BSN® EVOLUTION SERIES
Technical Review 2009

Have a question about BSN®’s breakthrough EVOLUTION SERIES? Find the answers here. From EPOZINE-O₂™ NT and N.O.-XPLODE™ NT to CELLMASS® NT here’s all the in-depth EVOLUTION SERIES information you’ve been looking for.
EPOZINE-O₂™NT IS DESIGNED TO SUPPORT:

- Strength, Power, Endurance & Recovery
- VO₂Max - Maximal Oxygen Consumption – Aerobic Capacity
- Blood Flow And Delivery Of Nutrients To Muscle Tissue
- Oxygen (O₂) Uptake, Capacity & Delivery
- Protein Synthesis – Anabolism
- Physical Performance
- Insulin Regulation Already Within The Normal Range
- Erythropoietin Already Within The Normal Range
- RBC (Red Blood Cells) Already Within Normal Range
- 2,3-DPG (2,3-Diphosphoglycerate) Already Within Normal Range
- ATP Resynthesis
- Muscle Carnosine Content
- Resistance To Muscular Fatigue - Anti-Fatigue
- Hydrogen Ion (H⁺) Buffering
- Anaerobic Working Capacity Of Muscle Tissue
- Nitric Oxide (N.O.) Already In The Normal Range
- Muscle Fullness, Vascularity And Full-Body Pumps
- Regulated Muscle Degradation - Anti-Catabolism
- Controlled Release

PRODUCT SPECIFICATIONS

Use Classification/Product Category: Lean Muscle/Physical Performance/Recovery

Flavors: N/A

Size/Count: 180/360

Form: Tablet

Minimal Cycle Length: 6 weeks

Optimal Cycle Length: 12 weeks

Recommended Cycle Off Length: 4 weeks

Stack With: CELLMASS® NT, N.O.-XPLODE™NT, and AXIS-HT™

After comprehensive bouts of conceptualization, tireless research, new ingredient sourcing and strict formulating guidelines, in addition to relentless effort and determination, EPOZINE-O₂™NT, BSN®'s revolutionary anabolic mediator & ergogenic plasma volumizer, was born. Designed to promote superior physical performance/ endurance, blood-volumizing plasma expansion, and promote greater increases in lean muscle mass, EPOZINE-O₂™NT is an athlete’s answer to myocellular (muscle) growth and expansion. These myocellular changes are mediated by enhancing maximal oxygen uptake capacity, delivery and consumption and the promotion of erythropoietin and red blood cells, all the while supporting protein synthesis and myohypertrophic activation via promotion of a positive nitrogen balance. EPOZINE-O₂™NT — the key to unlocking your muscular evolution.

PRODUCT PROFILE:

NITROS® NITRIC OXIDE MATRIX

L-Arginine Alpha-Ketoglutarate (AKG): A conditionally essential amino acid that is a precursor to nitric oxide; nitric oxide dilates (opens) the blood vessels to allow for more oxygen and nutrients to be delivered into the muscle tissue. By bonding L-arginine to AKG, the conversion to nitric oxide is enhanced, maximizing nitric oxide levels in the blood.

L-Citrulline-Malic Acid Matrix: The combination of citrulline and malic acid. Citrulline is involved in the urea cycle and malate in the Krebs cycle or energy cycle. Citrulline on its own has been shown to relax blood vessels via the promotion of...
plasma arginine. Along with malic acid, together they may regulate acid-base balance, promote ATP production, muscle performance and phosphocreatine recovery. New research even shows that citrulline malate promotes recovery from physical activity.

L-Arginine Aspartate: Arginine complexed with aspartic acid. Aspartic acid is an amino acid found in meat and vegetable sources such as oats. Research shows that L-Arginine Aspartate promotes nitric oxide, growth hormone, nitrogen retention, maximal oxygen consumption and reduced lactate levels after exercise.

L-Arginine Pyroglutamate: A combination of arginine and the amino acid pyroglutamic acid. Arginine is involved in many processes in the human body including synthesis of nitric oxide, repairing tissue and improving blood flow. Pyroglutamic acid is a nootrope thought to promote mental focus. L-Arginine Pyroglutamate promotes blood flow, strength, power, and mental focus.

L-Norvaline: An analog of the amino acid valine. It has been shown to inhibit the enzyme arginase. Arginase is an enzyme that binds to arginine thereby reducing arginine concentrations in the blood. By binding arginase, arginine concentrations are increased in the blood. The arginine is then converted to nitric oxide which leads to the promotion of blood flow.

Magnesium Tanshionate B (MTB): A constituent of Salvia Milltiorriza or Dan Shen. Magnesium Tanshionate B has been shown in vitro to promote nitric oxide synthase and nitric oxide.

L-Histidine: A conditionally essential amino acid that is a precursor to histamine synthesis. Histidine is found in meat including beef, shellfish and poultry. Histidine is located in the smooth muscle and supports vasodilation. Histidine may promote nitric oxide and vasodilation.

Gamma-Butyrobetaine Ethyl Ester: A cholinomimetic (having similar action as acetylcholine), which may promote nitric oxide and vasodilation. Butyrobetaine is also a precursor to carnitine biosynthesis. Gamma butyrobetaine is a key molecule in energy metabolism. The ethyl ester addition may promote absorption and adds to the effectiveness of gamma butyrobetaine.

L-Arginine Ethyl Ester DiHCL: A form of arginine combined with ethanol which may promote absorption and enhance arginine function. The ethyl ester attachment is thought to protect the arginine portion of the ingredient in the acidic stomach and promote greater solubility and absorption. Arginine is involved in many processes in the human body including synthesis of nitric oxide, repairing tissue and improving blood flow. These benefits promote the effectiveness of exercise and may allow for greater gains in the gym.

Folate (Folic Acid) (Vitamin B9): A water soluble B vitamin found in foods such as cereals, grains and green leafy vegetables. Folate is involved in many biological processes, which include the synthesis of DNA, RNA, and proteins. Adequate folate stores have been associated with supporting mood, cognition, weight management and supporting homocysteine and nitric oxide levels already in the normal range.

