AMETIS JSC

World leader in larch extracts and product manufacturing

ABOUT THE COMPANY

Ametis JSC is engaged in deep processing of larch wood for the purpose of unique natural substances extraction - Dihydroquercetin (taxifolin) and larch arabinogalactan, produced under the trade mark LAVITOL. These substances are successfully used in nutritional, food, cosmetic industries, in animal husbandry and agriculture.

Today, Ametis JSC is the largest manufacturer of Dihydroquercetin (taxifolin), which accounts for over 70% of the total production volume of this product. The annual volumes of manufactured Dihydroquercetin exceed 13 tons, and larch arabinogalactan - 40 tons.

Ametis JSC has its own patented technology. ISO 9001:2015, ISO 22000-2005, HACCP complying production line. The technological production line is equipped with modern high-tech equipment, which allows to produce high quality products.

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Ametis JSC was founded on June 25, 1998 in Blagoveschensk, Amur region. Customer focus, high-tech and innovative approach to the production process, as well as the strict requirements to the quality of manufactured products, allow not only occupying its niche in Russia, but also expanding successfully into international markets.

2003-2007

In 2005 the first batch of DHQ was produced and in the end of this year Ametis JSC went over planned production capacity. In 2005 Ametis JSC became a member of the Amur Commercial & Industrial Chamber of Commerce. In 2005, 2006 and 2007 Ametis JSC received the first place in the regional competition "The best small-scale enterprise in the Amur Region" (Russia).

2008

Since 2008 Ametis JSC produces dietary food supplements on the basis of own raw materials. In 2008 Ametis JSC received an award presented by the Ministry of Economic Development & Foreign Relations for the best innovative project realized on the territory of Amur Region "Experimental-industrial line of larch processing".

2009

In 2009 Ametis JSC produced the first batch of "Lavitol (Dihydroquercetin)" with the highest degree of purification - more than 99%. The production analytical laboratory of the enterprise is accredited by the accreditation system of analytical laboratories for the technical competence in determination of the dihydroquercetin content. Ametis JSC received self-affirmed GRAS (Generally Recognized as Safe) status for "Lavitol (Dihydroquercetin)".

2010

Ametis JSC was nominated as one of the winners in an open competition "Assistance Fund for the development of a small-scale enterprise in the scientific and technical sphere", Ametis JSC received the Certificate of ISO 9001:2008 including HACCP. New field of application of Dahurian Larch tree extracts in the agriculture was developed.

2011-2012

Ametis JSC is the laureate of the Federal Program "100 best products in Russia-2011". Ametis JSC is among the winners of the investment competition «Annual Public Award-Regions - Sustainable Development». Dihydroquercetin produced by Ametis JSC is registered as pharmaceutical substance (PC-000388).

2013

Ametis JSC entered the Top 100 most innovative fastest-growing Russian companies. Ametis JSC received the license for production of medicines №12206-ЛС-П

2014

Ametis JSC received the registration documents for production of microbiological fertilizers "BioBesta" and plant growth regulator "EcoLarix". Arabinogalactan, manufactured by Ametis JSC, has been registered as pharmaceutical substance.
Our mission is to become one of the world leading companies in manufacturing of unique natural substances from larch tree. We develop, produce and offer safe, highly effective natural products, improving the quality of consumers' life. We achieve our goals in creating innovative production environments, improvement of technologies and implementation of such technologies through know-how, that can maximize inherent potential of larch wood.

Our values

Innovation and development.
We are constantly moving forward, striving to be better in all aspects of our business, be one step ahead by implementing new technologies at all stages of production process and setting the current market trends.

Focus on care and team spirit.
We have teamed up and created joint team of highly qualified experts. Our strength lies in care, support and respect to our employees, which in turn take care of our customers and business partners.

Partnership and integrity.
We acknowledge only mutually beneficial cooperation, adhere to the principles of sustainability, transparency and honesty of relations. We highly value and encourage the dedication of our employees and partners.

Safety and environmental responsibility.
We create and maintain safe working conditions and demonstrate the Company's commitment to the health, safety and comfort of our staff. We strive to comply with the principles ensuring environment preservation, aimed at prevention of environmental pollution and efficient management of energy and natural resources.
QUALITY CONTROL

The quality management system of Ametis JSC was developed and implemented in accordance with the requirements of ISO 9001:2015 standards in relation to manufacture of food additives, dietary supplements and raw materials for their production.

Quality control is carried out at all stages of the production process and monitored by the Quality control department. The quality control personnel have been training for internal audit of the quality management system and received certificates confirming the compliance to the requirements of ISO 9001:2015, ISO 22000-2005, HACCP standards.

