutrition Improvement	Naturally Sourced	Vegetarian
PeptoPro® Powder	●	●	15	50 0714 3.201		●	●	●					●

### Additional information

**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 tripeptides, 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. An adequate amount of protein is important for muscle maintenance in older consumers.

**Food sources:**

Dairy.

**Health benefits & solutions:**

Mobility, Healthy longevity, Active performance.

**EU health claims:**

- Protein contributes to a growth in muscle mass.
- Protein contributes to the maintenance of muscle mass.

## resVida® / High-purity trans-resveratrol

Product and Description	Certifications		Pack size (kg)	Product code	Form		Specific application							
	Kosher	Halal			Liquid	Powder	Dietary Supplements	Foods and Beverages	Early Life Nutrition	Medical Nutrition	Nutrition Improvement	Naturally Sourced	Vegetarian	
resVida® Crystalline powder, min. 99% trans-resveratrol	●	●	1	50 1439 5.268										
			5	50 1439 5.304		●	●	●						●
			20	50 1439 5.344										

### Additional information

**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. Resveratrol has been shown to improve blood flow may improve cognitive function.

**Food sources:**

Wine, grapes, peanuts and berries.

**Health benefits & solutions:**

Brain health, Heart health, Immunity, Healthy longevity.

## geniVida® / High-purity genistein

Product and Description	Certifications		Pack size (kg)	Product code	Form		Specific application							
	Kosher	Halal			Liquid	Powder	Dietary Supplements	Foods and Beverages	Early Life Nutrition	Medical Nutrition	Nutrition Improvement	Naturally Sourced	Vegetarian	
geniVida® Crystalline powder, minimum 98.5% genistein	●	●	1	50 1632 4.268		●	●							●
			5	50 1632 4.304										

### Additional information

**Role:**

Genistein is an isoflavone found in soybeans, soy flour, soy milk, soy protein concentrate (water washed) and soy protein isolates, that has the ability to bind selectively to the estrogen alpha and beta receptors and modulate gene expression. geniVida® 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.

**Health benefits & solutions:**

Mobility, Healthy longevity, Women’s health, Beauty from within.

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# Carotenoids

- > CaroCare®
- > Quali®-Carotene
- > Apocarotenal
- > Canthaxanthin
- > FloraGLO®
- > redivivo®
- > OPTISHARP®

## CaroCare® / β-Carotene (Pro-Vitamin A) – Naturally sourced

Product and Description	Certifications		Pack size (kg)	Product code	Form		Specific application						Color	
	Kosher	Halal			Liquid	Powder	Dietary Supplements	Foods and Beverages	Early Life Nutrition	Medical Nutrition	Nutrition Improvement	Naturally Sourced		Vegetarian
<b>CaroCare® Nat. β-Carotene 1% CWS/M</b> Powder, cold water dispersible. Based on medium chain triglycerides	●	●	5 20	50 1212 0.304 50 1212 0.341		●		●				●	●	Yellow
<b>CaroCare® Nat. β-Carotene 10% CWS Star</b> Beadlet*, cold water dispersible. Starch-based	●	●	5 20	50 1093 4.341		●		●				●	●	Orange
<b>CaroCare® Nat. β-Carotene 10% CWS/S</b> Spray-granulated powder, cold water dispersible. Starch-based	●	●	10	50 1484 2.141		●		●				●	●	Yellow-Orange to Orange
<b>CaroCare® Nat. β-Carotene 20% CWS/S-TG</b> Spray-granulated powder, cold water dispersible. Starch-based	●	●	10	50 1484 4.141		●	●	●				●	●	Yellow-Orange to Orange
<b>CaroCare® Nat. β-Carotene 30% S</b> Fluid suspension	●	●	5	50 1480 8.302	●		●	●				●	●	Yellow
<b>CaroCare® Nat. β-Carotene 30% OS</b> Fluid suspension	●	●	5 200	50 1401 4.302 50 1401 4.400	●		●	●				●	●	Yellow

\* Product formulations which utilise Actilease® beadlet technology. Actilease® combines easy handling, bioavailability, and stability of the active.

## Quali®-Carotene / β-Carotene (Pro-Vitamin A)

Product and Description	Certifications		Pack size (kg)	Product code	Form		Specific application						Color	
	Kosher	Halal			Liquid	Powder	Dietary Supplements	Foods and Beverages	Early Life Nutrition	Medical Nutrition	Nutrition Improvement	Naturally Sourced		Vegetarian
<b>β-Carotene 1% CWS/M</b> Powder, cold water dispersible. Based on medium chain triglycerides	●	●	5 25	50 1628 0.304 50 1628 0.368		●		●					●	Yellow
<b>β-Carotene 3% CWS/M</b> Powder, cold water dispersible. Based on medium chain triglycerides	●	●	5	50 0363 6.304		●		●					●	Yellow
<b>β-Carotene 7% CWS</b> Powder, cold water dispersible	●	●	10	04 8228 5.231		●		●						Yellow-Orange
<b>β-Carotene 10% CWS</b> Beadlet*, cold water dispersible	●	●	1 5 25	04 3482 5.268 04 3482 5.304 04 3482 5.368		●		●						Yellow-Orange to Orange
<b>β-Carotene 10% CWS/S</b> Beadlet*, cold water dispersible. Starch-based	●	●	5 20	04 8999 9.304 (Origin: Switzerland) 04 8999 9.314 (Origin: Switzerland)		●		●					●	Yellow-Orange to Orange
<b>β-Carotene 10% CWS/S</b> Spray-granulated powder, cold water dispersible. Starch-based	●	●	5	50 1576 7.304 (Origin: Spain)		●		●					●	Yellow-Orange to Orange
<b>BetaTab® 20% S</b> Beadlet*, tablet grade. Starch-based	●	●	5 25	50 0400 4.304 50 0400 4.368		●	●						●	
<b>β-Carotene 15% LCS</b> Powder, cold water dispersible	●	●	5 25	50 1577 6.304 50 1577 6.341		●	●	●					●	Low color saturation