**CRTS2 (CONTROLLED RELEASE TECHNOLOGY & SUPPORT SYSTEM)**

Hydroxypropyl Methylcellulose (A Micro-Polymer Hydrophilic Matrix): A micro-polymer hydrophilic ether matrix which plays an integral role in EPOZINE-O®™’s controlled release technology.

**MYOGENIC ENDURA SHOT**

Beta-Alanine (CarnoSyn®): The only naturally occurring beta amino acid with very unique ergogenic properties. Oral ingestion of beta-alanine promotes the naturally occurring dipeptide carnosine (beta-alanyl-L-histidine) in muscle fiber. Strenuous exercise causes an accumulation of hydrogen ions and lactic acid, which causes the burning sensation in muscle fiber otherwise known as muscular fatigue. Adequate muscle carnosine buffers hydrogen ions and lactic acid accumulation. The ergogenic effect of the creatine system is inhibited by hydrogen ions and lactic acid accumulation. The combination of beta-alanine and creatine should enable creatine to function beyond this rate limiting system thus resulting in superior physical performance.

Creatine-Sodium Phosphate Matrix: A combination of creatine and sodium phosphate. Creatine is an amino acid that is a component of skeletal muscle and is found in red meat such as beef. Creatine Sodium Phosphate has been reported to be as effective as oral creatine monohydrate. The sodium enhances creatine transport and absorption. Adequate sodium is important for creatine transport because once creatine enters the blood it is carried to the muscle via a sodium chloride-dependent transporter. Some research has indicated that combining creatine with sodium enhances creatine uptake.

Creatinol-O-Phosphate Interfusion: A guanidine analog that has been used for cardiovascular health. It has been shown to promote muscle contractility and muscle performance. Creatinol-O-Phosphate appears to donate its phosphate group for ATP resynthesis, which could allow for greater performance during workouts and thereby promote muscle-building potential.

Creatine Magnesium Chelate (Magna Power®): A complex of creatine and magnesium, which promotes bioavailability, in turn getting more creative to the muscle cells. Magnesium activates enzymes that hydrolyze phosphate groups such as the phosphatases in addition to reactions involving adenosine triphosphate (ATP). Research shows improved exercise performance, work capacity and cellular hydration.

6-Methyluracil: A methylated group of the nucleotide uracil. It is involved in the synthesis and repair of RNA and DNA. 6-Methyluracil is a compound that has many interesting properties which include promoting wound healing and muscle-building via protein synthesis.

Adenosine 5’ Triphosphate (ATP®): A patented orally absorbable form of ATP, the main energy storage unit of cells. Adenosine 5’ Triphosphate is involved in cellular respiration and also plays a role in glycolysis and anaerobic respiration. It promotes adenosine 5’ triphosphate stores, blood flow, oxygen delivery, vasodilation and muscle contractility.

Niacin (Vitamin B3): Consists of niacin (nicotinic acid) and the amide nicotinamide, which both play an important metabolic role in cells and as a precursor to nicotinamide adenine dinucleotide (NAD).

NAD (Nicotinamide Adenine Dinucleotide): A coenzyme composed of ribosynicoticotinamide 5’ diphosphate and adenosine 5’ phosphate. NAD is involved in many enzymatic reactions functioning as an electron carrier. NAD+ is the oxidized form and NADH is the reduced form (containing additional hydrogen), while both are central in metabolism and energy production. NAD becomes very important for energy production especially during exercise. NAD promotes vasodilation and is required for nitric oxide production.

**OXYGEN CAPACITY COMPOSITE**

Di-Calcium Phosphate: Oral sodium and potassium phosphate loading is another method to promote athletic performance or endurance. Athletes consume mineral phosphates prior to an event or competition in order to load the muscle phosphate thus supporting ATP recycling and possibly promoting the up regulation of 2,3-DPG (2,3-diphosphoglycerate), which may allow for improved unloading of oxygen from red blood cells to the tissues.

Di-Potassium Phosphate: Oral sodium and potassium phosphate loading is another method to promote athletic performance or endurance. Athletes consume these statements have not been evaluated by the Food and Drug Administration. These products are not intended to treat, cure, diagnose, mitigate, or prevent any disease.
mineral phosphates prior to an event or competition in order to load the muscle phosphate thus supporting ATP recycling and possibly promoting the up regulation of 2,3-DPG (2,3-diphosphoglycerate), which may allow for improved unloading of oxygen from red blood cells to the tissues.

Di-Sodium Phosphate: Oral sodium and potassium phosphate loading is another method to promote athletic performance or endurance. Athletes consume mineral phosphates prior to an event or competition in order to load the muscle phosphate thus supporting ATP recycling and possibly promoting the up regulation of 2,3-DPG (2,3-diphosphoglycerate), which may allow for improved unloading of oxygen from red blood cells to the tissues.

Cytidine 5’monophosphate: A compound that consists of nucleosides and phosphates, which provide the substrate or building materials for the formation of the nucleic acids DNA and RNA. Oral nucleotide supplementation has been shown to promote intestinal health, support the immune system, regulate the catabolic stress hormone cortisol in athletes, and enhance animal erythrocyte 2,3-DPG (2,3-diphosphoglycerate).

Guanosine 5’monophosphate: A compound that consists of nucleosides and phosphates, which provide the substrate or building materials for the formation of the nucleic acids DNA and RNA. Oral nucleotide supplementation has been shown to promote intestinal health, support the immune system, regulate the catabolic stress hormone cortisol in athletes, and enhance animal erythrocyte 2,3-DPG (2,3-diphosphoglycerate).

Adenosine 5’ monophosphate: A compound that consists of nucleosides and phosphates, which provide the substrate or building materials for the formation of the nucleic acids DNA and RNA. Oral nucleotide supplementation has been shown to promote intestinal health, support the immune system, regulate the catabolic stress hormone cortisol in athletes, and enhance animal erythrocyte 2,3-DPG (2,3-diphosphoglycerate).
Inosine 5’monophosphate: A compound that consists of nucleosides and phosphates, which provide the substrate or building materials for the formation of the nucleic acids DNA and RNA. Oral nucleotide supplementation has been shown to promote intestinal health, support the immune system, regulate the catabolic stress hormone cortisol in athletes, and enhance animal erythrocyte 2,3-DPG (2,3-diphosphoglycerate).