Each product manufactured by Ametis JSC is analyzed in the analytical laboratory of the enterprise as well as in the independent accredited testing analytical laboratory centers.

In addition, products manufactured by Ametis JSC are periodically tested by independent international laboratories. Each batch of the finished product is accompanied by a Certificate of Analysis and a chromatogram.

Ametis JSC has its own patented technology of the extraction of Dihydroquercetin.

High volume production of larch substances -Dihydroquercetin and larch arabinogalactan, which guarantees an uninterrupted supply of top-quality products.

Ametis JSC is the largest dihydroquercetin manufacturer in the world. The dihydroquercetin content in produced lavitol (Dihydroquercetin) varies from 70% to 99.5% that could cover all demands of customers.

The technological production lines is equipped with modern high-tech equipment, which allows to produce high quality products with maximal preservation of health benefits and ensure required production volume.

The company works closely with scientific researches and technical developments that provide the basis for further growth and development of the company.

The subsidiary enterprise - Ametis-Invest has the status of a participant of the project for development and ensuring the functioning of the innovative center «SKOLKOVO».

The status of the resident of SKOLKOVO offers certain benefits as the innovative company and opens new opportunities for development.

ISO 9001:2015, ISO 22000-2005, including HACCP certified enterprise;

Ametis JSC is US FDA registered facility;

Received self-affirmed GRAS (Generally Recognized as Safe) status for «Lavitol (Dihydroquercetin)» in the USA.

Ametis JSC was authorized the placing on the EU market as the novel food ingredient in production of dietary supplements and food products.
The main activity of the company concentrates on the deep processing of larch wood for the purpose of further extraction of unique natural substances - Larch arabinogalactan and Daurian larch extract, featuring Dihydroquercetin/Taxifolin.

Larch bark extract - a mixture of proanthocyanidins, dihydroflavonols and phenolic acids.

Betulin - natural emulsifier, antioxidant and preservative.

Chaga mushroom extract - natural stimulant, providing protective and anti-inflammatory effect has antimicrobial and antiseptic properties.

Dihydroquercetin - natural antioxidant with high biological activity, has positive effects on metabolic reactions and dynamics of various pathological processes.

Larch arabinogalactan - natural polysaccharide; has gastroprotective, immunomodulating properties, promotes better nutritive absorption and digestion in the GIT.

By-products derived from larch: larch resin, larch oil.

In 2014 Ametis JSC has implemented and launched production of the birch bark extract (betulin) and the Chaga mushroom extract.

Chaga mushroom extract helps to regulate the immune system, has anti-inflammatory and anti-viral properties.

Betulin enriched birch bark extract exhibits anti-viral, hepatoprotective properties.

Larch oil has high antiviral and biological activity.

Larch resin has antioxidant, antiseptic, capillary protective, anti-inflammatory, antimicrobial wound healing properties.
Dahurian larch tree extract - Dihydroquercetin/Taxifolin is an active antioxidant of natural origin with a high biological activity and a whole range of positive effects on metabolic different pathological processes, allowing to put dihydroquercetin on the first positions among the substances with similar spectrum of action.

The presence of dihydroquercetin in the composition of foods helps to reduce lipid peroxidation, with the consequent prolongation of food products' shelf life; and to ensure the prevention of several diseases and will also help to protect the body from harmful free radicals.

Dihydroquercetin is recommended as a compound in production of functional foods, dietary food supplements, cosmetic products.

**SPECIFICATION**

<table>
<thead>
<tr>
<th>Product</th>
<th>Taxifolin-rich extract - Lavitol® (Dihydroquercetin)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Source</td>
<td>Dahurian Larch - <em>Larix Gmelinii</em> (Rupr.) Rupr.</td>
</tr>
<tr>
<td>Part used</td>
<td>Stumps</td>
</tr>
<tr>
<td>Source of Origin</td>
<td>Russian Federation</td>
</tr>
<tr>
<td>Chemical family</td>
<td>Bioflavonoids</td>
</tr>
<tr>
<td>Formula</td>
<td>Mixture of flavonoids, featuring taxifolin</td>
</tr>
<tr>
<td>Composition</td>
<td>Taxifolin (Dihydroquercetin) - min. 90% by weight</td>
</tr>
<tr>
<td>Other ingredients</td>
<td>Aromadendrin, eriodictyol, quercetin, naringenin, pinocembrin - max. 10% by weight</td>
</tr>
<tr>
<td>Identification</td>
<td>HPLC method</td>
</tr>
<tr>
<td>Physical state</td>
<td>Solid powder</td>
</tr>
<tr>
<td>Colour</td>
<td>White to light yellow</td>
</tr>
<tr>
<td>Solubility</td>
<td>Soluble in ethanol, water-ethanol solutions, ethyl acetate; weakly soluble in water, oils; insoluble in chloroform, ether, benzene</td>
</tr>
<tr>
<td>Extraction solvent</td>
<td>Aqueous-alcohol solution</td>
</tr>
<tr>
<td>Stability</td>
<td>Stable at normal conditions of at least 5 years</td>
</tr>
</tbody>
</table>
## LARCH ARABINOGLACTAN
under the trade mark