## Quali®-Carotene / β-Carotene (Pro-Vitamin A) – Continued

Product and Description	Certifications		Pack size (kg)	Product code	Form		Specific application							Color
	Kosher	Halal			Liquid	Powder	Dietary Supplements	Foods and Beverages	Early Life Nutrition	Medical Nutrition	Nutrition Improvement	Naturally Sourced	Vegetarian	
<b>β-Carotene 10% Emulsion Red</b> Liquid emulsion	●	●	6	50 1253 8.147	●		●	●					●	Red
<b>β-Carotene 10% EM Yellow</b> Liquid emulsion	●	●	5	50 0242 7.301	●		●	●					●	Yellow
<b>β-Carotene 5% EM K</b> Liquid emulsion	●	●	5 25	50 1125 6.311 50 1125 6.356	●		●	●					●	Yellow
<b>β-Carotene 2.5% Emulsion CC</b> Liquid emulsion	●	●	6	50 1477 8.147	●			●					●	Yellow
<b>β-Carotene 30% FS</b> Fluid suspension	●	●	1 5 5	04 2723 3.266 04 2723 3.311 04 2723 3.294	●		●	●					●	Yellow
<b>β-Carotene 30% FS/SF</b> Fluid suspension in sunflower oil	●	●	5	50 0023 8.311	●		●	●					●	Yellow
<b>β-Carotene 22% HSS</b> Fluid suspension, heat stable	●	●	20†	04 6604 2.313	●		●	●					●	Yellow

\* Product formulations which utilise Actilease® beadlet technology. Actilease® combines easy handling, bioavailability, and stability of the active.

## Additional information | 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.

### Health benefits & solutions:

Health from the gut, Immunity, Eye health, Children & young adults, Healthy longevity, Maternal health, Vegetarians & vegans, Beauty from within.

### 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 specialization.*

## Apocarotenal (8'-apo-β-Carotenal)

Product and Description	Certifications		Pack size (kg)	Product code	Form		Specific application							Color
	Kosher	Halal			Liquid	Powder	Dietary Supplements	Foods and Beverages	Early Life Nutrition	Medical Nutrition	Nutrition Improvement	Naturally Sourced	Vegetarian	
<b>Apocarotenal 1% CWS/M</b> Powder, cold water dispersible. Based on medium chain triglycerides	●	●	5 25	50 0631 7.304 50 0631 7.368		●		●					●	Orange to Orange-Red
<b>Apocarotenal 10% WS/N</b> Beadlet*	●	●	1	04 8737 6.268		●		●						Orange-Red to Red
<b>Apocarotenal 20% S</b> Fluid suspension	●	●	1 5 20	04 8093 2.266 04 8093 2.311 04 8227 7.313 (Origin: France)	●			●					●	Yellow-Orange to Orange
<b>Carotenal Solution #2</b> 2% 8'-apo-β-Carotenal	●	●	20**	04 8227 7.199 (Origin: USA)	●			●					●	Orange
<b>Carotenal Solution #73</b> 1.4% 8'-Apo-β-carotenal and 0.6% β-Carotene solution (70:30 ratio)		●	20 20**	04 805 4 1.313 (Origin: France) 04 805 4 1.199	●			●					●	Yellow-Orange

\* Product formulations which utilise Actilease® beadlet technology. Actilease® combines easy handling, bioavailability, and stability of the active. \*\* Only for North America.

## Additional information

### Role:

Apocarotenal may be used in some regions as a food additive coloring properties.

### Food sources:

Citrus fruits such as oranges and green leafy vegetables such as spinach.

## Canthaxanthin

Product and Description	Certifications		Pack size (kg)	Product code	Form		Specific application							Color	
	Kosher	Halal			Liquid	Powder	Dietary Supplements	Foods and Beverages	Early Life Nutrition	Medical Nutrition	Nutrition Improvement	Naturally Sourced	Vegetarian		
<b>Canthaxanthin 10% CWS/S</b> Beadlet*, cold water dispersible. Starch-based	●	●	1	50 0525 6.268											Orange-Red to Red
			5	50 0525 6.304		●		●					●		
			20	50 0525 6.341											

\* Product formulations which utilise Actilease® beadlet technology. Actilease® combines easy handling, bioavailability, and stability of the active.

## Additional information

### Role:

Canthaxanthin is a widely distributed pigment in nature and may be used as a food additive with coloring properties in some regions.