Inositol Hexaphosphate (IP6): A natural ingredient found in cereal, grains, and legumes, which has been shown to support the immune and cardiovascular systems. Inositol was originally categorized as a B vitamin; however, it’s an isomer of glucose or more specifically a sugar alcohol. Inositol Hexaphosphate contains six phosphate groups, which contribute to the promotion of 2,3-DPG (2, 3-diphosphoglycerate).

ANABOLIC RED MASS INTERFUSION MATRIX

Purple Coneflower (leaves) (2% Polyphenols): (Echinacea Purpurea) standardized for 2% total polyphenols or Echinacea is a botanical genus with nine species from the Asteraceae family. Certain species of purple coneflower are utilized as dietary botanicals to support general health. Researchers have been studying the effects of Echinacea with athletes. Human research has found that Echinacea promotes the production of erythropoietin while supporting VO2max and running economy.

Barbary Wolfberry (fruit & leaf): (Lycium barbarum) standardized for 50% Polysaccharides is known as an exotic super fruit that supports general health and the immune system. In vitro research has shown Wolfberry polysaccharides to protect the mitochondria and red blood cells from free radical oxidation. Animal research has reviewed the cell protective effects of Wolfberry polysaccharides. This particular research found that Wolfberry polysaccharides may promote granulocyte colony stimulating factor (G-CSF), which in turn supports hematopoietic stem cells (HSCs) for the production of red blood cells. Other animal research has demonstrated the anti-fatigue effects of Wolfberry. These results consisted of an adaptogenic property to exercise, sparing of muscle and liver glycogen, promotion of LDH before and after exercise, and the regulation of blood urea nitrogen (BUN) after exercise. Further animal research demonstrates Wolfberry polysaccharides promote insulin sensitivity via glucose transporter 4 (GLUT 4) in skeletal muscle.

Chinese Angelica (root) (0.1% Ligustilide): (Angelica Sinesis) is standardized for .1% Ligustilide and commonly known as “Dong quai” or female ginseng. Angelica has over 90 species and is native to temperate and tropical climate zones. It is indigenous to China and is commonly used in traditional medicine for anti-fatigue and nourishing blood. It is often combined with other herbs to promote health. New research has shown it has promise in regulating acute muscular inflammation from exercise, promoting hemopoietic function and maintaining blood pressure already in the normal range.

White Peony Root Extract: (Paonia lactiflora) extract is an Asian plant that has been used for centuries to promote health. The root has been said to have energies, according to the Chinese, that are thought to relax muscle and cleanse the blood. It may be utilized with other botanicals like Angelica Sinesis and research has shown that it promotes liver health and the natural production of erythropoietin.

Membranous Milk-Vetch (root) (0.3% Astragalosides): (Astragalus membranaceus) or “huang qi” is used in traditional Chinese medicine to promote healing wounds, health and improve vitality. It has been shown to promote a variety of factors including growth hormone, erythrocyte production, regulation of fatigue and appetite. Current research seems to indicate that it may also be useful supporting the immune system.

Purslane (aboveground parts) (5% Flavones): (Portulaca oleracea) standardized for 5% Flavones is a botanical found throughout the Middle East and the Asian continent. It is even consumed in Europe and Asia mostly in stews and soups. It has been used in traditional medicine in these regions. The current research demonstrates the promotion of erythropoietin expression.

INSULINO-MIMETIC MATRIX

Cinnulin-PF® (Cinnamon Extract) (bark): Cinnulin-PF® is an aqueous extract of cinnamon that is rich in uniquely linked proanthocyanidin antioxidants. These compounds “turn on” cellular signaling mechanisms normally turned on by insulin. Clinical studies report Cinnulin-PF® maintains blood glucose, cholesterol, and triglyceride levels already in the normal range.

Banaba (18% Colosolic acid) (leaf): The natural botanical constituent of colosolic acid is thought to regulate or modulate insulin, which maintains blood sugar levels already within the normal range.

Bis-Glycinato-Oxovanadium (BGOV): A complex of vanadium and the amino acid glycine that is known for its insulin-mimetic functions and therefore its ability to regulate blood glucose levels already within the normal range.

Bis-Picolinate-Oxovanadium (BPOV): A complex of vanadium and picolinic acid, which is known for its insulin-mimetic functions and therefore its ability to regulate blood glucose levels already within the normal range.

EPOZONE-O-™NT supports the following segments of the BSN® Supplement Pyramid™: Muscle Support, Performance Support, and Recovery Support.

Cinnulin PF® is a registered trademark of Integrity Nutraceuticals International. Natural Alternatives International (NAI) is the owner of patents 5,965,596; 6,172,098; 6,426,361; 6,860,294 and registered trademark CarnoSyn®.

These statements have not been evaluated by the Food and Drug Administration. These products are not intended to treat, cure, diagnose, mitigate, or prevent any disease.
EPOZINE-O₂™NT, BSN®'s revolutionary anabolic mediator & ergogenic plasma volumizer, was designed to promote superior physical performance/endurance, blood-volumizing plasma expansion and significantly greater increases in lean muscle mass. These myocellular increases are mediated by enhancing maximal oxygen uptake capacity, delivery and consumption and increasing erythropoietin and red blood cell count, all the while accelerating protein synthesis and myohypertrophic activation via promotion of a positive nitrogen balance. EPOZINE-O₂™NT - The myotrophic keystone to unlocking your muscular evolution.

EVOZINE-O₂™NT
– N-TENSITY TECHNOLOGY

EPOZINE-O₂™NT, BSN®’s revolutionary anabolic mediator & ergogenic plasma volumizer, was designed to promote superior physical performance/endurance, blood-volumizing plasma expansion and significantly greater increases in lean muscle mass. These myocellular increases are mediated by enhancing maximal oxygen uptake capacity, delivery and consumption and increasing erythropoietin and red blood cell count, all the while accelerating protein synthesis and myohypertrophic activation via promotion of a positive nitrogen balance. EPOZINE-O₂™NT - The myotrophic keystone to unlocking your muscular evolution.