### SPECIFICATION

<table>
<thead>
<tr>
<th>Product</th>
<th>Larch arabinogalactan - Lavitol®-arabinogalactan</th>
</tr>
</thead>
<tbody>
<tr>
<td>Source</td>
<td>Dahurian Larch - <em>Larix Gmelinii</em> (Rupr.) Rupr.</td>
</tr>
<tr>
<td>Part used</td>
<td>Stumps</td>
</tr>
<tr>
<td>Source of Origin</td>
<td>Russian Federation</td>
</tr>
<tr>
<td>Chemical family</td>
<td>Polysaccharide</td>
</tr>
<tr>
<td>Composition</td>
<td>Larch arabinogalactan - min. 90% by weight</td>
</tr>
<tr>
<td>CAS No</td>
<td>90356-66-2</td>
</tr>
<tr>
<td>EINECS</td>
<td>232-910-0</td>
</tr>
<tr>
<td>Identification</td>
<td>HPLC method</td>
</tr>
<tr>
<td>Solubility</td>
<td>Soluble in aqueous-ethyl solution, in water,</td>
</tr>
<tr>
<td></td>
<td>almost insoluble in oils, in pure ethyl alcohol</td>
</tr>
<tr>
<td>Physical state</td>
<td>Solid powder</td>
</tr>
<tr>
<td>Colour</td>
<td>Off-white or light grey</td>
</tr>
<tr>
<td>Taste</td>
<td>Plain taste, peculiar to a product</td>
</tr>
<tr>
<td>Extraction solvent</td>
<td>Aqueous-alcohol solution</td>
</tr>
<tr>
<td>Stability</td>
<td>Stable at normal conditions of at least 2 years</td>
</tr>
<tr>
<td>Shelf life</td>
<td>2 years from the date of production</td>
</tr>
</tbody>
</table>

Larch arabinogalactan is a complex water-soluble polysaccharide compound of plant origin. Larch arabinogalactan is widely used in pharmaceutical and food industries. Larch arabinogalactan is used as the adjuvant and as an independent component in production of dietary food supplements.

Arabinogalactan is an all natural soluble prebiotic dietary fiber that promotes better disintegration, nutritive absorption and digestion in the gastrointestinal tract and could be recommended as a functional dietary supplement in the daily diet. Arabinogalactan promotes to increase the production of short-chain fatty acids, which are extremely important for normal functioning of the organism.

Arabinogalactan is good stabilizer and could be used to increase the stability of emulsions of cosmetic products. Having the water-holding properties arabinogalactan decreases the loss of transepidermal water, keeping the moisture and improving the skin nutrition.

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**Sphere of application**

- **Raw Material for production of dietary supplements,**
- **cosmetic,**
- **food products,**
- **fodders for Animals** and
- **as adjuvant in agriculture**
Water-soluble beverage powder
CHAGA MUSHROOM EXTRACT
with larch arabinogalactan

Water-soluble beverage powder “Chaga mushroom extract with larch arabinogalactan” is a specially made extract from wildcrafted Chaga mushroom through a special water extraction method. No alcohol is used during the extraction process.

Chaga extract is unique, contains high concentration of beta-glucan and polysaccharides that give potent immune supporting, anti-inflammatory and anti-viral properties. Chaga mushroom extract helps to regulate the immune system and make sure that your body is fighting off bacteria and viruses.

The high concentration of betulinic acids, antioxidants and polyphenols gives Chaga mushroom extract powerful antioxidant properties. Acting as antioxidant Chaga mushroom extract may also benefit cholesterol levels, reduce blood sugar levels and could be useful in the fight against cardiovascular diseases.

Chaga mushroom extract has anti-cancer benefits could inhibit cancer cell growth and could help to prevent cell damage caused by free radicals or oxidants.

