

## TECHNICAL DATA SHEET

### Heart Tension Formula



*In many instances, high blood pressure is an early sign for serious cardiovascular disease. Elevated blood pressure is generally regarded as the greatest of risk factors for a stroke. Over sixty million Americans have hypertension and more than half of all Americans aged sixty-five to seventy-four years old suffer from high blood pressure. Studies and medical experts agree that non-drug therapies should be used rather than pharmaceutical drugs in the treatment of borderline-to-moderate hypertension. **HTN formula offers a safe and effective alternative from the pharmaceutical drugs that pose significant health risks. Heart tension formula is a unique blend of key nutrients and proven botanical medicines that have been clinically shown to improve heart function and lower blood pressure.***

### **INGREDIENTS**

**Coleus forskohlii** root contains the active constituent forskolin, a diterpene which stimulates and activates the enzyme adenylate cyclase in the heart and smooth muscle. This causes increased production of cyclic AMP (cAMP), which causes calcium channels to open and intracellular calcium concentrations to increase, resulting in increased contractility of heart muscle and relaxation of smooth muscle (1). Clinical studies indicate that forskolin increases left ventricular output in patients with dilated cardiomyopathy by reducing preload and increasing contractile force.

**Viscum Album (European Mistletoe)** is a parasitic plant that grows on several different trees. The applicable parts are the berries, leaf, and stem. European mistletoe has hypotensive, cardiac, anti-depressant, anti-inflammatory, and sedative effects (2). *Viscum album* lowers the blood pressure due to a choline derivative related to acetylcholine. Choline derivatives are known to cause vasodilation by stimulating the parasympathetic nervous system.

**Garlic** is mostly used for its antihyperlipidemic, antihypertensive, and antifungal effects. The applicable part of garlic is the bulb. Many of the pharmacological effects of garlic are attributed to the allicin, ajoene and other organosulfur constituents such as S-allyl-L-cysteine. For hypertension, garlic is thought to reduce blood pressure by causing smooth muscle relaxation and vasodilation by activating production of endothelium-derived relaxation factor (ERDF, nitric oxide) (3).

**Hawthorne Berry** contains the active constituents that include flavanoids, such as vitexin, rutin, quercetin and hyperoside; and oligomeric proanthocyanidins (OPC's) such as epicatechin and procyanidins. Hawthorne berry (*Crataegus oxycantha*) has hypotensive and antiarrhythmic activity (4). In a clinical study of patients with coronary perfusion disorders, 77% of those who were given *Crataegus* experienced an observable decrease of ischemia reaction to exercise.

**Gymnostemma Pentaphyllum (Jiaogulan)** contains 82 distinct saponins that are referred to as gypenosides. Each of these gypenosides has a unique property that gives it a therapeutic significance. The gypenosides medicinal qualities range from lowering cholesterol, improving oxygen absorption, and increasing cardiac output by increasing stroke volume and not through increasing the heart rate (5).

**Magnesium** is involved with more than 300 enzyme systems as well as playing an essential role in more than 300 cellular reactions (10). Our bodies contain 25 grams (less than one ounce) of magnesium. Magnesium is required for the formation of cyclic AMP (cAMP) and is involved in ion movements across cell membranes. In cell membranes, a decreased concentration of magnesium and an increased calcium to magnesium ratio has been associated with hypertension (6).

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**Potassium** is a mineral that plays a role in many body functions including acid-base balance, electrodynamic characteristics of the cell, isotonicity, and various enzymatic reactions (7). Potassium is required for normal blood pressure. Potassium depletion occurs when deficient levels of magnesium are present in cardiac and vascular muscle cells. Without adequate stores of magnesium potassium is not retained.

**Vitamin C** is a commonly used water-soluble vitamin that acts as an antioxidant and free radical scavenger. Studies show that when plasma vitamin C levels are low both systolic and diastolic blood pressure increases (8). Vitamin C has been shown to promote normal endothelial function (9).

**Niacin and Inositol**  
**(from Inositol Hexaniacinate)**

Inositol hexaniacinate consists of six molecules of niacin chemically linked to an inositol molecule. It is hydrolyzed in the body to free niacin and inositol, although this occurs slowly, with peak serum levels not occurring until about 10 hours after ingestion which reduces the incidence of the flushing associated with niacin. Orally taking inositol hexaniacinate reduces serum lipid levels (10). Niacin is a vasodilator which increases the diameter of the blood vessels which leads to lowering the blood pressure.

*This formula is designed to be safely used with Ultra High Formula.*

## Heart Tension Formula

**Quantity:** 90 capsules

**Serving size:** 3 capsules

**Directions:** 1 capsule, 3 times daily with food, or as directed by your healthcare professional.

**Each 3 capsules contain:**

Vitamin C (as Poly C Ascorbate)	105 mg
Vitamin B3 (as Niacin) (from Inositol Hexaniacinate)	158 mg
Magnesium (as Citrate-Malate)	225 mg
Hawthorn Berry Dry Extract (1.9-2.2% vitexins) (berry)	300 mg
Garlic Extract (10% Allicin)	150 mg
Viscum album (Mistletoe) (mistletoe) (berries, leaf & stem)	150 mg
Potassium (as Citrate-Malate) Rauwolfia	105 mg
Sperpentina Extract (12:1) (root)	75 mg
Inositol (from Inositol Hexaniacinate)	67 mg
Coleus Forskohlii Extract (8% Forskolin)	60 mg
Gymnostemma Pentaphyllum (as Jiao Gu Lan) (leaf)	60 mg

**Other ingredients:**

Vegetarian capsules

**Contains No:** wheat, dairy, soy, corn or preservatives. No binders, fillers, or flowing agents.

*Patients: Consult with your healthcare professional for the proper dosage and use of this formula.*

*For more information about this and other Condition Specific formulas®, please visit our website at:*

[www.mpn8.com](http://www.mpn8.com)



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