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N.O.-XPLODE™NT IS DESIGNED TO SUPPORT:

- Training Energy, Motivation And Intensity
- Mental Alertness & Focus
- Muscle Fullness, Vascularity And Pumps
- Strength, Power, Endurance & Recovery
- Blood Flow And Delivery Of Oxygen And Nutrients
- Nitric Oxide (N.O.) Already Within Normal Range
- Insulin Already Within The Normal Range
- Hydrating Polymers
- Electrolyte Replenishment
- ATP Resynthesis
- Regulated Muscle Degradation - Anti-Catabolism
- Muscle Carnosine Content
- Resistance To Muscular Fatigue – Anti-Fatigue
- Hydrogen Ion (H+) Buffering
- Anaerobic Working Capacity Of Muscle Tissue

PRODUCT SPECIFICATIONS

Use Classification/Product Category: Pre-Training Extreme Energy & Performance Igniter

Flavors: Fruit Punch, Grape, Blue Raz

Size/Count: 1.44 lb, 30ct Stick Packets

Form: Powder

Minimal Cycle Length: 6 weeks

Optimal Cycle Length: 12 weeks

Recommended Cycle Off Length: 4 weeks

Stack With: CELLMASS® NT, EPOZINE-02™NT and AXIS-HT™

With athletic performance increasing, training intensity greater than ever and muscular gains on the rise, athletes from all circles began demanding even more performance gains from their training sessions. To ensure that athletes’ training, performance and bodies continue to evolve, BSN® made sure that their pre-training igniter evolved with them. Not only does N.O.-XPLODE™NT still promote maximum energy, mental focus, training intensity, strength and pumps, it now provides athletes with the means to support the offset of training fatigue, minimize the catabolic effects of intense training, regulate the replacement of high-energy compounds, super-hydrate muscles and promote the regulation of insulin for greater nutrient uptake and utilization. N.O.-XPLODE™NT has not only met the changing needs of energy and performance for today’s athletes, it has evolved to a point that will force athletes to adapt their training in order to maximize the results from this revolutionary formula. The time for change has come – once you train with it, you will never evolve without it!

PRODUCT PROFILE:

N.O.-ALPHA FUSION

L-Arginine Alpha-Ketoglutarate: A conditionally essential amino acid and a precursor to nitric oxide. Arginine is found in many foods such as cheese, milk, meat and beef. It is involved in many processes in the human body including synthesis of nitric oxide, repairing tissue and improving blood flow. Ketaoglutaric acid (Alpha ketoglutarate) plays an important role in the Krebs cycle or energy cycle, which produces ATP (Adenosine 5' Triphosphate). Human research has shown that oral L-arginine
alpha ketoglutarate promotes strength and power.

L-Arginine Aspartate: Arginine complexed with aspartic acid. Aspartic acid is an amino acid found in meat and vegetable sources such as oats. Research shows that L-Arginine Aspartate may promote nitric oxide, growth hormone, nitrogen retention, maximal oxygen consumption and reduced lactate levels after exercise.

L-Arginine Pyroglutamate: A combination of arginine and the amino acid pyroglutamic acid. Arginine is involved in many processes in the human body including synthesis of nitric oxide, repairing tissue and improving blood flow. Pyroglutamic acid is a nootrope thought to promote mental focus. L-Arginine Pyroglutamate promotes blood flow, strength, power, and mental focus.

L-Citrulline-Malic Acid Interfusion: The combination of citrulline and malic acid. Citrulline is involved in the urea cycle and malate in the Krebs cycle or energy cycle. Citrulline on its own has been shown to relax blood vessels via the promotion of plasma arginine. Along with malic acid, together they may regulate acid-base balance, promote ATP production, muscle performance and phosphocreatine recovery. New research even shows that citrulline malate promotes recovery from physical activity.

L-Nonvaline: An analog of the amino acid valine. It has been shown to inhibit the enzyme arginase. Arginase is an enzyme that binds to arginine thereby reducing arginine concentrations in the blood. By binding arginase, arginine concentrations are promoted in the blood. This arginine supports conversion to nitric oxide which leads to the promotion of blood flow.

Milk Thistle Seed Extract (50% Silymarin): A flowering plant that has been used for centuries as a botanical supplement for liver health. Helps protect liver function, maintain cholesterol already in the normal range, is an antioxidant and is thought to be an anti-inflammatory. New research suggests that milk thistle may support the immune system.

Magnesium Tanshinoate B: A constituent of Salvia Miltiorrhiza or Dan Shen. Magnesium Tanshinoate B has been shown in vitro to promote nitric oxide synthase and nitric oxide.

Gamma-Butyrobetaine Ethyl Ester: A cholinomimetic (having similar action as acetylcholine), which may promote nitric oxide and vasodilation. Butyrobetaine is also a precursor to carnitine biosynthesis. Gamma Butyrobetaine is a key molecule in energy metabolism. The ethyl ester addition may promote absorption and add to the effectiveness of Gamma Butyrobetaine.

L-Arginine Ethyl Ester DiHCL: A form of arginine combined with ethanol which may promote absorption and enhance arginine function. The ethyl ester attachment is thought to protect the arginine portion of the ingredient in the acidic stomach and promote greater solubility and absorption. Arginine is involved in many processes in the human body including synthesis of nitric oxide, repairing tissue and improving...
causes an accumulation of hydrogen ions and lactic acid, which causes the burning sensation in muscle fiber otherwise known as muscular fatigue. Adequate muscle carnosine buffers hydrogen ions and lactic acid accumulation. The ergogenic effect of the creatine system is inhibited by hydrogen ions and lactic acid accumulation. The combination of beta-alanine and creatine should enable creatine to function beyond this rate limiting system thus resulting in superior physical performance.

Sodium Bicarbonate: Compound that promotes absorption and the rate of delivery of ingredients to the bloodstream. The addition of sodium bicarbonate with an acid produces carbon dioxide and a low pH composition. This combination produces an effervescent reaction, which supports a more uniform delivery of ingredients. The numerous benefits of sodium bicarbonate include increased performance during high intensity exercise, alkalosis, muscle buffering capacity and power output.