### SPECIFICATION

<table>
<thead>
<tr>
<th><strong>Product</strong></th>
<th>Water-soluble beverage powder Chaga mushroom extract with arabinogalactan</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Class</strong></td>
<td>Botanicals</td>
</tr>
<tr>
<td><strong>Source</strong></td>
<td>Inonotus obliquus</td>
</tr>
<tr>
<td></td>
<td>Larix gmelinii (Rupr.) Rupr.</td>
</tr>
<tr>
<td><strong>Country of Origin</strong></td>
<td>Russian Federation</td>
</tr>
<tr>
<td><strong>Plant part used</strong></td>
<td>Fruiting bodies, wildcrafted</td>
</tr>
<tr>
<td><strong>Composition</strong></td>
<td>Chaga mushroom extract 99.0%</td>
</tr>
<tr>
<td></td>
<td>including chromogenic complex 60.0%</td>
</tr>
<tr>
<td></td>
<td>Larch arabinogalactan 1.0%</td>
</tr>
<tr>
<td><strong>Identification</strong></td>
<td>Gravimetric method</td>
</tr>
<tr>
<td></td>
<td>Modified Folin-Ciocalteu method</td>
</tr>
<tr>
<td><strong>Extraction solvent</strong></td>
<td>Aqueous solution</td>
</tr>
<tr>
<td><strong>Physical state</strong></td>
<td>Homogenous solid powder, with no lumps</td>
</tr>
<tr>
<td><strong>Color</strong></td>
<td>From dark brown to black</td>
</tr>
<tr>
<td><strong>Moisture</strong></td>
<td>≤5.0%</td>
</tr>
<tr>
<td><strong>Solubility</strong></td>
<td>High</td>
</tr>
<tr>
<td><strong>Stability</strong></td>
<td>Stable at normal conditions of at least 2 years</td>
</tr>
<tr>
<td><strong>Shelf life</strong></td>
<td>2 years from the date of production</td>
</tr>
</tbody>
</table>
# BETULIN ENRICHED BIRCH BARK EXTRACT

## SPECIFICATION

<table>
<thead>
<tr>
<th>Product</th>
<th>Betulin enriched birch bark extract</th>
</tr>
</thead>
<tbody>
<tr>
<td>Class</td>
<td>Botanicals</td>
</tr>
<tr>
<td>Source</td>
<td><em>Betula platyphylla</em></td>
</tr>
<tr>
<td>Country of Origin</td>
<td>Russian Federation</td>
</tr>
<tr>
<td>Plant part used</td>
<td>Bark</td>
</tr>
<tr>
<td>Active ingredient</td>
<td>Betulin - min. 60%</td>
</tr>
<tr>
<td>Identification</td>
<td>HPLC</td>
</tr>
<tr>
<td>CAS Number</td>
<td>223748-09-2</td>
</tr>
<tr>
<td>Extraction solvent</td>
<td>Alcohol solution</td>
</tr>
<tr>
<td>Physical state</td>
<td>Homogenous solid powder, with no lumps</td>
</tr>
<tr>
<td>Color</td>
<td>From white, light cream to light peach</td>
</tr>
<tr>
<td>Moisture</td>
<td>&lt;7.0%</td>
</tr>
<tr>
<td>Solubility</td>
<td>Almost insoluble in water, slightly soluble in methanol, ethanol, acetone, soluble in tetrahydrofuran, pyridine.</td>
</tr>
<tr>
<td>Stability</td>
<td>Stable at normal conditions of at least 3 years</td>
</tr>
<tr>
<td>Shelf life</td>
<td>3 years from the date of production</td>
</tr>
</tbody>
</table>

Extract derived from the bark of the white birch extract. Due to the presence of the tannins, betulins and betulonic acids it has wide range of important biological effects on human health. Betulin enriched birch bark extract exhibits anti-viral, hepatoprotective, gastroprotective properties. It also moderates the biosynthesis of cholesterol and fatty acids, reduces the size and improves the stability of atherosclerotic plaques, could be also used for infections of the urinary tract that affect the kidney, bladder, ureters, and urethra. It is also used as a diuretic to increase urine output.

Extract is a powerful antioxidant that can help prevent the signs of aging, has anti-inflammatory, antibacterial and regenerating properties that could be used as a valuable cosmetic raw material and can be used for skin and hair care.

**Sphere of application**

- Raw Material for production of dietary supplements and cosmetic products
Feed Additive ECOSTIMUL-2

The feed additive "Ecostimul-2" is the natural bioflavonoid complex, extracted from the Dahurian larch, containing the natural antioxidant - Dihydroquercetin. Dihydroquercetin clearly shows its antioxidant, hepatoprotective and radioprotective properties, strengthens capillary walls and boosts immune system. The use of feed additive "Ecostimul-2" in animal and poultry nutrition, allows to correct the reproductive health, prevent animal diseases, increase vitality and resistance to stress factors, normalize the metabolic processes and improve functional state of the liver.

Dihydroquercetin could be particularly necessary when keeping livestock in extreme weather conditions and in technogenic areas.

Feed additive "Ecostimul-2"
- Has a prophylactic effect against ketosis in dairy cows;
- Promotes the preservation of livestock, increases the survival of baby animals;
- Regulates metabolic processes, has a positive effect on the functional state of the internal organs and systems;
- Creates the mechanisms of cells protection against the viral and bacterial pathologies by neutralizing the activity of free radicals;
- Increases the antioxidant status of the organism.

SPECIFICATION

<table>
<thead>
<tr>
<th>Product</th>
<th>Dahurian larch tree extract - Ecostimul-2®</th>
</tr>
</thead>
<tbody>
<tr>
<td>Source</td>
<td>Dahurian Larch - Larix Gmelinii (Rupr.) Rupr.</td>
</tr>
<tr>
<td>Part used</td>
<td>Stumps</td>
</tr>
<tr>
<td>Source of Origin</td>
<td>Russian Federation</td>
</tr>
<tr>
<td>Chemical family</td>
<td>Bioflavonoids</td>
</tr>
<tr>
<td>Formula</td>
<td>Mixture of flavonoids, featuring taxifolin</td>
</tr>
<tr>
<td>Composition</td>
<td>Taxifolin (Dihydroquercetin) - 70-80% by weight</td>
</tr>
<tr>
<td>Other ingredients</td>
<td>Aromadendrin, eriodictyol, quercetin, naringenin, pinocembrin - max. 10% by weight</td>
</tr>
<tr>
<td>Identification</td>
<td>HPLC method</td>
</tr>
<tr>
<td>Physical state</td>
<td>Solid powder</td>
</tr>
<tr>
<td>Colour</td>
<td>Pale yellow</td>
</tr>
<tr>
<td>Solubility</td>
<td>Soluble in ethanol, water-ethanol solutions, ethyl acetate; weakly soluble in water, oils; insoluble in chloroform, ether, benzene</td>
</tr>
<tr>
<td>Extraction solvent</td>
<td>Aqueous-alcohol solution</td>
</tr>
<tr>
<td>Shelf life</td>
<td>5 years</td>
</tr>
</tbody>
</table>
LARCH BARK EXTRACT - EXTRACOR®

Dahurian larch bark extract "ExtraCor" represents a mixture of proanthocyanidins, dihydroflavonols and phenolic acids. Larch bark extract is rich in bioflavonoids, refers to a group of tannin-containing substances. These compounds exert several pharmacological effects, including antioxidant and free radical scavenging activity as well as antimicrobial, anti-inflammatory and immune modulating properties. Due to its properties, larch bark extract could be used as the main compound of feed additives for treatment of digestive disorders, gastrointestinal tract infections and abscesses in animals and birds. Has beneficial effects on metabolic disorders and prevents the onset of several oxidative stress related diseases. Larch bark extract has also potential applications in agriculture concerned with biostimulant formulations, has a stimulating effect in the processes of germination, growth and development of seedlings of wheat and soybean, might attenuate stress effects in plants growing.

**SPECIFICATION**

<table>
<thead>
<tr>
<th>Product</th>
<th>Dahurian larch bark extract - ExtraCor®</th>
</tr>
</thead>
<tbody>
<tr>
<td>Source</td>
<td>Dahurian Larch - <em>Larix Gmelinii</em> (Rupr.) Rupe.</td>
</tr>
<tr>
<td>Part used</td>
<td>Bark</td>
</tr>
<tr>
<td>Source of Origin</td>
<td>Russian Federation</td>
</tr>
<tr>
<td>Family</td>
<td>Herbal extract</td>
</tr>
<tr>
<td>Formula</td>
<td>Mixture of polyphenols</td>
</tr>
<tr>
<td>Composition</td>
<td>Proanthocyanidins - 75-87%</td>
</tr>
<tr>
<td></td>
<td>Dihydroflavonols, including dihydroquercetin - 15-25%</td>
</tr>
<tr>
<td></td>
<td>Phenolic acids - 7-20%</td>
</tr>
<tr>
<td>Identification</td>
<td>Bate-Smith modified method;</td>
</tr>
<tr>
<td></td>
<td>Quantitative analysis of flavonoids</td>
</tr>
<tr>
<td>Physical state</td>
<td>Solid powder</td>
</tr>
<tr>
<td>Colour</td>
<td>From reddish brown to dark red</td>
</tr>
<tr>
<td>Density</td>
<td>0.9 g/cm³</td>
</tr>
<tr>
<td>Solubility</td>
<td>Soluble in ethanol, water-ethanol solutions, ethyl acetate; weakly soluble in water, oils; insoluble in chloroform, ether, benzene</td>
</tr>
<tr>
<td>Extraction solvent</td>
<td>Aqueous solution</td>
</tr>
<tr>
<td>Shelf life</td>
<td>5 years</td>
</tr>
</tbody>
</table>