### Food sources:

Green algae, crustaceans, and bioaccumulates in fish.

## FloraGLO® / Lutein – Naturally sourced

Product and Description	Certifications		Pack size (kg)	Product code	Form		Specific application							Color
	Kosher	Halal			Liquid	Powder	Dietary Supplements	Foods and Beverages	Early Life Nutrition	Medical Nutrition	Nutrition Improvement	Naturally Sourced	Vegetarian	
<b>FloraGLO® Lutein 1% SD/S</b> Powder, cold water dispersible. Starch-based	●	●	20	50 1514 9.341		●		●	●		●	●	●	Very low color saturation
<b>FloraGLO® Lutein 5% CWS/S-TG</b> Beadlet*, tablet grade and cold water dispersible. Starch-based	●	●	5 25 5** 25**	50 1206 6.304 50 1206 6.368 (Origin: Switzerland) 50 1206 6.605 50 1206 6. 606 (Origin: USA)		●	●				●	●	●	Yellow
<b>FloraGLO® Lutein 10% CWS/S-TG</b> Beadlet*, tablet grade and cold water dispersible. Starch-based	●	●	5 25 5** 25**	50 1186 8.304 50 1186 8.368 (Origin: Switzerland) 50 1186 8.605 50 1186 8.606 (Origin: USA)		●	●	●			●	●	●	Yellow-Orange
<b>FloraGLO® Lutein 10% SG-VG</b> Spray-granulated powder, tablet grade and cold water dispersible. Starch-based	●	●	5	50 1595 3.304		●	●	●			●	●	●	Yellow to Yellow-Orange
<b>FloraGLO® Lutein 20% SAF</b> Fluid suspension in safflower oil	●	●	1 5 20 1** 5** 20**	50 1187 6.264 50 1187 6.294 50 1187 6.331 (Origin: France) 50 1187 6.263 50 1187 6.694 50 1187 6.335 (Origin: USA)	●		●	●			●	●	●	
<b>FloraGLO® OPTISHARP® 5:1 24% FS</b> Fluid suspension, with a lutein:zeaxanthin ratio of 5:1	●	●	5 20	50 1589 6.294 50 1589 6.311	●		●	●			●	●	●	
<b>Macu-LZ™ 5/1 24% CWS/S-TG</b> Beadlet*, tablet grade and cold water dispersible. Starch-based Lutein:zeaxanthin isomers ratio of 5:1	●	●	50 g 10	50 1653 1.004 50 1653 1.141		●	●	●			●	●	●	
<b>Macu-LZ™ 5/1 24% FS</b> Fluid suspension, with a lutein:zeaxanthin isomers ratio of 5:1	●	●	1 5	50 1647 5.266 50 1647 5.302	●		●	●			●	●	●	

FloraGLO® and Macu-LZ™ are a trademarks of Kemin Industries, Inc. \* Product formulations which utilise Actilease® beadlet technology. Actilease® combines easy handling, bioavailability, and stability of the active. \*\* Only for North America.

## **Additional information | FloraGLO® / Lutein – Naturally sourced**

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### **Role:**

Lutein and Zeaxanthin are natural yellow pigments found in cellular membranes, which cannot be produced by the body, but rather must be absorbed from the diet. These carotenoids absorb blue light and act as free radical scavengers in vitro. Lutein and Zeaxanthin are naturally found in maternal placenta and cord blood, as well as in colostrum and breast milk; they are structural components of the human eye and brain.

### **Food sources:**

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

### **Health benefits & solutions:**

Brain health, Eye health, Infant health, Children & young adults, Skin health.

## redivivo® / Lycopene

Product and Description	Certifications		Pack size (kg)	Product code	Form		Specific application							Color
	Kosher	Halal			Liquid	Powder	Dietary Supplements	Foods and Beverages	Early Life Nutrition	Medical Nutrition	Nutrition Improvement	Naturally Sourced	Vegetarian	
<b>redivivo® (Lycopene) 10% CWS/S-TG</b> Beadlet, tablet grade and cold water dispersible. Starch-based	●	●	5 25	50 0379 2.304 (Origin: Switzerland) 50 0379 2.368 (Origin: Switzerland)		●	●	●					●	Orange-Red to Red
<b>redivivo® (Lycopene) 10% FS</b> Fluid suspension	●	●	5	50 0020 3.294	●		●	●					●	
<b>redivivo® 10% CWS/S-TG</b> Spray granulated powder, tablet grade and cold water dispersible. Starch-based	●	●	5	50 1598 1.304 (Origin: Spain)		●	●	●					●	Orange-Red to Red

### Additional information

**Role:**

Lycopene is the carotenoid responsible for the red color in tomatoes and is the most abundant carotenoid in human serum. With its antioxidant activity, 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.

**Health benefits & solutions:**

Heart health, Healthy longevity, Maternal health, Men’s health, Beauty from within.