Citic Acid: An important part of the Krebs cycle or energy production cycle. It is found in a variety of fruits and vegetables, most notably citrus fruits. It is sometimes used as an additive in drinks and other foods. Human research shows that citric acid reduces physiological stress and physical fatigue.

Malic Acid: A dicarboxylic acid found in green apples that plays a role in energy production and is an intermediate in the Krebs cycle or energy production cycle. It is used as a food additive and flavor enhancer to add tartness. Malic acid benefits include mitochondrial respiration, energy production, physical stamina and regulation of muscular fatigue.

**MYOGENIC ENDURA SHOT**

Creatine-Sodium Phosphate Matrix: A combination of creatine and sodium phosphate. Creatine is an amino acid that is a component of skeletal muscle and is found in red meat such as beef. Creatine Sodium Phosphate has been reported to be as effective as oral creatine monohydrate. The sodium enhances creatine transport and absorption. Adequate sodium is important for creatine transport because once creatine enters the blood it is carried to the muscle via a sodium chloride-dependent transporter. Some research has indicated that combining creatine with sodium enhances creatine uptake. Creatine has numerous benefits including increasing work capacity, exercise performance and strength.

Creatinol-0-Phosphate: Guanidine analog that has been used for cardiovascular health. It has been shown to promote muscle contractility and muscle performance. Creatinol-0-Phosphate appears to donate its phosphate group for ATP resynthesis, which could allow for greater performance during workouts and thereby promote muscle-building potential.

Creatine-AminoButyric Acid Matrix (Creatine AAB™): Unlike the other creatine analogs of the matrix, Creatine Alpha-Aminobutyric Acid possesses anti-catabolic effects. Leucine, the branched-chain amino acid, is metabolized to ketocaprate, which is then metabolized to alpha aminobutyric acid; this metabolite may promote protein synthesis and minimize protein damage from intense training.

Creatine Magnesium Chelate (Magna Power®): A complex of creatine and magnesium, which promotes bioavailability, in turn getting more creatine to the muscle cells. Magnesium activates enzymes that hydrolyze phosphate groups such as the phosphatases in addition to reactions involving adenosine triphosphate (ATP). Research shows promotion of exercise performance, work capacity and cellular hydration.

**ENER-NOOTROPIC XPLOSION**

N-acetyl-L-tyrosine: A derivative of the non-essential amino acid L-tyrosine. N-acetyl amino acids possess greater stability and solubility as compared to basic amino acids. L-tyrosine is a naturally occurring non-essential amino acid found in food and used to make protein in the body. L-tyrosine is made in the body from phenylalanine and contributes to the formation of the catecholamines. N-acetyl-L-tyrosine may promote cognitive performance, memory and regulate effects of stress and fatigue.

L-Tyrosine: A conditionally essential amino acid and precursor to the catecholamines (epinephrine, norepinephrine and dopamine). The ingestion of caffeine releases these catecholamines, which are involved in regulation of neuromuscular performance, alertness, focus and mood. Replenishment of these catecholamines through
tyrosine supplementation prevents a crash from ingestion of caffeine.

**Glucoronolactone**: An antioxidant that has been shown to have benefits on the cognitive function of individuals. The research has shown that it promotes cognitive function, reaction time, alertness, and regulates sleepiness. These benefits would be especially helpful when performing strenuous exercise.

**Methylxanthine or Caffeine**: A naturally occurring ingredient found in beverages like coffee and tea. Caffeine’s most notable effects are stimulation, alertness, enhanced physical performance, breakdown of fat tissue, and the removal of excess water. Another important effect may be the blocking of phosphodiesterase enzymes, which may prolong or extend fat burning.

**MCTs (Medium Chain Triglycerides)**: Serve as a fast-burning energy source during exercise. MCTs are medium-chain fatty acid esters of glycerol containing from six to twelve carbon atoms. MCTs are rapidly absorbed from the small intestine into the portal circulation and transported directly to the liver. MCTs promote fat loss, fat oxidation and contribute to weight management.

98% Vinpocetine, 98% Vincamine, 98% Vinburnine: Vinca alkaloids are derived from the plant Vinca minor L., a member of the periwinkle family. They have been shown in research to increase oxygen delivery and increase cerebral blood flow to the brain. This may in turn promote concentration and cognitive performance.

**Toothed Clubmoss (1% Huperzine A)**: A botanical from China which is reported to have some cognitive benefits. It has been used for years in the traditional medicine and new findings have shown that it has great potential. Huperzia serrata has been shown to promote cognitive function, memory, learning performance and behavior.

**Bacopa (20% Bacosides A&B)**: A botanical which has been researched for its effects on cognitive function and has been used in traditional medicine in Southeast Asia for centuries. It was used in traditional medicine for antioxidant properties. Current research shows that it promotes memory, concentration and anti-inflammatory properties.

**OXYGEN CAPACITY COMPOSITE**

**Di-Calcium Phosphate**: One of the most important minerals for growth, maintenance, and reproduction in the human body. Calcium is important for heart function, and helps with muscle contraction, nerve signaling, and regulates muscle cramping due to intense exercise.

**Di-Potassium Phosphate**: Has various roles in metabolism and body functions and is essential for the proper function of all cells, tissues, and organs. Potassium assists in the regulation of the acid-base balance, assists in protein synthesis from amino acids, carbohydrate metabolism and it is necessary for the building of muscle and for normal body growth.

**Di-Sodium Phosphate**: Regulates blood pressure and blood volume already in the normal range and is also crucial for the functioning of muscles, nerves, promotion of creatine transport, and may be the most critical mineral in the regulation of muscle cramping due to intense exercise.

**Cytidine 5’ Monophosphate**: A compound that consists of nucleosides and phosphates, which provide the substrate or building materials for the formation of the nucleic acids DNA and RNA. Oral nucleotide supplementation has been shown to promote intestinal health, support the immune system, regulate the catabolic stress hormone cortisol in athletes, and enhance animal erythrocyte 2,3-DPG (2,3-diphosphoglycerate).