**Sphere of application**

Feed additive for agricultural animals
Plant growth regulator
Plant growth regulator "Ecolarix" represents a mixture of flavonoids featuring taxifolin (dihydroquercetin) and natural polysaccharide - larch arabinogalactan extracted from Dahurian Larch. Dihydroquercetin has pronounced antioxidant and fungicide properties, larch arabinogalactan affects immune status of plants. Numerous studies have confirmed the rationale for using larch arabinogalactan combining with taxifolin-rich extract in agriculture.

Plant growth regulator enhances the resistance of cultures to various diseases, pests and unfavorable climatic conditions, maximizes the ability of plants to grow vigorously in response to changing environmental conditions, increases adaptive potential of the seedlings, the root growth of seedlings. It has also a stimulating effect on the immune system of plants, preventing and reducing significantly the plant infection by fungal, viruses and other bacterial diseases. The use of plant growth regulator "Ecolarix" could minimize the need for treatment of cultures with fungicides and increase the crop yield.

### Specification

<table>
<thead>
<tr>
<th>Product</th>
<th>Plant growth regulator - ECOLARIX</th>
</tr>
</thead>
<tbody>
<tr>
<td>Part used</td>
<td>Stumps</td>
</tr>
<tr>
<td>Source of Origin</td>
<td>Russian Federation</td>
</tr>
<tr>
<td>Application area</td>
<td>Agricultural products</td>
</tr>
<tr>
<td>Formula</td>
<td>Mixture of flavonoids, featuring taxifolin and polysaccharide - larch arabinogalactan</td>
</tr>
<tr>
<td>Composition</td>
<td>The ratio of taxifolin (Dihydroquercetin) and larch arabinogalactan is 1:3 respectively. Concentration of the effective ingredient (Dihydroquercetin) - 250 g/kg; of the subsidiary agent (larch arabinogalactan) - 750 g/kg</td>
</tr>
<tr>
<td>Identification</td>
<td>HPLC method</td>
</tr>
<tr>
<td>Preparative form</td>
<td>Water-soluble powder</td>
</tr>
<tr>
<td>Colour</td>
<td>Pale cream - pale yellow</td>
</tr>
<tr>
<td>Solubility</td>
<td>Soluble in water, ethanol, water-ethanol solutions, ethyl acetate; weakly soluble in oils</td>
</tr>
<tr>
<td>Extraction solvent</td>
<td>Aqueous-alcohol solution</td>
</tr>
<tr>
<td>Shelf life</td>
<td>5 years</td>
</tr>
</tbody>
</table>

Sphere of application

Plant growth regulator
Plant growth regulator Biolarix® represents the larch resin concentrate, extracted from the Daurian larch wood mass. The larch resin concentrate contains diterpene alcohol, diterpene hydrocarbons and a natural antioxidant - dihydroquercetin. Diterpenes, are a large class of plant secondary products, produced in the epithelial cells that surround the resin ducts and are important for the physical and chemical plant defenses against herbivores and pathogens. They possess insecticidal, insect growth regulatory activity, antifeedant effects on phytophagous insects, and enzymatic inhibitory activity. Another active ingredient of larch resin concentrate is the natural antioxidant - dihydroquercetin. Dihydroquercetin shows high biological activity, acts as antiviral, antibacterial and anti-inflammatory agent.

The use of larch resin concentrate - BioLarix as a plant growth regulator gives more resistance to plants against pathogens as bacteria and fungi. Increases frost and drought resistance, accelerates the seed sprouting and the root growth, increases the germination of cultures and crop yield.
DIETARY SUPPLEMENTS MANUFACTURING

Since 2008 Ametis JSC has developed and put on market a wide range of dietary supplements that feature Dahurian larch- and birch-derived natural substances.

**LAVIOCARD**

**For Cardiovascular System**
Composition:
- Dihydroquercetin (Dahurian larch extract) - 30 mg
- Ascorbic acid - 70 mg
- Lactose as filler material

**LavioCard:**
- Normalizes blood pressure;
- Strengthens blood vessels and capillary walls;
- Lowers levels of cholesterol;
- Improves rheological blood properties

**VitaLAG**
Composition:
- Dihydroquercetin - 30 mg
- Larch arabinogalactan - 230 mg

**VitaLAG**
- Has restorative (immunostimulating) effect;
- Improves the regeneration of the mucous membrane of the stomach;
- Normalizes the intestine microflora;
- Promotes gastric and duodenal ulcer healing

**LavitoForte**

**Advanced Antioxidant Complex**
Composition:
- Chaga extract - 270 mg
- Resveratrol - 30 mg
- Dihydroquercetin - 30 mg

**LavitoForte**
- Enhances body's resistance to negative factors, strengthens the natural defense mechanism of the organism;
- Decreases the level of sugar in blood;
- Improves cerebral circulation;
- Inhibits inflammatory processes

**FLUKOL SLIM**
Composition:
- Garcinia extract - 150 mg
- Larch arabinogalactan - 100 mg

**Flukol SLIM**
- Suppresses hunger;
- Stimulates lipid and energy metabolism;
- Accelerates fat oxidation and stimulates detoxification system;
- Improves the efficiency of the digestive process;

**LAVIO CARD Extra**

**Blood Pressure Support**
Composition:
- 9% Lavitol Dihydroquercetin - 100 mg
- Ascorbic acid - 70 mg

**LavioCard Extra**
- Normalizes blood pressure;
- Relieves headaches reduces the symptoms of vertigo;
- Improves a functional condition of the cardiovascular system;
- Normalizes cerebral circulation;

**HEPATOLAG**
Composition:
- Milk thistle extract - 100 mg
- Birch bark extract - 30 mg

**Hepatolag**
- Increases the liver resistance to adverse external factors;
- Stimulates metabolic processes in liver and helps in the regeneration process of damaged liver cells;
- Normalizes bilirubin and increases the intensity of bile secretion;
- Enhances the strength and detoxification power of the liver.
FOR ATHLETES

LAVIO SPORT

Composition:
- Dihydroquercetin - 30 mg
- L-carnitine-L-tartrate - 350 mg
- accelerates regeneration of the body after intensive exercise
- supports the process of cellular respiration
- strengthens the immune system
- improves endurance and stamina
- reduces tiredness and physiological strain

CHAGA MUSHROOM EXTRACT

Chaga mushroom extract:
- improves metabolism and metabolic processes;
- restores normal intestinal flora;
- helps to remove toxins;
- improves cerebral circulation;
- normalizes blood pressure;
- boosts body resistance.

Composition: Chaga extract - 50 g

FOR MEN’S HEALTH

MAN Zdрав

Composition:
- Ginseng root extract - 180 mg
- Rhodiola rosea L extract - 50 mg
- Dihydroquercetin - 20 mg

- activates androgen receptors and supports male sexual performance;
- can be beneficial for reducing oxidative damage, has the potential for improving learning and memory;
- support the body’s natural defenses against stress;
- is recommended for athletes, those who have physically or mentally demanding lifestyles.

FOR WOMEN’S HEALTH

LadyCaps

Composition:
- Orthilium secundum L extract - 150 mg
- Rhodiola rosea L extract - 125 mg
- Dihydroquercetin - 25 mg

- strengthens the immune system;
- increases the body’s resistance to stress, can fight fatigue and reduces symptoms of depression;
- helps to improve the reproductive capacity of the female body, increases the functional ability of the uterus;
- reduces inflammation processes.

99% TAXIFOLIN-RICH EXTRACT
(DIHYDROQUERCETIN)

NATURAL ANTIOXIDANT FROM DAHURIAN LARCH
EXTRACT

- supports optimal heart health;
- reduces the risk of heart related diseases;
- normalizes blood pressure, increases the systolic index;
- lowers total cholesterol levels and releases cholesterol ability to form plaques in arteries;
- reduces the triglyceride levels;
- provides antioxidant protection to the heart;
- strengthens blood vessels and capillary walls;
- decreases capillary permeability;
- low blood viscosity.

BETULIN ENRICHED BIRCH BARK EXTRACT

NATURAL HEPATOPROTECTIVE AGENT

- exhibits anti-viral, hepatoprotective, gastroprotective properties;
- contributes to the normal function of the liver; prevents alcohol-induced liver damage;
- reduces the inflammation of the urinary tract that affect the kidney, bladder, ureters and urethra;
- moderates the biosynthesis of cholesterol and fatty acids

Composition: Betulin enriched birch bark extract - 5 g
Ametis JSC supplies manufactured raw materials to more than 40 cities of the Russian Federation, ensuring high quality and professional and integrated approach to our customers.

COOPERATION WITH SCIENTIFIC ORGANIZATIONS AND INSTITUTIONS IN RUSSIA

Ametis JSC works closely with the leading Russian Scientific Institutions and International laboratories and organizations. The collaborative development are being actively implemented in the production process of the company and are used in various industries.

**Food Industry**
- Institute of Nutrition, Biotechnology and Food Safety
- Far-Eastern State Agrarian University
- V.M. Gorokhov Federal Research Centre for Food Systems of Russia
- INRS of Brewing Beverage and Wine Industry
- ARSRI of Poultry Processing Industry
- ARSRI of Dairy Industry and others

**Medical Industry**
- IM Sechenov First Moscow State Medical University
- Siberian State Medical University
- Novosibirsk Research Institute
- V.I. Borok Research Institute of Organic Chemistry
- N.D. Zelinsky Institute of Organic Chemistry
- Tomsk Pharmaceutical Factory, Ltd
- and others

**Safety Studies**
- V. V. Zakusov Research Institute of Pharmacology
- ITAR Ltd
- Amur State Medical University
- Huntington Life Sciences
- Research Institute of Pharmacology of the Siberian Department RAMS
- AIBMR Life Sciences, Inc.
- and others

**Husbandry and Agriculture**
- L.K. Ernst ARSRI of Animal Husbandry
- ARSRI Institute of Soybean
- SRI of Herbicides and Plants Growth Regulators
- Altai Research Institute of Agriculture
- Novosibirsk State Agrarian University
- Orenburg State Agrarian University
- ARSRI of Biological Plant Protection and others

**Cosmetic Industry**
- ANO Research Center "Cosmetology"
- ANO "Cosmetic-Test"
**CERTIFICATION PROCESS ABROAD**

US FDA registered facility since 2007;

Dihydroquercetin produced by Ametis JSC is listed in International Nomenclature of Cosmetic Ingredients;

In 2009 - Registered the trade mark "Lavitol" in Germany;

In 2010 - Ametis JSC received self-affirmed GRAS status of "Lavitol (Dihydroquercetin)" in USA;

In 2010 - IS ISO 9001:2008 including HACCP certified;

In 2011 - The AOAC (UK) formulated a positive initial opinion and considered Lavitol (Dihydroquercetin) meets the criteria for acceptance of a novel food ingredient and could be registered in EU;

In 2013 - Registered the trade mark "Lavitol" in the USA and China;

In 2015 - Registered the Patent "Method for producing Dihydroquercetin" in Europe;

In 2017 - Dihydroquercetin of Ametis JSC was authorized the placing on the EU market as the novel Food Ingredient;

2019 - The registration of Lavitol (Dihydroquercetin) as the novel food additive is in process in China
FIELDS OF APPLICATION

SCOPE OF PRODUCTS PRODUCED BY AMETIS JSC

Raw materials for production of Dietary Supplements
- Lavitol (Dihydroquercetin)
- Larch Arabinogalactan
- Chaga Mushroom Extract
- Betulin enriched birch bark extract

Raw materials for production of Food and Functional Products

Dietary Supplements
- "Laviocard"
- "VitalAG"
- "Laviocard Extra"
- "Flukol Slim"
- "LavioSport"
- "HepatoLAC"
- "LavitoForte"
- "MenZdrav"
- "LadyCaps"
- "Chaga Extract"

The high level of biological activity of produced raw materials allows to use them in production of dietary supplements of various directions

Increase the shelf life of food products, enrich the products with antioxidants and/or prebiotics impart pharmaceutical properties to food

Ametis JSC produces dietary supplements on the basis of own raw materials, which allows to guarantee high quality of offered products

Medical Remedies Production
Pharm. Substances:
- Dihydroquercetin
- Arabinogalactan

Pharmacy and trading networks
FIELDS OF APPLICATION

SCOPE OF PRODUCTS PRODUCED BY AMETIS JSC

Cosmetic Industry
- Lavitol (Dihydroquercetin)
- Larch Arabinogalactan
- Betulin enriched birch bark extract
- Larch oil
- Larch resin

Agriculture
- Larch Arabinogalactan
- Extracor (Garch bark extract)
- EcoLarix (plant growth regulator)
- BioLarix (plant growth regulator)
- BioBestA (microbiological fertilizer)

Husbandry and Poultry Farming
- Boostimul-2
- Extracor (Garch bark extract)
- Larch arabinogalactan

- Improve the preservation of skin, skin texture, help prevent the signs of aging, have anti-inflammatory, antibacterial and regenerating properties

- Increase in the average daily gain, increase resistance to unfavourable factors of environment, regulate metabolic processes

- Increase the yield crop, improve their quality, increase the growth and development, give more resistance to plants against pathogens as bacteria and fungi