## OPTISHARP® / Zeaxanthin – Naturally sourced

Product and Description	Certifications		Pack size (kg)	Product code	Form		Specific application							Color
	Kosher	Halal			Liquid	Powder	Dietary Supplements	Foods and Beverages	Early Life Nutrition	Medical Nutrition	Nutrition Improvement	Naturally Sourced	Vegetarian	
OPTISHARP® Natural (Zeaxanthin) 5% CWS/S-TG Spray granulated powder, cold water dispersible. Starch-based	●	●	10	50 1579 9.141		●	●	●			●	●	●	
OPTISHARP® Natural (Zeaxanthin) 14% Safflower Oil Fluid suspension	●	●	1 25	50 1576 6.263 50 1576 6.298	●		●	●			●	●	●	

### Additional information

**Role:**

Lutein and Zeaxanthin are natural yellow pigments found in cellular membranes, which cannot be produced by the body, but rather must be absorbed from the diet. These carotenoids absorb blue light and act as free radical scavengers *in vitro*. Lutein and Zeaxanthin are naturally found in maternal placenta and cord blood, as well as in colostrum and breast milk; they are structural components of the human eye and brain.

**Food sources:**

Dark green leafy vegetables such as spinach, turnip and collard greens, lettuce and kale, and other vegetables such as persimmons, corn and peppers, and yellow/orange fruits such as mandarine and tangerine.

**Health benefits & solutions:**

Brain health, Eye health, Healthy longevity, Beauty from within.

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# Minerals

- › Copper Sulfate
- › Ferrous Sulfate
- › Potassium Iodide
- › Manganese Sulfate
- › Zinc Sulfate
- › Sodium Selenite

## Copper Sulfate

Product and Description	Certifications		Pack size (kg)	Product code	Form		Specific application					
	Kosher	Halal			Liquid	Powder	Dietary Supplements	Foods & Beverages	Early Life Nutrition	Medical Nutrition	Nutrition Improvement	Vegetarian
<b>Copper sulfate SD 1.5% Cu</b> An aqueous solution of mineral encapsulated with glucose syrup is atomized in a spray drier. Starch based. Contains min 1.5% Copper. Does not contain a flow agent, e.g. silicon dioxide.	●	●	25	50 1840 1.368		●	●	●	●	●		●

### Additional information

**Role:**

Copper is an essential nutrient for the body. Together with iron, it enables the body to form red blood cells. It helps maintain healthy bones, blood vessels, nerves, and immune function, and it contributes to iron absorption. Sufficient copper in the diet may help prevent cardiovascular disease and osteoporosis.

**Food sources:**

Found in highest amounts in protein foods like organ meats, shellfish, fish, nuts, and seeds as well as whole grains and chocolate.

**Health benefits & solutions:**

Brain health, Mobility, Heart health, Immunity, Beauty from within, Active performance.

**EU health claims:**

- *Copper contributes to maintenance of normal connective tissues.*
- *Copper contributes to normal energy-yielding metabolism.*
- *Copper contributes to normal functioning of the nervous system.*
- *Copper contributes to normal hair pigmentation.*
- *Copper contributes to normal iron transport in the body.*
- *Copper contributes to normal skin pigmentation.*
- *Copper contributes to the normal function of the immune system.*
- *Copper contributes to the protection of cells from oxidative stress.*

## Ferrous Sulfate

Product and Description	Certifications		Pack size (kg)	Product code	Form		Specific application					
	Kosher	Halal			Liquid	Powder	Dietary Supplements	Foods & Beverages	Early Life Nutrition	Medical Nutrition	Nutrition Improvement	Vegetarian
<b>Ferrous sulfate SD 3% Fe</b> An aqueous solution of mineral, stabilized with citric acid, encapsulated with glucose syrup is atomized in a spray drier. Starch based. Contains min 3% Iron. Does not contain a flow agent, e.g. silicon dioxide.	●	●	25	50 1825 2.368 50 1839 9.368		●	●	●	●	●		●

## Additional information

### Role:

Iron is a mineral that the body needs for growth and development. Your body uses iron to synthesize hemoglobin, a protein in red blood cells that carries oxygen from the lungs to all parts of the body, and myoglobin, a protein that provides oxygen to muscles. Your body also needs iron to synthesize some hormones.

### Food sources:

Liver (but avoid this during pregnancy), red meat, beans, such as red kidney beans, edamame beans and chickpeas, nuts, dried fruit – such as dried apricots, fortified breakfast cereals, soy bean flour.

### Health benefits & solutions:

Brain health, Immunity, Women’s health, Vegetarians & vegans, Active performance.

### EU health claims:

- Iron contributes to normal cognitive function.
- Iron contributes to normal energy-yielding metabolism.
- Iron contributes to normal formation of red blood cells and haemoglobin.
- Iron contributes to normal oxygen transport in the body.
- Iron contributes to the normal function of the immune system.
- Iron contributes to the reduction of tiredness and fatigue.
- Iron has a role in the process of cell division.

## Potassium Iodide

Product and Description	Certifications		Pack size (kg)	Product code	Form		Specific application					
	Kosher	Halal			Liquid	Powder	Dietary Supplements	Foods & Beverages	Early Life Nutrition	Medical Nutrition	Nutrition Improvement	Vegetarian
<b>Potassium Iodide SD 0.25% I</b> An aqueous solution of mineral encapsulated with glucose syrup is atomized in a spray drier. Starch based. Contains min 0.25% Iodide. Does not contain a flow agent, e.g. silicon dioxide.	●	●	25	50 1556 9.368		●	●	●	●	●		●

### Additional information

**Role:**

Iodine helps the thyroid gland to make the hormone thyroxine. Thyroxine is important for the growth of bones and nerves, and how proteins, fats and carbohydrates are used in the body. Iodine is important before birth and in babies and young children. It is particularly important during pregnancy, when sufficient maternal intake is vital for healthy fetal and infant development. Iodine deficiency is the leading cause of goiter, which is the enlargement of the thyroid gland.

**Food sources:**

Beans, nuts, dairy foods, fish, seaweed and shellfish.

**Health benefits & solutions:**

Brain health, Infant health, Beauty from within, Active performance.

**EU health claims:**

- *Iodine contributes to normal cognitive function.*
- *Iodine contributes to normal energy-yielding metabolism.*
- *Iodine contributes to normal functioning of the nervous system.*
- *Iodine contributes to the maintenance of normal skin.*
- *Iodine contributes to the normal production of thyroid hormones and normal thyroid function.*

## Manganese Sulfate

Product and Description	Certifications		Pack size (kg)	Product code	Form		Specific application					
	Kosher	Halal			Liquid	Powder	Dietary Supplements	Foods & Beverages	Early Life Nutrition	Medical Nutrition	Nutrition Improvement	Vegetarian
<b>Manganese sulfate SD 0.1% Mn</b> An aqueous solution of mineral encapsulated with glucose syrup is atomized in a spray drier. Starch based. Contains min 0.1% Manganese. Does not contain a flow agent, e.g. silicon dioxide.	●	●	25	50 1557 0.368		●	●	●	●	●		●

### Additional information

**Role:**

Manganese helps the body form connective tissue, bones, blood clotting factors, and sex hormones. It also plays a role in fat and carbohydrate metabolism, calcium absorption, and blood sugar regulation. Manganese is also necessary for normal brain and nerve function.

**Food sources:**

Shellfish (mussels, oysters, clams), nuts (especially hazelnuts and pecans), brown rice, oatmeal, legumes (soybeans, kidney beans, chickpeas, lentils, peanuts), black tea, spinach.

**Health benefits & solutions:**

Mobility, Heart health, Immunity, Active performance

**EU health claims:**

- *Manganese contributes to normal energy-yielding metabolism.*
- *Manganese contributes to the maintenance of normal bones.*
- *Manganese contributes to the normal formation of connective tissue.*
- *Manganese contributes to the protection of cells from oxidative stress.*

## Zinc Sulfate

Product and Description	Certifications		Pack size (kg)	Product code	Form		Specific application					
	Kosher	Halal			Liquid	Powder	Dietary Supplements	Foods & Beverages	Early Life Nutrition	Medical Nutrition	Nutrition Improvement	Vegetarian
<b>Zinc sulfate SD 3% Zn</b> An aqueous solution of mineral encapsulated with glucose syrup is atomized in a spray drier. Starch based. Contains min 3% Zinc. Does not contain a flow agent, e.g. silicon dioxide.	●	●	25	50 1556 8.368		●	●	●	●	●		●

## Additional information

### Role:

Zinc, a nutrient found throughout your body, helps your immune system and metabolism function. Zinc is also important to wound healing and your sense of taste and smell.

### Food sources:

Oysters, but it's also plentiful in red meat and poultry. Other good sources are beans, nuts, crab, lobster, whole grains, breakfast cereals, and dairy products.

### Health benefits & solutions:

Brain health, Mobility, Heart health, Immunity, Eye health, Men's health, Women's health, Beauty from within, Active performance.

### EU health claims:

- Zinc contributes to normal DNA synthesis.
- Zinc contributes to normal acid-base metabolism.
- Zinc contributes to normal carbohydrate metabolism.
- Zinc contributes to normal cognitive function.
- Zinc contributes to normal fertility and reproduction.
- Zinc contributes to normal macronutrient metabolism.
- Zinc contributes to normal metabolism of fatty acids.
- Zinc contributes to normal metabolism of vitamin A.
- Zinc contributes to normal protein synthesis.
- Zinc contributes to the maintenance of normal bones.
- Zinc contributes to the maintenance of normal hair.
- Zinc contributes to the maintenance of normal nails.
- Zinc contributes to the maintenance of normal skin.
- Zinc contributes to the maintenance of normal testosterone levels in the blood.
- Zinc contributes to the maintenance of normal vision.
- Zinc contributes to the normal function of the immune system.
- Zinc contributes to the protection of cells from oxidative stress.
- Zinc has a role in the process of cell division.

## Sodium Selenite

Product and Description	Certifications		Pack size (kg)	Product code	Form		Specific application					
	Kosher	Halal			Liquid	Powder	Dietary Supplements	Foods & Beverages	Early Life Nutrition	Medical Nutrition	Nutrition Improvement	Vegetarian
<b>Sodium selenite SD 0.02% Se</b> An aqueous solution of mineral encapsulated with glucose syrup is atomized in a spray drier. Starch based. Contains min 0.02% Selenium. Does not contain a flow agent, e.g. silicon dioxide.	●	●	25	50 1840 0.368		●	●	●	●	●		●

### Additional information

**Role:**

Selenium is an essential trace mineral that the body needs to stay healthy. It is important for the reproduction, thyroid gland function, plays a role in protecting DNA from damage and supporting DNA repair processes, muscle health and protecting the body from damage caused by free radicals and infection. Selenium also supports immune health.

**Food sources:**

The richest sources of selenium are animal derived foods such as organ and muscle meat, eggs and dairy products, although some plant-based foods such as Brazil nuts and grains also contain selenium.

**Health benefits & solutions:**

Brain health, Heart health, Immunity, Infant health, Healthy longevity, Children & young adults, Men’s health, Women’s health.

**EU health claims:**

- *Selenium contributes to normal spermatogenesis.*
- *Selenium contributes to the maintenance of normal hair.*
- *Selenium contributes to the maintenance of normal nails.*
- *Selenium contributes to the normal function of the immune system.*
- *Selenium contributes to the normal thyroid function.*
- *Selenium contributes to the protection of cells from oxidative stress.*

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# Hydrocolloids (pectin)

## PECTNER™ / Pectin

Product and Description	Certifications		Pack Size (kg)	Product Code	Specific application						
	Kosher	Halal			Dietary Supplements	Foods and Beverages	Early Life Nutrition	Medical Nutrition	Nutrition Improvement	Naturally Sourced	Vegetarian
PECTNER™ APC102	●	●	25	5018202375	●	●		●	●	●	●
PECTNER™ APC104	●	●	25	5018203375	●	●		●	●	●	●
PECTNER™ APC105	●	●	25	5018204375	●	●		●	●	●	●
PECTNER™ APC169B	●	●	25	5018205375	●	●		●	●	●	●
PECTNER™ APC210	●	●	25	5018206375	●	●		●	●	●	●

PECTNER™ is a trademark of Yantai DSM Andre Pectin Co Ltd, a joint venture controlled by dsm-firmenich

## Additional information

### Role:

Pectin is a soluble dietary fiber that occurs in fruit. Due to its hydrocolloid properties, Pectin can be used as a natural thickening and gelling agent. In addition, pectin supports gut health and can positively impact the gut microbiota. Soluble fibers may also delay glucose absorption in the small intestine which aids glycemic control.

Consumer preferences are rapidly shifting (e.g., product formats, vegetarian, etc.). New product experiences can drive compliance and attract new consumer groups. To support this consumer shift, we offer a range of pectin ingredients. Leveraging our experience in taste, texture, and health, we have extensive know-how in bringing tailored functionalities – from gelling and texturizing, to usage in functional dietary supplements.

### Relevant functionalities of pectin include:

- *Vegan friendly gelatin replacement*
- *Thermally and pH stable texturizing agent*
- *Recognized for emulsifying and stabilizing properties*
- *Low-calorie prebiotic/fiber with increasing evidence on health benefits*
- *Good flavor release*

### Food Sources:

Pectin is derived from the peels of apples and citrus fruits (upcycling from juice production).

### Health benefits & solutions:

Heart health, Health from the gut, Vegetarians.

### EU claims:

- *Pectins contribute to the maintenance of normal blood cholesterol levels.\**
- *Consumption of pectins with a meal contributes to the reduction of the blood glucose rise after that meal.\*\**

### US FDA claim:

- *Approved as a dietary fiber.*

\* In order to bear the claim, information shall be given to the consumer that the beneficial effect is obtained with a daily intake of 6 g of pectins.

\*\* In order to bear the claim, information shall be given to the consumer that the beneficial effect is obtained by consuming 10 g of pectins as part of the meal.

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# Human milk oligosaccharides (HMOs)

## GLYCARE® / Human milk oligosaccharides (HMOs)

Product and Description	Certifications		Pack size (kg)	Product code	Form		Specific application							Shelf life	Purity level
	Kosher	Halal			Amorphous Powder	Crystalline Powder	Dietary Supplements	Foods and Beverages	Early Life Nutrition	Medical Nutrition	Nutrition Improvement	Naturally Sourced	Vegetarian		
GLYCARE® 2FL 9000	●	●	20	50 1655 2		●	●		●	●	●		●	5 years	At least 94%
GLYCARE® 2FL 9000 HA	●	●	20	51 1655 3		●	●		●	●	●		●	5 years	At least 94%
GLYCARE® 2FL 9000 S2	●	●	20	50 1660 9		●	●		●	●	●		●	5 years	At least 94%
GLYCARE® 2FL 9001	●	●	20	50 1783 8	●		●		●	●	●		●	5 years	At least 90%
GLYCARE® 2FL/DFL 8001	●	●	20	50 1656 0	●		●		●	●	●		●	5 years	At least 85%
GLYCARE® 2FL/DFL 8001 S1	●	●	20	50 1752 6	●		●		●	●	●		●	5 years	At least 85%
GLYCARE® 3FL 9001	●	●	20	50 1673 9	●		●		●	●	●		●	5 years	At least 90%
GLYCARE® LNnT 9000	●	●	10 & 20	50 1656 1		●	●		●	●	●		●	5 years	At least 92%
GLYCARE® LNnT 9000 HA	●	●	10 & 20	50 1656 2		●	●		●	●	●		●	5 years	At least 92%
GLYCARE® LNnT 9000 S1	●	●	10 & 20	50 1661 1		●	●		●	●	●		●	5 years	At least 92%
GLYCARE® LNnT 9000 S2	●	●	10 & 20	50 1669 8		●	●		●	●	●		●	5 years	At least 92%
GLYCARE® LNnT 8001	●	●	20	50 1718 0	●		●		●	●	●		●	5 years	At least 85%
GLYCARE® LNT 8001	●	●	10 & 20	50 1656 5	●		●		●	●	●		●	5 years	At least 70%
GLYCARE® LNT 8001 S1	●	●	20	50 1752 9	●		●		●	●	●		●	5 years	At least 70%
GLYCARE® 3SL 9001	●	●	10 & 20	50 1656 7	●		●		●	●	●		●	5 years	At least 88%
GLYCARE® 3SL 9001 S1	●	●	20	50 1752 7	●		●		●	●	●		●	5 years	At least 88%
GLYCARE® 6SL 9001	●	●	20	50 1657 0	●		●		●	●	●		●	5 years	At least 90%
GLYCARE® 6SL 9001 S1	●	●	20	50 1752 8	●		●		●	●	●		●	5 years	At least 90%

## Additional information | GLYCARE® / Human milk oligosaccharides (HMOs)

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### **Role:**

HMOs are non-digestible carbohydrates naturally found in human breast milk forming the third largest solid component of human milk. There are over 200 HMO structures that have been identified, but most occur at tiny quantity and about a dozen contributing the bulk. HMOs have been shown to positively shape the microbiome and developing immune system in infants. Emerging evidence suggests that HMOs may have health benefits beyond infancy and may support gut health and the immune system throughout the lifespan.

### **Food Sources:**

HMOs are naturally present at large amounts in breastmilk. Some HMOs can also be found in the milk of farmed animals (e.g. cow, goat, sheep, camel), but at comparably much smaller amounts.

### **Health Benefits & Solutions:**

Health from the gut, Immunity, Infant health.

Valuable effects of HMOs include promoting growth of beneficial intestinal bacteria thereby generating short-chain fatty acids which are critical for gut health. HMOs also directly modulate immune responses and can selectively reduce binding of pathogenic bacteria and viruses to the gut epithelium protecting against infection.

HMOs may also play a role in brain and cognitive development.

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# Biotics

- > Humiome<sup>®</sup> Vitamins
- > Humiome<sup>®</sup> Postbiotics
- > Humiome<sup>®</sup> Probiotics
- > ELN Probiotics

## Humiome® Vitamins

Product and Description	Certifications		Pack size (kg)	Product code	Form		Specific application								
	Kosher	Halal			Liquid	Powder	Dietary Supplements	Foods & Beverages	Early Life Nutrition	Medical Nutrition	Nutrition Improvement	Naturally Sourced	Vegetarian	Vegan	
Humiome® B2 with MTT™	●		1	50 1755 0.268		●	●					●		●	
			5	50 1755 0.304											
			25	50 1755 0.368											

MTT™ = Microbiome Targeted Technology; Product formulation utilizing MTT™. Combining easy handling, stability of the active and colon release.

## Additional information

### Role:

Humiome® B2 is the first biotic vitamin delivering Vitamin B2 to the colon via its MTT™ technology. MTT™ is designed to facilitate that large amounts of Humiome® B2 reaches the colon (~90%) while small fractions of Vitamin B2 (riboflavin) are expected to get released in the proximal intestine (~10%). Thus EC claims can still be applied. Humiome® B2 with MTT™ modulates the microbiome positively via increasing the microbiome diversity, contributes to intestinal homeostasis and enhances the resilience on top of the conventional claims known for riboflavin.

### Food sources:

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

### Health benefits & solutions:

Health from the gut, Immunity.

### Emerging science biotic benefits:

- Humiome® B2 supports the growth of beneficial bacteria in the human colon.
- Humiome® B2 supports beneficial bacteria in their gut environment.
- Humiome® B2 could increase their functionality and production of colonic-butyrates.
- Humiome® B2 supports the communication between gut microbiome.
- Humiome® B2 helps to protect the environment from oxidative stress.
- Humiome® B2 helps to have a stronger gut defence (gut wall integrity).
- Humiome® B2 helps to nourish your second brain, your gut.

### 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.

### 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.

## Humiome® Postbiotics

Product and Description	Certifications		Pack size (kg)	Product code	Form		Specific application							
	Kosher	Halal			Liquid	Powder	Dietary Supplements	Foods & Beverages	Early Life Nutrition	Medical Nutrition	Nutrition Improvement	Naturally Sourced	Vegetarian	Vegan
Humiome® Post LB	●	●	20	50 1819 4.340		●	●				●	●	●	
Humiome® Post LB LF (lactose-free)	●	●	20	50 1844 4.340		●	●				●	●	●	

### Additional information

**Role:**

Postbiotics are a preparation of inanimate microorganisms and/or their components that confers a health benefit on the host.

**Health benefits & solutions:**

Immunity, Health from the gut.