**Guanosine 5’ Monophosphate**: A compound that consists of nucleosides and phosphates, which provide the substrate or building materials for the formation of the nucleic acids DNA and RNA. Oral nucleotide supplementation has been shown to promote intestinal health, support the immune system, regulate the catabolic stress hormone cortisol in athletes, and enhance animal erythrocyte 2,3-DPG (2,3-diphosphoglycerate).

**Adenosine 5’ Monophosphate**: A compound that consists of nucleosides and phosphates, which provide the substrate or building materials for the formation of the nucleic acids DNA and RNA. Oral nucleotide supplementation has been shown to promote intestinal health, support the immune system, regulate the catabolic stress hormone cortisol in athletes, and enhance animal erythrocyte 2,3-DPG (2,3-diphosphoglycerate).

**Inosine 5’ Monophosphate**: A compound that consists of nucleosides and phosphates, which provide the substrate or building materials for the formation of the nucleic acids DNA and RNA. Oral nucleotide supplementation has been shown to promote intestinal health, support the immune system, regulate the catabolic stress hormone cortisol in athletes, and enhance animal erythrocyte 2,3-DPG (2,3-diphosphoglycerate).

**Inositol Hexaphosphate (IP6)**: A natural ingredient found in cereal, grains, and legumes, which has been shown to support the immune and cardiovascular systems. Inositol was originally categorized as a B vitamin; however, it’s an isomer of glucose or more specifically a sugar alcohol. Inositol Hexaphosphate contains six phosphate groups, which contribute to the promotion of 2,3-DPG (2,3-diphosphoglycerate).

**GLYCEROL HYDRATING POLYMERS**

**Calcium Glycerophosphate**, **Magnesium Glycerophosphate**, **Sodium Glycerophosphate**, **Potassium Glycerophosphate**, and **Glycerol Stearate**: Provide essential minerals for muscle contraction and fluid balance; glycerol supports cell volumization and hyper-hydration, and phosphate for the promotion of ATP recycling and endurance. Glycerol hyper-hydration is a technique utilized by athletes to promote super hydration prior to an event in order to regulate hydration during hot or cold conditions (loss of fluids), thermoregulation (body temperature), and promote endurance. Oral ingestion of glycerol with water causes the water that is ingested with glycerol to be stored in the tissues and not excreted. Old-fashioned liquid glycerol hyper-hydration can be a tedious procedure usually beginning approximately 2.5 hours prior to an event consisting of various solutions of glycerol and water consumed every 15 to 30 minutes prior to the competition.

**INSULINO-MIMETIC MATRIX**

**Taurine**: An amino acid that is found in humans and in the tissue of some animals. It plays a key role in muscle functioning and energy production. Helps support exercise performance, promotes cognitive function, promotes well-being, alertness and anaerobic endurance.

**Banaba (18% Colosolic acid)**: Contains the triterpene colosolic acid. Colosolic acid is thought to regulate or modulate insulin, which maintains blood sugar levels already within the normal range. Banaba research demonstrates the regulation of glucose transport in cell cultures and modulation of glucose in animals. There is human research supporting the regulation of blood glucose already in the normal range. New research has recently demonstrated there may be other constituents of banaba that are also involved in the glucose transport function. Currently colosolic acid’s blood sugar-regulating properties are thought to be involved in the modulation of hepatic or liver glucose metabolism.

N.O.-Xplode™ NT supports the following segments of the BSN® Supplement Pyramid™: Muscle Support and Performance Support

**These statements have not been evaluated by the Food and Drug Administration. These products are not intended to treat, cure, diagnose, mitigate, or prevent any disease.**
EVOLUTION IS INEVITABLE

NEW POWERFUL FORMULA
N.O.-XPLODE™NT
N-TENSITY TECHNOLOGY

Designed to improve muscular fullness, vascularity and pumps, stimulate rapid ATP resynthesis, and limit muscle degradation by regulating insulin and sparing muscle glycogen, all the while supporting cognitive performance and mental acuity, N.O.-XPLODE™NT has set the stage for constant change in your regimen - the change you want and the change you deserve. Your muscular evolution becomes not merely sustainable, but inevitable, producing changes that aid in your capacity for myocellular survival. N.O.-XPLODE™NT - The time for change has come. Once you train with it, you will never evolve without it!

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CELLMASS® NT IS DESIGNED TO SUPPORT:

- Muscle Growth And Density
- Recovery From Training Sessions
- Nighttime Anabolism
- Repair Of Muscle Tissue
- Replenishment Of Muscle Creatine And Glutamine Stores
- Muscle Strength, Power, And Endurance
- Glycogen Sparing
- Insulin Already Within The Normal Range
- Regulation Of DOMS (Delayed-Onset Muscle Soreness)
- Electrolyte Replenishment
- ATP Resynthesis
- Regulated Muscle Degradation – Anti-Catabolism
- Muscle Carnosine Content
- Resistance To Muscular Fatigue
- Hydrogen Ion (H+) Buffering
- Anaerobic Working Capacity Of Muscle Tissue

PRODUCT SPECIFICATIONS

Use Classification/Product Category: Ultra Extreme Post-Training/ Nighttime Mass and Recovery Activator

Flavors: Arctic Berry Blast, Blue Raz

Size/Count: 1.44 lb, 30ct Stick Packets

Form: Powder

Minimal Cycle Length: 6 weeks

Optimal Cycle Length: 12 weeks

Recommended Cycle Off Length: 4 weeks

Stack with: EPOZINE-O2™ NT, N.O.-XPLODE™ NT, and AXIS-HT™

To meet the ever-growing demands necessary to alter your performance and muscular physique, your post-training supplementation must evolve – enter CELLMASS® NT. In addition to promoting the replenishment of performance-mediating, high-energy compounds such as ATP and electrolytes which are depleted during intense training, this post-training evolution is designed to regulate the delayed onset of muscle soreness, as well as modulate inflammation caused from the intense training necessary to stimulate muscular change. By promoting the regulation of insulin and accumulation of muscle-sparing glycogen, post-training catabolic effects are kept to a minimum, thus supporting muscle hypertrophy. CELLMASS® NT – Where mass and evolution begin!

PRODUCT PROFILE:

MYOGENIC ENDURA SHOT

Creatine-Sodium Phosphate Matrix: A combination of creatine and sodium phosphate. Creatine is an amino acid that is a component of skeletal muscle and is found in red meat such as beef. Creatine Sodium Phosphate has been reported to be as effective as oral creatine monohydrate. The sodium enhances creatine transport and absorption. Adequate sodium is important for creatine transport because once creatine enters the blood it is carried to the muscle via a sodium chloride-dependent transporter. Some research has indicated that combining creatine with sodium enhances creatine uptake. Creatine has numerous benefits including increasing work capacity, exercise performance and strength.
The combination of beta-alanine and creatine should enable creatine to function. The creatine system is inhibited by hydrogen ions and lactic acid accumulation, which causes an accumulation of hydrogen ions and lactic acid, resulting in burning ergogenic properties. Oral ingestion of beta-alanine promotes the naturally occurring Adenosine 5'Triphosphate Disodium (PEAK ATP®): A patented orally absorbable form of ATP. Creatine nitrite promotes performance and demonstrates potential as an ergogenic aid.

Betaine HCL: An amino acid derivative found in various plants, primarily functions as a methylating agent, and is involved in the biosynthesis of creatine. Trimethylglycine (Betaine) as a stand-alone ingredient has been shown to be a powerful ergogenic aid. It has been shown to promote anabolic power and isometric force.

Beta-Alanine (CamoSyn®): The only naturally occurring beta amino acid with unique ergogenic properties. Oral ingestion of beta-alanine promotes the naturally occurring dipeptide carnosine (beta-alanyl-L-histidine) in muscle fiber. Sustained exercise causes an accumulation of hydrogen ions and lactic acid, which causes the burning sensation in muscle fiber otherwise known as muscular fatigue. Adequate muscle carnosine buffers hydrogen ions and lactic acid accumulation. The ergogenic effect of the creatine system is inhibited by hydrogen ions and lactic acid accumulation. The combination of beta-alanine and creatine should enable creatine to function beyond this rate limiting system thus resulting in superior physical performance.

Citric Acid: An important part of the Krebs cycle or energy production cycle. It is found in a variety of fruits and vegetables, most notably citrus fruits. It is sometimes used as an additive in drinks and other foods. Human research shows that citric acid reduces physiological stress and physical fatigue.

Adenosine 5’Triphosphate Disodium (PEAK ATP®): A patented orally absorbable form of ATP, the main energy storage unit of cells. Adenosine 5’ Triphosphate is involved in cellular respiration and also plays a role in glycolysis and anaerobic respiration. It promotes adenosine 5’ triphosphate stores, blood flow, oxygen delivery, muscle contractility, strength and endurance.

NAD (Nicotinamide Adenine Dinucleotide): A coenzyme composed of ribosynicotinamide 5’ dihydrophosphate and adenosine 5’ phosphate. NAD is involved in many enzymatic reactions functioning as an electron carrier. NAD+ is the oxidized form and NADH is the reduced form (containing additional hydrogen), while both are central in metabolism and energy production. NAD becomes very important for energy production especially during exercise. NAD promotes vasodilation and is required for nitric oxide production.

**GLUTAMINE INTERFUSION**

Glutamine: An amino acid found in humans that is prevalent in muscle and one that plays a key role in cell metabolism and function. It appears to be a precursor for protein synthesis of amino acids, regulator of protein degradation, and promotes nitrogen balance and insulin after exercise. Glutamine supplementation also appears to promote interleukin-6 (IL-6), which may play a role in energy mobilization.

**Glutamine Aminobutyric Acid Matrix (Glutamine AAB):** A combination of L-glutamine and alpha-aminobutyric acid, which promotes additional anti-catabolic effects as compared to just glutamine. Leucine, the branch-chain amino acid, is metabolized to ketocisocaproate, which is then metabolized to alpha-aminobutyric acid; this metabolite may promote protein synthesis and minimize protein damage from intense training.

**Glutamine Peptides:** Consist of peptide-bonded glutamine, which is thought to be more stable in solution. The digestive tract utilizes a peptide transport system that promotes enhanced peptide absorption as compared to free-form amino acids. The peptide-bonded glutamine promotes bioavailability of glutamine, which may allow more glutamine to be available to the muscle tissue.

**Alany-L-Glutamine:** A dipeptide of L-alanine and L-glutamine. Animal research indicates that Alany-L-Glutamine appears to promote muscle glutamine levels greater than glutamine. In addition, Alany-L-Glutamine has been shown to promote glutamine stores and muscle and liver stores of GSH (Glutathione) and support the antioxidant status of the cell.

**BCAA RECOVERY COMPOSITE**

**Isoleucine Alpha-Aminobutyric Acid Matrix:** A branched-chain amino acid. When consumed during and post-workouts, BCAAs are thought to spare muscle glycogen, promote anabolism, anti-catabolism, recovery, alanine and glutamine production, and regulate fatigue (lactic acid) and DOMS (Delayed-Onset Muscle Soreness). Aminobutyric acid is a novel amino acid metabolite of leucine, which is metabolized to ketocisocaproate (KIC) and metabolized further to beta-hydroxy-beta-methylbutyrate (HMB). These leucine metabolites are known for their physical enhancement benefits.

**Leucine Alpha-Aminobutyric Acid Matrix:** A branched-chain amino acid. When consumed during and post-workouts, BCAAs are thought to spare muscle glycogen, promote anabolism, anti-catabolism, recovery, alanine and glutamine production, and regulate fatigue (lactic acid) and DOMS (Delayed-Onset Muscle Soreness). Aminobutyric acid is a novel amino acid metabolite of leucine, which is metabolized to ketocisocaproate (KIC) and metabolized further to beta-hydroxy-beta-methylbutyrate (HMB). These leucine metabolites are known for their physical enhancement benefits.

