**Indications:**
- Phase I & II Liver Detoxification
- Adrenal / Thyroid insufficiencies
- Biliary/gallbladder insufficiencies
- Allergies / Sensitivities
- Liver/gall bladder Congestion
- Digestive Disorders
- Toxic Metabolic Conversions
- Hormonal Insufficiencies
- Fungal Overgrowth

The liver is often considered the hardest working organ in the human body. Poor diet, chemicals, pathogenic organisms, antibiotics, hormone replacement, and a lack of essential nutrients impair the liver’s ability to filter and detoxify harmful substances.

The liver also neutralizes a wide range of exo/endo toxic chemicals. Allergies, sluggish metabolism and hormonal imbalances among others, can be a result of compromised digestive and hepatic function.

**Detoxification occurs in two sequential steps -**
- **Phase I** and **Phase II.** This complex system works together to convert toxic fat soluble molecules into non-toxic, water-soluble molecules for rapid excretion.
- **Complex nutrients and botanical co-factors specific** to each phase are necessary to ensure accurate conversion.

Liver detoxification proceeds via two enzyme pathways:
- **1) Phase I -** P450 enzymes convert toxins into water soluble intermediates;
- **2) Phase II -** conjugation enzymes transform these intermediates into compounds which can be excreted via the kidneys or bile.

Phase I intermediate metabolites can be more toxic than their fat-soluble precursors. These water soluble intermediates combine with oxygen, creating free radicals that cause extensive damage to the liver and other cells of the body. A balance of Phase I and Phase II enzymes is important for efficient and safe detoxification processes.

**Inadequate Phase II liver detoxification is common in cases of long term xenobiotic exposure, where nutritional factors required for conjugation are depleted.**

**Ingredients per 1 scoop**
- Artichoke leaf extract 4:1 50 mg
- Biotin 135 mcg
- Calcium (Citrate) 75 mg
- Chromium (Polynicotinate) 15 mcg
- Copper (Gluconate) 1 mg
- DL-Methionine 50 mg
- Folate (folic acid) 135 mcg
- Green tea (40% catechins) 25 mg
- Iodine (potassium) 50 mcg
- Iron (Ferrous Fumarate) 1 mg
- L-Glycine 1500 mg
- L-Cysteine 10 mg
- L-Glutamine 100 mg L-Glutathione 10 mg
- Magnesium (Citrate) 140 mg
- Magnesium (Sulfate) 60 mg
- Manganese (Citrate) 1.5 mg
- Milk thistle extract (80% Silymarin) 50 mg
- Mixed carotenoids 500 IU
- N-Acetyl L-Cysteine (NAC) 35 mg
- Potassium (Phosphate Iodide) 100 mg
- Red rasberry extract (35% Ellagic Acid) 50 mg
- Selenium (Aspartate) 40 mcg
- Vitamin A (Palmitate) 1000 IU
- Vitamin B1 (Thiamine HCl) 2 mg
- Vitamin B2 (Riboflavin) 2 mg
- Vitamin B3 (Niacinamide) 7 mg
- Vitamin B5 (Calcium Pantothenate) 3.5 mg
- Vitamin B6 (Pyridoxine HCI) 3.4 mg
- Vitamin C (ascorbic acid) 100 mg
- Vitamin D3 (Cholecalciferol) 50 IU
- Vitamin E (d-Alpha Tocopheryl Succinate) 50 IU
- Watercress whole plant 4:1 extract 100 mg
- Zinc (Monomethionine) 10 mg
- Rice Protein Concentrates (non irradiated)
- Medium Chain Triglycerides (coconut oil)
- Rice Syrup Solids

*Disclaimer. The commentary is not meant to diagnose, treat or replace conventional treatment, and has not been approved or reviewed by the FDA, Health Canada, and BMS, European Union Health Commission, South and Central American regulation agencies etc.*
HepataGest

Synergistically Formulated Ingredients

Artichoke leaf extract 4:1: Research suggests that several constituents of artichoke, including chlorogenic acid and cynarin, have marked antioxidant and hepatoprotective properties.

Biotin 135 mcg: Vitamin H, more commonly known as biotin, is considered part of the B complex group of vitamins. All B vitamins help the body to convert food (carbohydrates) into fuel (glucose), which is “burned” to produce energy. Needed for fat and protein production and in the synthesis of fatty acids. Essential for Krebs cycle and energy production.

Calcium (Citrate) 75 mg: Plays an important role in the formation and maintenance of collagen. Stimulates adrenal function, thyroid hormone production, cholesterol metabolism, antioxidant and has an anti-inflammatory effect on the mesenchymal stroma system in the liver (Hans Nieper MD).

Chromium (Polynicotinate) 15 mcg: Works with insulin to help maintain proper blood sugar levels.

Copper (Gluconate) 1 mg: Helps the body absorb and use iron for haemoglobin synthesis.

DL-Methionine 50 mg: Helps break down fat, preventing buildup in the liver and arteries. Helps detoxify lead and other heavy metals, assists with the digestive system and is a powerful antioxidant.

Folate (folic acid) 135 mcg: Promotes balanced detoxification by supporting Phase II methyla- tion conversions.

Green tea (40% catechins) 25 mg: Helps to defend against increased hepatic oxidative stress associated with the formation of intermediate metabolites. Phenolic components are strong antioxidants that help scavenge most oxygen free radicals.

Iodine (potassium) 50 mcg: Essential in the production of thyroid hormones which are responsible for the body’s basal metabolic rate (BMR).

Iron (Ferrous Fumarate) 1 mg: Haemoglobin, myoglobin and the oxygenation of red blood cell production.

L-Glycine 1500 mg: Cofactor used in Phase II amino acid conjugation reactions. Glycine is also used to help in the synthesis of glutathione, which is important to hepatic antioxidant capacity and healthy Phase II detoxification.