**Benefit claims:**

- *Helps regular bowel movement and digestive comfort.*
- *Helps to regulate immunity.*
- *Supports & improves digestive health.*

## Humiome® Probiotics

Product and Description	Certifications		Pack size (kg)	Product code	Form		Specific application							
	Kosher	Halal			Liquid	Powder	Dietary Supplements	Foods & Beverages	Early Life Nutrition	Medical Nutrition	Nutrition Improvement	Naturally Sourced	Vegetarian	Vegan
Humiome® L. rhamnosus GG (ATCC 53103)	●	●	4x 2,5	50 1820 9.172		●	●				●	●	●	●
Humiome® B. lactis DSM 34602	●	●	4x 2,5	50 1835 4.010		●	●				●		●	●
Humiome® L. plantarum DSM 34532	●	●	4x 2,5	50 1846 5.186		●	●				●		●	●

### Additional information

**Role:**

Probiotics are live microorganisms that, when administered in adequate amounts, confer a health benefit on the host.

**Health benefits & solutions:**

Brain health, Health from the gut, Immunity, Healthy longevity.

**Benefit claims:**

- *May reduce the duration of acute diarrhea and enhance stool consistency in children and adults.*
- *May regulate the stool consistency (in elderly).*
- *May reduce the risk of developing respiratory infections (infants and children).*
- *Can promote cognitive health.*

## ELN Probiotics

Product and Description	Certifications		Pack size (kg)	Product code	Form		Specific application							
	Kosher	Halal			Liquid	Powder	Dietary Supplements	Foods & Beverages	Early Life Nutrition	Medical Nutrition	Nutrition Improvement	Naturally Sourced	Vegetarian	Vegan
<b>B.bifidium Rosell® -71 IF</b> <i>Bifidobacterium bifidum</i>			100 g 1 20	50 1833 7.S03 50 1833 7.341 50 1833 7.268		●			●				●	
<b>L. helveticus Rosell® -52 IF</b> <i>Lactobacillus helveticus</i>			100 g 1 20	50 1833 8.S03 50 1833 8.341 50 1833 8.268		●			●				●	
<b>B. infantis Rosell® -33 IF</b> <i>Bifidobacterium longum</i> sensp. <i>infantis</i>			100 g 1 20	50 1833 9.S03 50 1833 9.341 50 1833 9.268		●			●				●	
<b>B. lactis lafti® B94 IF</b> <i>Bifidobacterium animalis</i> subsp. <i>Lactis</i>			100 g 1 20	50 1834 0.S03 50 1834 0.341 50 1834 0.268		●			●				●	
<b>B. bifidum HA-132 IF</b> <i>Bifidobacterium bifidum</i>			100 g 1 20	50 1834 1.S03 50 1834 1.341 50 1834 1.268		●			●					

## Additional information

### Role:

Probiotic strains are live microorganisms that, when administered in adequate amounts, confer a health benefit to the host. Probiotic strains are naturally present in breastmilk and have been shown to shape the infant microbiome in the first three years of life – a critical window for its development, where the foundation for lifelong health is laid.

### Food Sources:

Probiotic strains are naturally present in breastmilk. Probiotics can also be found in fermented foods, such as yoghurt, kefir, and cheese.

### Health benefits & solutions:

Health from the gut, Immunity, Infant health.

Probiotics contribute to the foundation of lifelong health by colonizing the infant microbiome and supporting healthy growth and development, strengthening gut barrier function against pathogens, aiding in the development of the baby’s immune system, and supporting the developing gut-brain axis.

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# Digestive Enzymes

## Tolerase® G & Tolerase® L / Digestive enzymes

Product and Description	Certifications		Pack size (kg)	Product code	Form		Specific application							
	Kosher	Halal			Liquid	Powder	Dietary Supplements	Foods and Beverages	Early Life Nutrition	Medical Nutrition	Nutrition Improvement	Naturally Sourced	Vegetarian	
<b>Tolerase® G</b> Prolyl oligopeptidase. Micro granulated powder, 580,000 PPI/g	●	●	5	50 1488 3.304		●	●							●
<b>Tolerase® L</b> Acid lactase. Micro granulated powder, 100,000 ALU/g	●	●	5	50 1454 9.304		●	●							●

### Additional information

**Role:**

Tolerase® G is a micro granulated food enzyme preparation containing prolyl oligopeptidase. 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.

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 by-products cause diarrhoea, 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.

**Health benefits & solutions:**

Health from the gut.

**EU health claims:**

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

## Additional information | Labeling

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### **Kosher and Halal certification**

Typically our products have Kosher (OU) and the main Halal certifiers (IFANCA, HFCE, MUI). We occasionally use other certification organization as well, but these are typically for special cases or back-up. Information about the other available certificates may be available upon request.

### **Specific Product Information**

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

Some of the listed products are used either as vitamins (nutrients / Active Pharmaceutical Ingredients / excipients) 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.

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## Products

- Biotics
- Carotenoids
- Digestive enzymes
- Flavors & taste modulation
- Human milk oligosaccharides (HMOs)
- Nutritional lipids
- Pharmaceuticals
- Vitamins

## Customized solutions

- Market-ready solutions
- Premix solutions

## Expert services

- Application and technical services
- Innovation and R&D services
- Insights and marketing services
- Quality and regulatory services
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