**Valine Alpha-Aminobutyric Acid Matrix:** A branched-chain amino acid. When consumed during and post-workouts, BCAAs are thought to spare muscle glycogen, promote anabolism, anti-catabolism, recovery, alanine and glutamine production, and regulate fatigue (lactic acid) and DOMS (Delayed-Onset Muscle Soreness). Aminobutyric acid is a novel amino acid metabolite of leucine, which is metabolized to ketocisocaproate (KIC) and metabolized further to beta-hydroxy-beta-methylbutyrate (HMB). These leucine metabolites are known for their physical enhancement benefits.

**L-Valine Nitrate:** A novel branched-chain amino acid designed to promote absorption and physiological functionality. Branched-chain amino acids consumed during and post-workout are thought to spare muscle glycogen, promote anabolism, anti-catabolism, recovery, alanine and glutamine production, and regulate fatigue (lactic acid) and DOMS (Delayed-Onset Muscle Soreness). Nitrate, a salt of nitric acid (NO3), is a natural constituent of plants and is found in vegetables at varying levels. Oral nitrate consumption from vegetables has been studied and linked to the promotion of cardiovascular health. Scientists have found that dietary nitrate is converted to nitrite (NO2), which may lead to the formation of nitric oxide. Dietary nitrate has also been shown to lower oxygen demand during submaximal exercise thus demonstrating enhanced energy production, which supports the use of nitrates as performance-enhancing ergogenic aids.
L-Leucine Nitrate: A novel branched-chain amino acid designed to promote absorption and physiological functionality. Branched-chain amino acids consumed during and post-workout are thought to spare muscle glycogen, promote anabolism, anti-catabolism, recovery, alanine and glutamine production, and regulate fatigue (lactic acid) and DOMS (Delayed-Onset Muscle Soreness). Nitrate, a salt of nitric acid (NO₃), is a natural constituent of plants and is found in vegetables at varying levels. Oral nitrate consumption from vegetables has been studied and linked to the promotion of cardiovascular health. Scientists have found that dietary nitrate is converted to nitrite (NO₂), which may lead to the formation of nitric oxide. Dietary nitrate has also been shown to lower oxygen demand during submaximal exercise thus demonstrating enhanced energy production, which supports the use of nitrates as performance-enhancing ergogenic aids.

L-Isoleucine Nitrate: A novel branched-chain amino acid designed to promote absorption and physiological functionality. Branched-chain amino acids consumed during and post-workout are thought to spare muscle glycogen, promote anabolism, anti-catabolism, recovery, alanine and glutamine production, and regulate fatigue (lactic acid) and DOMS (Delayed-Onset Muscle Soreness). Nitrate, a salt of nitric acid (NO₃), is a natural constituent of plants and is found in vegetables at varying levels. Oral nitrate consumption from vegetables has been studied and linked to the promotion of cardiovascular health. Scientists have found that dietary nitrate is converted to nitrite (NO₂), which may lead to the formation of nitric oxide. Dietary nitrate has also been shown to lower oxygen demand during submaximal exercise thus demonstrating enhanced energy production, which supports the use of nitrates as performance-enhancing ergogenic aids.

Milk Thistle Seed Extract (50% Silymarin): A flowering plant that has been used for centuries as a botanical supplement for liver health. Helps protect liver function, promotes immune system functioning, promotes liver health, anti-fatigue, and anti-inflammation. New research has recently demonstrated there may be other constituents of banaba that are also involved in the insulin-glucose transport function.

Cinnulin-PF® (Cinnamon Extract) (bark): Cinnulin-PF® is an aqueous extract of cinnamon that is rich in uniquely linked proanthocyanidin antioxidants. These compounds “turn on” cellular signaling mechanisms normally turned off by insulin. Clinical studies report Cinnulin-PF® maintains blood glucose, cholesterol, and triglyceride levels already within the normal range.

Bis-Glycinato-Oxovanadium (BGOV): A complex of vanadium and the amino acid glycine that is known for its insulin-mimetic functions and therefore its ability to regulate blood glucose levels already within the normal range.

Bis-Picolinate-Oxovanadium (BPOV): A complex of vanadium and picolinic acid, which is known for its insulin-mimetic functions and therefore its ability to regulate blood glucose levels already within the normal range.

GLYCEROL HYDRATING POLYMERS

Calcium Glycerophosphate, Magnesium Glycerophosphate, Sodium Glycerophosphate, Potassium Glycerophosphate, and Glycerol Stearate: Provide essential minerals for muscle contraction and fluid balance; glycerol supports cell volumization and hyper-hydration, and phosphate for the promotion of ATP recycling and endurance. Glycerol hyper-hydration is a technique utilized by athletes to promote super-hydration prior to an event in order to regulate hydration during hot or cold conditions (loss of fluids), thermoregulation (body temperature), and promote endurance. Oral ingestion of glycerol with water causes the water that is ingested with glycerol to be stored in the tissues and not excreted. Old-fashioned liquid glycerol hyper-hydration can be a tedious procedure, usually beginning approximately 2.5 hours prior to an event consisting of various solutions of glycerol and water consumed every 15 to 30 minutes prior to the competition.

MUSCLE UPTAKE MATRIX

Di-Calcium Phosphate: One of the most important minerals for growth, maintenance, and reproduction in the human body. Calcium is important for heart function, and helps with muscle contraction, nerve signaling, and regulates muscle cramping due to intense exercise.

Di-Potassium Phosphate: Has various roles in metabolism and body functions and is essential for the proper function of all cells, tissues, and organs. Potassium assists in the regulation of the acid-base balance, assists in protein synthesis from amino acids, and in carbohydrate metabolism, and it is necessary for the building of muscle and for normal body growth.

Di-Sodium Phosphate: Regulates blood pressure and blood volume already in the normal range and is also crucial for the functioning of muscles and nerves, the promotion of creatine transport, and may be the most critical mineral in the regulation of muscle cramping due to intense exercise.

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BSN® Inc.
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The 2nd Fastest Growing Private Company In The Miami-Ft. Lauderdale Metro Region*
The 4th Fastest Growing Private Company In The Health Industry*
[*Above Rankings Were Determined By Inc. 500/5000]

As seen in Forbes Special Issue, December 2007

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