L-Lysine Monohydrochloride 50 mg: Lysine works with other essential amino acids to help maintain growth, lean body mass, and the body’s store of nitrogen. Increases calcium absorption and reduc- es excretion. Carnitine, an important energy producing compound, is synthesized from lysine. Carnitine may improve fat utilization and therefore may be beneficial in conditions associated with impaired fat utilization and energy production.

L-Tauroine 100 mg: Component of bile and a building block for amino acids necessary for Phase II conjugation. Also a free radical scavenger. It is the major amino acid required to assist in the removal of toxic chemicals and metabolites from the body and is an essential component of cell membranes, where it plays a role in stabilizing transport across cell membranes.

L-Theanine 25 mg: May help to reverse damage caused by alcohol by restoring the liver’s all-purpose antioxidant and detoxifier known as glutathione.

L-Cysteine 10 mg: Helps neutralize the aldehydes produced by the liver as a by-product of metabolism of alcohol, fats, air pollutants and some pharmaceuticals.

L-GLutamine 100 mg: The powerful antioxidant glutathione is comprised of three amino acids: glutamate, cysteine, and glycine. Glutamine is described a “glutathione-sparing” agent, helping to maintain adequate levels of glutathione by providing adequate glutamate for its production.

L-Glutathione 10 mg: Powerful antioxidant found in the liver. Helps detoxify harmful chemicals (endo-exotoxins) for excretion via bilary tree. An abundant and required antioxidant in the body, glutathione (GSH) is synthesized from the amino acids glycine, L-cysteine, and glutamic acid. The level of glutathione in the liver is linked to the liver’s ability to detoxify.

Magnesium (Citrate) 140 mg: Required for coenzyme A, a necessary cofactor for Phase II acety- lation.

Magnesium (Sulfate) 60 mg: Provides necessary sulphates for Phase II sulfation conjugation.

Manganese (Citrate) 1.5 mg: Involved in enzyme systems responsible for energy production, protein metabolism, bone formation and the synthesis of L-dopamine, cholesterol and mucopoly- saccharides.

Milk thistle extract (80% Silymarin) 50 mg: This is a well-known liver-protectant that may improve liver function in patients with liver disease and toxicity. Silymarin helps increase glutathione and is a strong antioxidant.

Mixed carotenoids 500 IU: In addition to their antioxidant and immune-enhancing activity, carote-}

noids have shown the ability to help stimulate cell to cell communication.

Molybdenum (amino acid chelate) 120 mcg: Essential for nitrogen metabolism. Helps to promote normal cell function, and plays a vital role in sulphite detoxification.

N-Acetyl L-Cysteine (NAC) 35 mg: Precursor to the amino acid cysteine, it helps increase antioxidant glutathione levels (used in Phase II and is a major route for detoxification of heavy metals), and is used by the liver and lymphocytes to help detoxify chemicals and other toxins. Supports Phase II sulfation. Also helps to promote detoxification of internal toxins of the intestinal tract.

Potassium (Phosphate iodide) 100 mg: Assists in the regulation of pressure between the inside and outside of cells. Assists in the conversion of blood sugar into glycogen for storage in the liver.

Red Raspberry Extract (35% Ellagic Acid) 50 mg: Ellagic acids help to scavenge superoxide radicals and hydroxyl radicals, reducing hepatic oxidative stress.

Selenium (Aspartate) 40 mcg: Selenium is essential for the production of glutathione peroxide which is a major detoxifier of chemical toxins.

Vitamin A (Palmitate) 1000 IU: Vitamin A has also been found to help protect against chemical induced lipid peroxidation in the heart, brain and liver.

Vitamin B1 (Thiamine HCl) 2 mg: Supports the nervous system and helps to metabolize cellular production of ATP.

Vitamin B12 (Cyanocobalamin) 3.6 mcg: Helps to promote balanced detoxification by support- ing Phase II methylation and healthy homocysteine recycling. Known as the “energy” vitamin. Helps support the activation of folic acid and essential for the synthesis of methionine.

Vitamin B2 (Riboflavin) 2 mg: Known to help cells utilize oxygen and for normal cell growth. Involved in the complex respiratory processes occurring in the mitochondria of cells.

Vitamin B3 (Nicotinamide) 7 mg: Helps to stimulate circulation and reduces cholesterol levels in the blood due to its involvement in the metabolism of fats.

Vitamin B5 (Calcium Pantothenate) 3.5 mg: Required for coenzyme A, a necessary cofactor for Phase II acetylation.

Vitamin B6 (Pyridoxine HCl) 3.4mg: Important in the utilization of all food sources for energy and in facilitating the release of glycogen from the liver and muscles.

Vitamin C (ascorbic acid) 100 mg: Plays an important role in the formation and maintenance of collagen. Helps to stimulate adrenal function, help thyroid hormone production, aid in cholesterol metabolism and act as an antioxidant, and is a cofactor in several vital enzymatic reactions.

Vitamin D3 (Cholecalciferol) 50 IU: A fat soluble vitamin required for the absorption and utilization of calcium and phosphorus.

Vitamin E (d-Alpha Tocopheryl Succinate) 50 IU: Vitamin E is a fat-soluble antioxidant that helps to prohibit the production of “reactive oxygen species” formed when fat undergoes oxidation.

Watercress whole plant 4:1 extract 100 mg: This herb is in the same family as cabbage and broccoli (indole-3-carbinol). It contains the compound pheny-lethyl-isothiocyanate (PEITC). High in vitamins A and C, iron, calcium, and folic acid.

Zinc (Monomethionine) 10 mg: Zinc and sulfur are needed for immune modulation, vision health and bone and muscle function.

References: